Assessment Workshop Materials
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CSUB, January 2006

Program Assessment

Program assessment is an on-going process designed to monitor and improve student learning. Faculty:

- develop explicit statements of what students should learn.
- verify that the program is designed to foster this learning.
- collect empirical data that indicate student attainment.
- use these data to improve student learning.

Why so much emphasis on assessment?

- Accreditation Expectations
- Moving from Being Teaching-Centered to Being Learning-Centered
- The Bottom Line – It's for the students.

WASC's General Expectations for Student Learning

"Baccalaureate programs engage students in an integrated course of study of sufficient breadth and depth to prepare them for work, citizenship, and a fulfilling life. These programs also ensure the development of core learning abilities and competencies including, but not limited to, college-level written and oral communication; college-level quantitative skills; information literacy; and the habit of critical analysis of data and argument. In addition, baccalaureate programs actively foster an understanding of diversity; civic responsibility; the ability to work with others; and the capability to engage in lifelong learning. Baccalaureate programs also ensure breadth for all students in the areas of cultural and aesthetic, social and political, as well as scientific and technical knowledge expected of educated persons in this society."

WASC 2001 Handbook of Accreditation

WASC Expectations for the Assessment of Student Learning

1. The 2001 WASC Standards (*WASC 2001 Handbook of Accreditation*, http://www.wascweb.org/senior/handbook.pdf) require the integration of learning objectives into programs, program review processes, syllabi, and grading practices.
   a. Criterion 2.2 specifies that all programs define "levels of student achievement necessary for graduation that represent more than simply an accumulation of courses or credits."
   b. Criterion 2.4 specifies that "The institution's expectations for learning and student attainment are developed and widely shared among its members (including faculty, students, staff, and where appropriate, external stakeholders). The institution's faculty takes collective responsibility for establishing, reviewing, fostering, and demonstrating the attainment of these expectations."
   c. Criterion 2.6 specifies that "The institution demonstrates that its graduates consistently achieve its stated levels of attainment and ensures that its expectations for student learning are embedded in the standards faculty use to evaluate student work."
   d. Criterion 2.7 specifies that "In order to improve program currency and effectiveness, all programs offered by the institution are subject to review, including analyses of the achievement of the program's learning objectives and outcomes. . . ."
2. Assessment of student learning outcomes should be controlled by faculty.
   a. WASC Criterion 2.4 specifies that "The institution's expectations for learning and student attainment are developed and widely shared among its members (including faculty, students, staff, and where appropriate, external stakeholders). The institution's faculty takes collective responsibility for establishing, reviewing, fostering, and demonstrating the attainment of these expectations."
   b. Similarly, the crucial role of faculty is emphasized in Criterion 4.7: "The institution, with significant faculty involvement, engages in ongoing inquiry into the processes of teaching and learning, as well as into the conditions and practices that promote the kinds and levels of learning intended by the institution. The outcomes of such inquires are applied to the design of curricula, the design and practice of pedagogy, and to the improvement of evaluation means and methodology."
3. According to the WASC *Evidence Guide* (http://www.wascweb.org/senior/Evidence%20Guide.pdf), good assessment data are intentional and purposeful, lead to interpretation and reflection, and involve the integration of multiple lines of evidence (p. 7).
   a. Evidence for the assessment of student learning should "cover knowledge and skills taught throughout the program's curriculum," "involve multiple judgments of student performance," "provide information on multiple dimensions of student performance," and "involve more than surveys or self-reports of competence and growth by students" (p. 8).
   b. Assessment results should be "actionable" (p. 12), i.e., the assessment information informs faculty on which specific learning objectives are not being met at a satisfactory level and the faculty, based on these results, plan a response that addresses the identified need.

Learning-Centered Institutions

Academic Program Goals	Students learn: • The concepts, theories, research findings, techniques, and values of the discipline • How to integrate what they learn to solve complex, real-world problems • An array of core learning outcomes, such as collaboration, communication, critical thinking, information literacy, and leadership skills
Curriculum	• Cohesive program with systematically-created opportunities to synthesize, practice, and develop increasingly complex ideas, skills, and values—deep and lasting learning.
How Students Learn	• Students construct knowledge by integrating new learning into what they already know. • Feedback guides student improvement. • Students can learn, clarify ideas, and develop alternative perspectives through reflection and interpersonal interactions.
Course Structure	• Students engage in learning experiences to master course learning outcomes. • Grades indicate mastery of course learning outcomes.
Pedagogy	• Based on engagement of students • Help students be "intentional learners" (AAC&U; *greaterexpectations.org*)
Course Delivery	Faculty use a repertoire of teaching techniques to meet the needs of diverse students and to promote different types of learning outcomes, such as • Active learning • Collaborative and cooperative learning • Community-service learning • Homework and laboratory assignments • Lectures and discussion • Online learning • Problem-based learning
Faculty Instructional Role	• Design learning environments to meet student and program needs • Share interests and enthusiasm with students • Provide students formative feedback on their progress; grade student work • Mentor student development in and out of the classroom • Assess class sessions, courses, and programs to improve their effectiveness
Assessment	• Faculty use classroom assessment to improve day-to-day learning in courses (Angelo & Cross, *Classroom Assessment*, Jossey-Bass, 1993). • Faculty use program assessment to improve learning throughout the curriculum. • Faculty and others assess their impact to improve institutional effectiveness.
Campus	• Co-curriculum and support services are aligned to support learning. • Program reviews and campus decision-making are conducted within a "culture of evidence." • Recognition and reward systems value contributions to learning and encourage flexibility to uncover new ways to encourage/support learning. • Routine campus conversations on learning

The Cohesive Curriculum

- Coherence
- Synthesizing Experiences
- Ongoing Practice of Learned Skills
- Systematically Created Opportunities to Develop Increasing Sophistication and Apply What Is Learned

Course x Program Outcomes Alignment Matrix

Course	Outcome 1	Outcome 2	Outcome 3	Outcome 4	Outcome 5
100	I, D				I
101		I			D
102	D		D		D
103					D
200	D		D		
229					D
230			D, M		M
280					
290	M		D, M		M

I = Introduced, D = Developed & Practiced with Feedback, M = Demonstrated at the Mastery Level Appropriate for Graduation

Course Planning Grid for One Outcome: Intentional Teaching for Intentional Learning

Course Outcome	**Activity**	**Assessment**
Students can write research reports in APA style.	● Students will work in groups to apply the APA style manual to a set of simulated research report sections created to include APA style violations. Whole class discussion will ensure that all violations have been identified. ● Students will conduct a research project and will iterate drafts of the sections of their research reports, based on peer feedback collected on checklists specifying APA style requirements.	● Objective exam questions on the second quiz and the final will examine student knowledge of APA style guidelines. ● The grade for student research reports will include a measurement of conformity to APA style.

Assessment Steps

1. Define goals and outcomes.
2. Check for alignment between the curriculum and outcomes.
3. Develop a meaningful, manageable, and sustainable assessment plan.
4. Collect assessment data.
5. Close the loop–collective reflection and action.
6. Routinely examine the assessment process.

Elements of an Assessment Plan

- How will each outcome be assessed?
- Who will collect and analyze the data?
- Where will it be done?
- How will data be collected?
- When and how often will it be done?
- Who will reflect on the results? When?
- How will results and implications be documented?

Quotations from the Wise and Experienced

1. "Assessment is an on-going process. We don't 'get it done'; we 'get on with it.'"
   Outcomes Assessment, Miami of Ohio

2. "Three cardinal rules for evaluation or assessment: 'Nobody wants to be evaluated, nobody wants to be evaluated, and finally, nobody wants to be evaluated.'"
   Frank Newman

3. "Much of the literature on assessment suggests, and the Task Force agrees, that an institution will benefit from assessment only if faculty and cocurricular professionals see a use for the results and if they take the lead in formulating questions which assessment can help answer."
   Willamette Task Force on Outcomes Assessment

4. "Self-assessment is not the goal. Self-adjustment is the goal. That's what makes Tiger Woods and Michael Jordan great. That's what makes Socrates so impressive. That's what our best students and teachers do. They self-adjust, with minimal effort and optimal effect."
   Grant Wiggins

5. "Assessment per se guarantees nothing by way of improvement, no more than a thermometer cures a fever."
   T. J. Marchese

6. "While in the process of developing new outcomes/objectives, the department or administrative unit can easily identify assessment procedures that will be so time- and resource-consuming that they will become an end in themselves and not a means of determining whether a specific outcome/objective has been achieved. If this occurs, the long-term result is likely to be abandonment of the process."
   James O. Nichols

7. ". . . institutional evaluation should use objective data where available and purposeful but make no apologies for using subjective data. Or, it is better to be generally right than precisely wrong."
   R. L. Miller

8. "The most important thing about assessment is that it promotes dialogue among faculty."
   Mary Senter

We don't have to assess every outcome in every student every year!

Some Basic Vocabulary

- Direct vs. Indirect Assessment

- Quantitative vs. Qualitative Assessment

- Value-Added vs. Absolute Attainment

- Embedded Assessment

- Authentic Assessment

- Formative vs. Summative Assessment

Articulating Learning Outcomes:

Knowledge **Skills** **Attitudes/Values/Predispositions**

Learning Outcomes at Different Levels

- **Course Session Level**: At the end of class today, students can calculate and interpret correlation coefficients.
- **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.

Program Learning Outcomes:

- Focus on what students will learn, rather than on what faculty will "cover."
- Should be widely distributed – in the catalog, on the Web, in department newsletters, and on syllabi.
- Should be known by all major stakeholders, including regular and adjunct faculty, fieldwork supervisors, student support personnel, and students.
- Guide course and curriculum planning so that students experience a cohesive curriculum.
- Encourage students to be intentional learners who direct and monitor their own learning.
- Focus assessment efforts and faculty and staff conversations on student learning.

Mission, Goals, and Outcomes

Mission: a holistic vision of the values and philosophy of the department

Goals: general statements about knowledge, skills, attitudes, and values expected in graduates

Outcomes: clear, concise statements that describe how students can demonstrate their mastery of program goals

Example of a Mission Statement

"The mission of the College of Agriculture is to provide students with the educational experiences and environment that promote discipline competence; the capacity to attain career success in agriculture, food, or related professions; and a sense of civic responsibility." (University of Minnesota, from Diamond, *Designing & Assessing Courses & Curricula*, p. 72).

Examples of Program Goals

Knowledge	• Students know basic biological principles and concepts. • Students understand the major theoretical approaches for explaining economic phenomena.
Skill	• Students can use appropriate technology tools. • Students have effective interpersonal and leadership skills.
Value	• Students respect the professional code of ethics for nursing professionals. • Students value the scientific approach to understanding natural phenomena.

Examples of Learning Outcomes

- Students can analyze experimental results and draw reasonable conclusions from them.
- Students can use arithmetical, algebraic, geometric, and statistical methods to solve problems.
- Students can locate appropriate sources by searching electronic and traditional databases.
- Students follow professional ethical standards when they provide nursing care to patients.
- Students can analyze the quality of the argumentation provided in support of a position.
- Students can describe the major factors that influenced the development of the American political system.
- Students can distinguish between science and pseudo-science.
- Students can collaborate with others effectively.

Is each of the following a mission, goal, or outcome?

1. Graduates can write papers in APA (American Psychological Association) style.
2. We will provide students with the educational experiences and environment to promote disciplinary competence; the capacity to attain career success their chosen profession; and a sense of civic responsibility.
3. Graduates can locate appropriate sources by searching electronic and traditional databases.
4. Graduates are information literate and technologically competent.
5. Graduates can use information from data represented in charts, graphs, tables and spreadsheets.
6. Graduates understand basic biological principles, concepts, and theories.

Tips to Develop Program Goals and Outcomes

- Fill in the blanks. When students graduate from our program, they should know ____, be able to ____, and value ____.
- Consider two types of goals: those unique to the discipline and those that expand on general education outcomes, such as communication skills and information literacy.
- Review materials from similar programs and adapt relevant segments.
- Consider "best practices" guidelines from professional organizations or accrediting agencies and adapt these to your program.
- Try a "top-down" approach. Use documents that describe your program to identify your goals and outcomes. Examples of such resources are catalog copy, mission statements, program brochures, and accreditation reports.
- Try a "bottom-up" approach. Review instructional materials, such as syllabi, assignments, tests, and texts. Look for faculty expectations, either explicit or implicit, for knowledge, skills, and values that students are expected to develop.
- Ask for input from important stakeholders, such as students, alumni, and employers. What do they believe that students should know, do, or value by the end of the program?
- Describe the ideal graduate of your program. Ask these questions: "What does this person know? What can this person do? What does this person care about?"
- Involve as many of the program faculty as you can. Encourage faculty to explain and defend various perspectives, either anonymously or in open meetings.
- Do not avoid learning outcomes that appear to be difficult to assess, particularly if they are important outcomes. Focus on what faculty believe are the most important outcomes for students to achieve.

Possible Program Learning Goals

Institution-Wide Goals	Program-Specific Goals
• Breadth: Humanities, Social & Behavioral Sciences, Natural & Physical Sciences • Civic Responsibility, Values, and Ethics • Communication Skills • Computer Skills • Critical Thinking Skills and Habits • Global Awareness • Historic and Aesthetic Sensitivity • Information Literacy • Intellectual Flexibility • Interpersonal and Teamwork Skills • Knowledge Integration • Lifelong Learning Skills • Multicultural Understanding • Problem-Solving Skills • Quantitative Skills	● Understanding the theories, concepts, and research findings of the discipline. ● Using appropriate methodologies to develop knowledge and to examine questions within the discipline. ● Applying what was learned to relevant phenomena. ● Being aware of ethical issues and adopting ethical standards within the discipline. ● Being aware of and adopting major values that professionals within the discipline share.

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	

Examples of Learning Outcomes at Various Levels

Level	Learning Outcome
Knowledge	Students can *list* the major theoretical approaches of the discipline.
Comprehension	Students can *describe* the key theories, concepts, and issues for each of the major theoretical approaches.
Application	Students can *apply* theoretical principles to solve real-world problems.
Analysis	Students can *analyze* the strengths and weaknesses of each of the major theoretical approaches for understanding specific phenomena.
Synthesis	Students can *combine* theoretical approaches to explain complex phenomena.
Evaluation	Students can *select* the theoretical approach that is most applicable to a phenomenon and *explain* why they have selected that perspective.

Effective program learning outcomes should:

- Use active verbs that specify definite, observable behaviors
- Identify the depth of processing that faculty expect
- Distinguish between absolute and value-added expectations

Outcomes for Administrative and Academic Support Units

Nichols, K. W., & Nichols, J. O. (2000). *The Department Head's Guide to Assessment Implementation in Administrative and Educational Support Units*. New York: Agathon Press.

- Processes (e.g., travel claims or applications are processed efficiently and equitably)
- Learning Outcomes (e.g., students who receive training can write an effective resume or can use the campus email system; staff who receive training can effectively use campus accounting procedures; students who are served by the Counseling Center report fewer plans to withdraw from campus; employees know campus health and safety procedures)
- Satisfaction Indicators (people supported by the unit report satisfaction with the service, e.g., students report satisfaction with Health Center services)

The unit's mission should (Nichols & Nichols, p. 35; examples taken *verbatim* from p. 36):

- Describe the purpose of the unit. What services are provided? To whom?
- Be brief (less than one page).
- Be aligned with the campus mission.
- Be known by the staff.
- Be used by the staff to make decisions and set priorities.

Example 1: Library Mission Statement
"The university educates students to assume leadership roles in the state, nation, and world through its nationally recognized programs of undergraduate, graduate, and professional study. Its fundamental purpose is the creation and dissemination of knowledge. The university libraries support this mission. Specifically, the university libraries strive to meet the information needs of the academy, its students, faculty and staff, by employing contemporary knowledge management techniques to develop collections, provide access to information sources, and instruct individuals in contemporary bibliographic methodologies."

Example 2: Accounting Office Mission Statement
"The Accounting Office seeks (1) to provide administrators with accurate and timely financial data to assist them in the management of the institution's resources, and (2) to ensure that financial records are maintained in accordance with generally accepted accounting principles and guidelines as established by State and Federal Agencies."

Effective outcomes should be:

- Consistent with the unit and campus mission.
- Realistic.
- Few in number.
- Assessable.
- Used by staff to set priorities and make decisions.

Examples:

1. Accurate, real-time class enrollment data are continuously available to faculty and administrators.
2. Students who attend a Career Orientation Workshop can prepare a resume, interview well, and use our on-line bulletin board to monitor potential employment opportunities.
3. All students attending orientation will receive email accounts and will know how to use the email system to communicate with students, faculty, and staff.
4. Interlibrary loan materials will be delivered within eight working days.
5. Students report satisfaction with Health Center Services; ratings will average at least 3.80 on a 5-point rating scale.
6. On average, at least 100 students will attend each cultural event sponsored by the ASI.
7. Faculty who attend Blackboard workshops will be able to create and update online course materials.
8. Student government meetings follow procedures defined in the Handbook.
9. Staff who are certified to use the enrollment management system can independently add and delete courses, place enrollment restrictions on courses, and monitor course enrollments.
10. Students using the Writing Center improve writing skills.

Frequently-Used Assessment Strategies (Nichols & Nichols)

1. Counts (e.g., number of students who eat in the cafeteria or the number of days to process an invoice)
2. Client satisfaction measures (e.g., ratings from surveys, interviews, and focus groups; broad-based and point-of-contact data may be collected)
3. External evaluation reports (e.g., Health Department review of the food service unit)
4. Learning Outcomes (e.g., quality of student resumes after a workshop at the Career Center)

Sometimes data are analyzed separately for subgroups of respondents, such as international students, athletes, evening students, or recently-hired employees to verify that all campus segments have benefited from the unit's services.

You might find the Commission on Assessment for Student Development Clearinghouse on Environmental and Student Development Assessment Instruments useful:

http://www.acpa.nche.edu/comms/comm09/dragon/dragon-index.html

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Assessment Techniques

Two Basic Ways to Assess Student Learning:

1. **Direct** – The assessment is based on an analysis of student behaviors or products in which they demonstrate how well they have mastered learning outcomes.
2. **Indirect** – The assessment is based on an analysis of reported perceptions about student mastery of learning outcomes. The perceptions may be self-reports by students, or they may be made by others, such as alumni, fieldwork supervisors, employers, or faculty.

Properties of Good Assessment Techniques

- Valid—directly reflects the learning outcome being assessed
- Reliable—including inter-rater reliability when subjective judgments are made
- Actionable—results point reviewers toward challenges that can be approached
- Efficient and cost-effective in time and money
- Engaging to students and other respondents—so they'll demonstrate the extent of their learning
- Interesting to faculty and other stakeholders—they care about results and are willing to act on them
- Triangulation—multiple lines of evidence point to the same conclusion

Strategies for Direct Assessment of Student Learning

1. Published Tests
2. Locally-Developed Tests
3. Embedded Assignments and Course Activities
4. Portfolios
5. Collective Portfolios

Examples of Published Tests

Some Examples of Published Tests		
Academic Profile	"college-level reading, critical thinking, writing, and mathematics in the context of materials from the humanities, social sciences, and natural sciences"	http://www.ets.org/hea/acpro
Collegiate Assessment of Academic Proficiency (CAAP)	"assesses college students' academic achievement in core general education skills" (writing, reading, math, science reasoning, and critical thinking)	http://www.act.org/caap/index.html
ACCUPLACER	reading, writing, and mathematics	http://www.collegeboard.com/highered/apr/accu/accu.html
COMPASS e-Write	writing	http://www.act.org/e-write/index.html

Steps in Selecting a Published Test

1. Identify a possible test.
2. Consider published reviews of this test, such as reviews in the *Mental Measurements Yearbook*.
3. Order a specimen set from the publisher.
4. Take the test and consider the appropriateness of its format and content.
5. Consider the test's relationship to your learning outcomes.
6. Consider the depth of processing of the items (e.g., analyze items using Bloom's taxonomy).
7. Consider the publication date and currency of the items.
8. How many scores are provided? Will these scores be useful? How?
9. Look at the test manual. Were test development procedures reasonable? What is the evidence for the test's reliability and validity for the intended use?
10. If you will be using the norms, consider their relevance for your purpose.
11. Consider practicalities, e.g., timing, test proctoring, and test scoring requirements.
12. Verify that faculty are willing to act on results.

Published Test Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
• Can provide direct evidence of student mastery of learning outcomes. • They generally are carefully developed, highly reliable, professionally scored, and nationally normed. • They frequently provide a number of norm groups, such as norms for community colleges, liberal arts colleges, and comprehensive universities. • Online versions of tests are increasingly available, and some provide immediate scoring. • Some publishers allow faculty to supplement tests with their own items, so tests can be adapted to better serve local needs.	• Students may not take the test seriously if test results have no impact on their lives. • These tests are not useful as direct measures for program assessment if they do not align with local curricula and learning outcomes. • Test scores may reflect criteria that are too broad for meaningful assessment. • Most published tests rely heavily on multiple-choice items which often focus on specific facts, but program learning outcomes more often emphasize higher-level skills. • If the test does not reflect the learning outcomes that faculty value and the curricula that students experience, results are likely to be discounted and inconsequential. • Tests can be expensive. • The marginal gain from annual testing may be low. • Faculty may object to standardized exam scores on general principles, leading them to ignore results.

Locally-Developed Tests

Common Test Item Formats	
Item Type	**Characteristics and Suggestions**
Completion	These items require students to fill-in-the-blank with appropriate terms or phrases. They appear to be best for testing vocabulary and basic knowledge, and they avoid giving students credit for guessing by requiring recall, rather than recognition. Scoring can be difficult if more than one answer can be correct.
Essay	Essay questions are very popular and can be used to assess higher-order thinking skills. They generally ask for explanations and justifications, rather than memorized lists. Key words in essay questions are *summarize, evaluate, contrast, explain, describe, define, compare, discuss, criticize, justify, trace, interpret, prove*, and *illustrate* (Moss & Holder, 1988).
Matching	Usually these questions are presented as two columns, and students are required to associate elements in column B with elements in column A. Such items are easy to score, but they are relatively difficult to construct and they seem best suited for testing knowledge of factual information, rather than deeper levels of understanding.
Multiple-Choice	Multiple-choice questions are popular because they can measure many concepts in a short period of time, and they generally are better than other objective questions at assessing higher-order thinking. They are easy to score, and item banks associated with popular textbooks are often available. Writing good items takes time, and there is strong temptation to emphasize facts, rather than understanding.
True-False	True-false items are relatively easy to construct and grade, but they appear to be best at assessing factual knowledge, rather than deep understanding.

Locally-Developed Test Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
• Can provide direct evidence of student mastery of learning outcomes. • Appropriate mixes of essay and objective questions allow faculty to address various types of learning outcomes. • Students generally are motivated to display the extent of their learning. • If well-constructed, they are likely to have good validity. • Because local faculty write the exam, they are likely to be interested in results and willing to use them. • Can be integrated into routine faculty workloads. • The evaluation process should directly lead faculty into discussions of student learning, curriculum, pedagogy, and student support services.	• These exams are likely to be less reliable than published exams. • Reliability and validity generally are unknown. • Creating and scoring exams takes time. • Traditional testing methods have been criticized for not being "authentic." • Norms generally are not available.

Embedded Assignments and Course Activities

- Classroom assessment activities (Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers* (2nd ed.). San Francisco, CA: Jossey-Bass.)
- Community-service learning and other fieldwork activities
- Culminating projects, such as papers in capstone courses
- Exams or parts of exams
- Group projects
- Homework assignments
- In-class presentations
- Student recitals and exhibitions

Assignments and activities are purposefully created to collect information relevant to specific program learning outcomes. Results are pooled across courses and instructors to indicate program accomplishments, not just the learning of students in specific courses.

Embedded Assignments and Course Activities Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
• Can provide direct evidence of student mastery of learning outcomes. • Out-of-class assignments are not restricted to time constraints typical for exams. • Students are generally motivated to demonstrate the extent of their learning. • Can provide authentic assessment of learning outcomes. • Can involve CSL or other fieldwork activities and ratings by fieldwork supervisors. • Can provide a context for assessing communication and teamwork skills. • Can be used for grading as well as assessment. • Faculty who develop the procedures are likely to be interested in results and willing to use them. • The evaluation process should directly lead faculty into discussions of student learning, curriculum, pedagogy, and student support services. • Data collection is unobtrusive to students.	• Requires time to develop and coordinate. • Requires faculty trust that the program will be assessed, not individual teachers. • Reliability and validity generally are unknown. • Norms generally are not available.

Portfolios

- Showcase vs. Developmental Portfolios: best work vs. evidence of growth
- Workload and storage demands for large programs can be overwhelming!

Some Questions to Answer Before Assigning Portfolios

1. What is the purpose of the requirement–to document student learning, to demonstrate student development, to learn about students' reflections on their learning, to create a document useful to students, to help students grow through personal reflection on their personal goals?
2. When and how will students be told about the requirement, including what materials they need to collect or to produce for it?
3. Will the portfolios be used developmentally or will they be submitted only as students near graduation?
4. Will portfolios be showcase or developmental?
5. Are there minimum and maximum lengths or sizes for portfolios?
6. Who will decide which materials will be included in portfolios–faculty or students?
7. What elements will be required in the portfolio–evidence only from courses in the discipline, other types of evidence, evidence directly tied to learning outcomes, previously graded products or clean copies?
8. Will students be graded on the portfolios? If so, how and by whom?
9. How will the portfolios be assessed to evaluate and improve the program?
10. What can be done for students who have inadequate evidence through no fault of their own?
11. What will motivate students to take the portfolio assignment seriously?
12. How will the portfolio be submitted–hard copy or electronic copy?
13. Who "owns" the portfolios–students or the program?
14. Who has access to the portfolios and for what purposes?
15. How will student privacy and confidentiality be protected?

Portfolio Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
• Can provide direct evidence of student mastery of learning outcomes. • Students are encouraged to take responsibility for and pride in their learning. • Students may become more aware of their own academic growth. • Can be used for developmental assessment and can be integrated into the advising process to individualize student planning. • Can help faculty identify curriculum gaps, lack of alignment with outcomes. • Students can use portfolios and the portfolio process to prepare for graduate school or career applications. • The evaluation process should directly lead faculty into discussions of student learning, curriculum, pedagogy, and student support services. • Webfolios or CD-ROMs can be easily viewed, duplicated, and stored.	• Requires faculty time to prepare the portfolio assignment and assist students as they prepare them. • Requires faculty analysis and, if graded, faculty time to assign grades. • May be difficult to motivate students to take the task seriously. • May be more difficult for transfer students to assemble the portfolio if they haven't saved relevant materials. • Students may refrain from criticizing the program if their portfolio is graded or if their names will be associated with portfolios during the review.

Collective Portfolios

Some of the benefits of traditional portfolios, with much less work!

Collective Portfolio Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
• Can provide direct evidence of student mastery of learning outcomes. • Students generally are motivated to display the extent of their learning. • Workload demands generally are more manageable than traditional portfolios. • Can help faculty identify curriculum gaps, lack of alignment with outcomes. • Students are not required to do extra work. • The evaluation process should directly lead faculty into discussions of student learning, curriculum, pedagogy, and student support services. • Data collection is unobtrusive to students.	• If assignments are not aligned with the outcomes being examined, evidence may be problematic. • If sampling is not done well, results may not generalize to the entire program. • Reviewing the materials takes time and planning.

Strategies for Indirect Assessment of Student Learning

- Surveys
- Interviews
- Focus Groups

Surveys

- Point-of-contact surveys
- Online, e-mailed, registration, or grad check surveys
- Keep it simple!

Survey Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
● Are flexible in format and can include questions about many issues. ● Can be administered to large groups of respondents. ● Can easily assess the views of various stakeholders. ● Usually has face validity—the questions generally have a clear relationship to the outcomes being assessed. ● Tend to be inexpensive to administer. ● Can be conducted relatively quickly. ● Responses to close-ended questions are easy to tabulate and to report in tables or graphs. ● Open-ended questions allow faculty to uncover unanticipated results. ● Can be used to track opinions across time to explore trends. ● Are amenable to different formats, such as paper-and-pencil or online formats. ● Can be used to collect opinions from respondents at distant sites.	● Provides indirect evidence about student learning. ● Their validity depends on the quality of the questions and response options. ● Conclusions can be inaccurate if biased samples are obtained. ● Results might not include the full array of opinions if the sample is small. ● What people say they do or know may be inconsistent with what they actually do or know. ● Open-ended responses can be difficult and time-consuming to analyze.

Interviews

- Interviews can be conducted one-on-one, in small groups, or over the phone.
- Interviews can be structured (with specified questions) or unstructured (a more open process).
- Questions can be close-ended (e.g., multiple-choice style) or open-ended (respondents construct a response).
- Can target students, graduating seniors, alumni, employers, community members, faculty, etc.
- Can do exit interviews or pre-post interviews.
- Can focus on student experiences, concerns, or attitudes related to the program being assessed.
- Generally should be conducted by neutral parties to avoid bias and conflict of interest.

Some Tips for Effective Interviewing

- Conduct the interview in an environment that allows the interaction to be confidential and uninterrupted.
- Demonstrate respect for the respondents as *participants* in the assessment process rather than as *subjects*. Explain the purpose of the project, how the data will be used, how the respondent's anonymity or confidentiality will be maintained, and the respondents' rights as participants. Ask if they have any questions.
- Put the respondents at ease. Do more listening than talking. Allow respondents to finish their statements without interruption.
- Match follow-up questions to the project's objectives. For example, if the objective is to obtain student feedback about student advising, don't spend time pursuing other topics.
- Do *not* argue with the respondent's point of view, even if you are convinced that the viewpoint is incorrect. Your role is to obtain the respondents' opinions, not to convert them to your perspective.
- Allow respondents time to process the question. They may not have thought about the issue before, and they may require time to develop a thoughtful response.
- Paraphrase to verify that you have understood the respondent's comments. Respondents will sometimes realize that what they said isn't what they meant, or you may have misunderstood them. Paraphrasing provides an opportunity to improve the accuracy of the data.
- Make sure you know how to record the data and include a backup system. You may be using a tape recorder—if so, consider supplementing the tape with written notes in case the recorder fails or the tape is faulty. Always build in a system for verifying that the tape is functioning or that other data recording procedures are working. Don't forget your pencil and paper!

Interview Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
● Are flexible in format and can include questions about many issues. ● Can assess the views of various stakeholders. ● Usually has face validity—the questions generally have a clear relationship to the outcomes being assessed. ● Can provide insights into the reasons for participants' beliefs, attitudes, and experiences. ● Interviewers can prompt respondents to provide more detailed responses. ● Interviewers can respond to questions and clarify misunderstandings. ● Telephone interviews can be used to reach distant respondents. ● Can provide a sense of immediacy and personal attention for respondents. ● Open-ended questions allow faculty to uncover unanticipated results.	● Generally provides indirect evidence about student learning. ● Their validity depends on the quality of the questions. ● Poor interviewer skills can generate limited or useless information. ● Can be difficult to obtain a representative sample of respondents. ● What people say they do or know may be inconsistent with what they actually do or know. ● Can be relatively time-consuming and expensive to conduct, especially if interviewers and interviewees are paid or if the no-show rate for scheduled interviews is high. ● The process can intimidate some respondents, especially if asked about sensitive information and their identity is known to the interviewer. ● Results can be difficult and time-consuming to analyze. ● Transcriptions of interviews can be time-consuming and costly.

Focus Groups

- **Traditional focus groups** are free-flowing discussions among small, homogeneous groups (typically from 6 to 10 participants), guided by a skilled facilitator who subtly directs the discussion in accordance with pre-determined objectives. This process leads to in-depth responses to questions, generally with full participation from all group members. The facilitator departs from the script to follow promising leads that arise during the interaction.
- **Structured group interviews** are less interactive than traditional focus groups and can be facilitated by people with less training in group dynamics and traditional focus group methodology. The group interview is highly structured, and the report generally provides a few core findings, rather than an in-depth analysis.

Sample Focus Group Questions	
Purpose of Question	**Examples**
Warm-up	● I'd like everyone to start out by stating a word or phrase that best describes your view of the program.
Issue 1: Career Preparation	● Please tell us what career you are interested in pursuing after graduation. ● How has the program helped you prepare for your career or future activities?
Issue 2: Advising	● We are interested in your advising experiences in the program. Could you tell us about your first advising experience in the department? ● What did you find most useful in your interactions with your advisor? ● What would you like our advisors to do differently?
Issue 3: Curriculum	● Thinking about the curriculum and the required courses, how well do you think they prepared you for upper-division work? ● What should be changed about the curriculum to better prepare you for your career or for graduate school?
Closing	● We've covered a lot of ground today, but we know you might still have other input about the program. Is there anything you would like to say about the program that hasn't been discussed already?

Focus Group Strengths and Weaknesses	
Potential Strengths	**Potential Weaknesses**
● Are flexible in format and can include questions about many issues. ● Can provide in-depth exploration of issues. ● Usually has face validity—the questions generally have a clear relationship to the outcomes being assessed. ● Can be combined with other techniques, such as surveys. ● The process allows faculty to uncover unanticipated results. ● Can provide insights into the reasons for participants' beliefs, attitudes, and experiences. ● Can be conducted within courses. ● Participants have the opportunity to react to each other's ideas, providing an opportunity to uncover the degree of consensus on ideas that emerge during the discussion.	● Generally provides indirect evidence about student learning. ● Requires a skilled, unbiased facilitator. ● Their validity depends on the quality of the questions. ● Results might not include the full array of opinions if only one focus group is conducted. ● What people say they do or know may be inconsistent with what they actually do or know. ● Recruiting and scheduling the groups can be difficult. ● Time-consuming to collect and analyze data.

Developing and Applying Rubrics

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, and/or to assess programs.

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

Online Rubrics

For links to online rubrics, go to **http://www.calstate.edu/acadaff/sloa/.** Many rubrics have been created for use in K-12 education, and they can be adapted for higher education. It's often easier to adapt a rubric that has already been created than to start from scratch.

Online GE Rubrics

- Bowling Green University (http://folios.bgsu.edu/assessment/Rubrics.htm). Links to six general education rubrics for assessing connection, investigation, leadership, participation, presentation, and writing.
- CSU Information Competence Initiative (http://www.calstate.edu/LS/1_rubric.doc). An analytic information competence rubric based on the 2000 ACRL *Information Literacy Competency Standards for Higher Education*.
- California State University, Long Beach (http://www.csulb.edu/divisions/aa/personnel/fcpd/resources/ge/). A holistic and an analytic writing rubric.
- California State University, Fresno (http://www.csufresno.edu/cetl/assessment). Links to four general education rubrics for assessing critical thinking (CTScoring.doc), integration (ICScoring.doc), integrative science (IBScoring.doc), and writing (WritingScoring.doc).
- California State University System (http://www.calstate.edu/acadaff/sloa/links/rubrics.shtml). Links to a wide variety of rubrics that could be adapted for general education assessment.
- Johnson County Community College (http://www.jccc.net/home/depts/S00015/site/plan/). Links to rubrics for culture and ethics, mathematics, modes of inquiry, problem solving, speaking, and writing.
- Northeastern Illinois University (http://www.neiu.edu/~neassess/gened.htm#rubric). Links to a writing rubric and long and short versions of a critical thinking rubric.
- Palomar College (http://www.palomar.edu/alp/benchmarks_for_core_skills.htm). Links to holistic rubrics assessing communication (listening, speaking, reading, and writing),

cognition (problem solving, creative thinking, quantitative reasoning, and transfer of knowledge and skills to a new context), information competency (technical competency), social interaction (teamwork), and personal development and responsibility (self-management and respect for diverse people and cultures).

- State University of New York College at Geneseo (http://gened.geneseo.edu/pdfs/assess_tools_revised.pdf). Links to rubrics assessing numeric and symbolic reasoning, critical writing and reading, humanities, social science, fine arts, basic research, U.S. history, non-western traditions, natural science, and oral discourse outcomes.
- University of Arkansas at Fort Smith (http://www.uafortsmith.edu/Learning/GeneralEducationCompetenciesAndRubrics#BookmarkRubrics). Links to rubrics assessing analytical skills, communication skills, computer literacy, creativity, global and cultural perspectives, information literacy, personal responsibility, quantitative reasoning, scientific and technological literacy, and social interaction.
- University of California (http://www.sdcoe.k12.ca.us/score/actbank/subja.htm). A holistic writing rubric.
- University of South Carolina (http://ipr.sc.edu/effectiveness/assessment/criteria). Links to seven general education rubrics for assessing electronic, humanities/cultural, math, oral communication, science, social/behavioral sciences, and writing outcomes.
- Washington State University (http://wsuctproject.wsu.edu/ctr.htm). An analytic critical thinking rubric.

Rubrics have many strengths:

- Complex products or behaviors can be examined efficiently.
- Developing a rubric helps to precisely define faculty expectations.
- Well-trained reviewers apply the same criteria and standards.
- Rubrics are criterion-referenced, rather than norm-referenced. Raters ask, "Did the student meet the criteria for level 5 of the rubric?" rather than "How well did this student do compared to other students?" This is more compatible with cooperative and collaborative learning environments than competitive grading schemes and is essential when using rubrics for program assessment because you want to learn how well students have met your standards.
- Ratings can be done by students to assess their own work, or they can be done by others, e.g., peers, fieldwork supervisions, or faculty.

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. (0-2)	The presentation has a focus and provides some evidence which supports conclusions. (3-5)	The presentation is carefully organized and provides convincing evidence to support conclusions. (6-8)	
Content	The content is inaccurate or overly general. Listeners are unlikely to learn anything or may be misled. (0-2)	The content is generally accurate, but incomplete. Listeners may learn some isolated facts, but they are unlikely to gain new insights about the topic. (5-7)	The content is accurate and complete. Listeners are likely to gain new insights about the topic. (10-13)	
Style	The speaker appears anxious and uncomfortable, and reads notes, rather than speaks. Listeners are largely ignored. (0-2)	The speaker is generally relaxed and comfortable, but too often relies on notes. Listeners are sometimes ignored or misunderstood. (3-6)	The speaker is relaxed and comfortable, speaks without undue reliance on notes, and interacts effectively with listeners. (7-9)	
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.

Sometimes a generic rubric can be used, and it can be refined as raters become more experienced or as problems emerge.

Generic Rubric for Assessing Portfolios				
	Unacceptable: Evidence that the student has mastered this outcome is not provided, unconvincing, or very incomplete.	**Marginal:** Evidence that the student has mastered this outcome is provided, but it is weak or incomplete.	**Acceptable:** Evidence shows that the student has generally attained this outcome.	**Exceptional:** Evidence demonstrates that the student has mastered this outcome at a high level.
Learning Outcome 1				
Learning Outcome 2				
Learning Outcome 3				

Steps for Creating a Rubric: Analytic Method

1. Identify what you are assessing, e.g., critical thinking.
2. Identify the characteristics of what you are assessing, e.g., appropriate use of evidence, recognition of logical fallacies.
3. Describe the best work you could expect using these characteristics. This describes the top category.
4. Describe the worst acceptable product using these characteristics. This describes the lowest acceptable category.
5. Describe an unacceptable product. This describes the lowest category.
6. Develop descriptions of intermediate-level products and assign them to intermediate categories. You might decide to develop a scale with five levels (e.g., unacceptable, marginal, acceptable, competent, outstanding), three levels (e.g., novice, competent, exemplary), or any other set that is meaningful.
7. Ask colleagues who were not involved in the rubric's development to apply it to some products or behaviors and revise as needed to eliminate ambiguities.

Steps for Creating a Rubric: Expert Systems Method

1. Have experts sort sample documents into piles with category labels.
2. Determine the characteristics that discriminate between adjacent piles.
3. Use these characteristics to describe each category.
4. Ask colleagues who were not involved in the rubric's development to apply it to some products or behaviors and revise as needed to eliminate ambiguities.

Managing Group Readings

1. One reader/document.
2. Two independent readers/document, perhaps with a third reader to resolve discrepancies.
3. Paired readers.

Before inviting colleagues to a group reading,

1. Develop and pilot test the rubric.
2. Select exemplars of weak, medium, and strong student work.
3. Develop a system for recording scores.
4. Consider pre-programming a spreadsheet so data can be entered and analyzed during the reading and participants can discuss results immediately.

Scoring Rubric Group Orientation and Calibration

1. Describe the purpose for the review, stressing how it fits into program assessment plans. Explain that the purpose is to assess the program, not individual students or faculty, and describe ethical guidelines, including respect for confidentiality and privacy.
2. Describe the nature of the products that will be reviewed, briefly summarizing how they were obtained.
3. Describe the scoring rubric and its categories. Explain how it was developed.
4. Explain that readers should rate each dimension of an analytic rubric separately, and they should apply the criteria without concern for how often each category is used.
5. Give each reviewer a copy of several student products that are exemplars of different levels of performance. Ask each volunteer to independently apply the rubric to each of these products, and show them how to record their ratings.
6. Once everyone is done, collect everyone's ratings and display them so everyone can see the degree of agreement. This is often done on a blackboard, with each person in turn announcing his/her ratings as they are entered on the board. Alternatively, the facilitator could ask raters to raise their hands when their rating category is announced, making the extent of agreement very clear to everyone and making it very easy to identify raters who routinely give unusually high or low ratings.
7. Guide the group in a discussion of their ratings. There will be differences, and this discussion is important to establish standards. Attempt to reach consensus on the most appropriate rating for each of the products being examined by inviting people who gave different ratings to explain their judgments. Usually consensus is possible, but sometimes a split decision is developed, e.g., the group may agree that a product is a "3-4" split because it has elements of both categories. You might allow the group to revise the rubric to clarify its use, but avoid allowing the group to drift away from the learning outcome being assessed.
8. Once the group is comfortable with the recording form and the rubric, distribute the products and begin the data collection.
9. If you accumulate data as they come in and can easily present a summary to the group at the end of the reading, you might end the meeting with a discussion of four questions:
   a. What do the results mean?
   b. Who needs to know the results?
   c. What are the implications of the results for curriculum, pedagogy, or student support services?
   d. How might the assessment process, itself, be improved?

Implementation Ideas, Insights, and Brainstorms

1. Learning-Centered Teaching and an Introduction to Assessment

2. Planning and Implementing Assessment

3. Developing and Using Rubrics

Most of the materials in this handout are based on or extracted from:
Allen, M. J. *Assessing Academic Programs in Higher Education* (2004) or *Assessing General Education Programs* (2006). Bolton, MA: Anker [www.ankerpub.com].