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Academic & Student Affairs

Office of the Academic Assessment and Institutional Research

MEMORANDUM

Date: October 27, 2009

To: Senior Vice President, Academic and Student Affairs Helen D. Whippy, Ph.D.

approved for release
 returned with revisions
 disapproved

From: University Assessment Committee Chairperson [Signature]

Subject: *Institutionalizing Assessment; Assessment Guidebook*

The University Assessment Committee ("UAC") recognizes that assessment of student learning outcomes and learning objectives are progressing on campus at a significant and steady pace at the course, program, and General Education levels. To sustain these efforts, the committee is tasked with identifying ways to institutionalize assessment without prescribing assessment plans or measuring tools, and just as importantly, without adding additional burden to the program review cycles. Since its reactivation last year, the UAC has been incredibly productive and engaged in highly collaborative efforts to forward the following recommendations that you have since approved and implemented:

- ✓ establishment of institutional expected student learning outcomes
- ✓ establishment of a cycle for reporting plans, data collection efforts, and closing the loop activities in order to track annually assessment progress in the colleges and schools
- ✓ procurement of assessment software ("TracDat") which, once piloted, will be available to all academic programs to track, report, and document assessment activities
- ✓ coordinated faculty-presented mini-workshops on assessment topics
- ✓ establishment of a web site to post assessment reports and reference materials

UAC is now pleased to submit for your consideration the attached "University of Guam Assessment Guidebook" that contains information, templates, and samples to guide, institutionalize, and facilitate assessment of student learning outcomes. UAC believes that this guidebook will be most helpful to faculty who are new to the assessment process and cycle.

Drafting of the guidebook began over this past summer and is patterned and formatted after the College of Micronesia – FSM Institutional Plan (IAP) Handbook -- with their permission.

Samples from other institutions were also studied. Over the past two months, the draft guidebook was reviewed by the committee of the whole and revised accordingly. Then, with a quorum attendance at its October 26 meeting, the guidebook was unanimously endorsed and recommended to you for approval and distribution to the faculty. If you wish to meet with the UAC to discuss or review the guidebook, please let me know.

On behalf of the committee, we thank you for your continuing support and consideration.

Attachment

cc: University Assessment Committee Members:

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University of Guam Assessment Guidebook



October 2009

Office of Academic and Student Affairs

Prepared by the University Assessment Committee
and the Office of Academic Assessment & Institutional Research

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*ACKNOWLEDGEMENT: This guidebook is patterned and formatted after the
College of Micronesia – FSM Institutional Plan (IAP) Handbook, updated
December 2008.*

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Purpose

The University Assessment Committee recognizes that assessment of student learning outcomes and learning objectives are progressing at a significant and steady pace at the course, program, and General Education levels. To sustain these efforts, the committee is tasked with identifying ways to institutionalize assessment without prescribing assessment plans or measuring tools, and just as importantly, without adding additional burden to the program review cycles. The Committee recommended establishing a cycle for reporting plans, data collection efforts, and closing the loop activities in order to track annually assessment progress in the colleges and schools which in turn would be reported in our committee's annual assessment report. This assessment guidebook is intended as a resource to guide, institutionalize, and facilitate assessment efforts.

Commitment to Assessment (RRPM, Article IV.B.7)

The University of Guam is committed to the assessment of all the academic, administrative and co-curricular services, which it provides for its stakeholders. Assessment denotes the continuous collection of data concerning the effectiveness of services in achieving their stated short-term and long-term goals. This commitment to assessment also applies to research, outreach projects and auxiliary services. The University accepts the responsibility for clarifying and communicating the University's goals and for using its resources to enable stakeholders to achieve their goals. When assessment reveals that goals are not being met or are no longer meeting stakeholders' needs with reasonable success, improvements will be made in the way the University prioritizes and provides those services so as to increase to acceptable levels their effectiveness and value to its stakeholders.

Focus on Learning

With academic quality designated as one of the University's four strategic initiatives, faculty leaders embraced assessment of learning outcomes, provided faculty development opportunities, and established guidelines for academic program review that require ongoing assessment and improvement of instruction. Specific goals included program reviews that documented support for student learning; defined student learning outcomes and assessment methods; and dissemination of information on actions taken to improve pedagogy and curricula, along with the evidence in support of these actions.

UOG Expected Student Learning Outcomes (December 2008)

Institutional SLOs will provide linkages across campus and with the University's mission as we all move forward with program review, assessment efforts, and curriculum development.

Some of the expected fundamental knowledge, skills, and values that the University of Guam **student will have demonstrated** upon completion of *any* degree are:

- Mastery of critical thinking and problem solving
- Mastery of quantitative analysis
- Effective oral and written communication
- Understanding and appreciation of culturally diverse people, ideas and values in a democratic context
- Responsible use of knowledge, natural resources, and technology
- An appreciation of the arts and sciences
- An interest in personal development and lifelong learning

Learning-Centered Principles

Perhaps a more concrete way to look at the type of changes involved is the following chart that lays out Teaching-Centered vs. Learning-Centered Instruction provided by Dr. Mary Allen of the California State University, Bakersfield.

Teaching-Centered vs. Learning-Centered Instruction

Concept	Teaching-Centered	Learning-Centered
Teaching goals	<ul style="list-style-type: none"> Cover the discipline 	Student learn: <ul style="list-style-type: none"> How to use the discipline How to integrate the disciplines to solve complex problems An array of core learning objectives such as communication and information literacy skills
Curriculum	<ul style="list-style-type: none"> Courses in a catalogue 	<ul style="list-style-type: none"> Cohesive program with systematically-created opportunities to synthesize, practice and develop increasingly complex ideas, skills and values
Course structure	<ul style="list-style-type: none"> Faculty "cover" topic 	<ul style="list-style-type: none"> Student master learning objectives
How students learn	<ul style="list-style-type: none"> Listening Reading Independent learning, often in competition for grades 	<ul style="list-style-type: none"> Students construct knowledge by integrating new learning into what they already know Learning as a cognitive and social act
Pedagogy	<ul style="list-style-type: none"> Based on delivery of information 	<ul style="list-style-type: none"> Based on engagement of students
Course delivery	<ul style="list-style-type: none"> Lecture Assignment and exams for summative purposes 	<ul style="list-style-type: none"> Active learning Assignments for formative purposes Collaborative learning Community service learning Cooperative learning Online, asynchronous, self-directed learning Problem-based learning
Faculty role	<ul style="list-style-type: none"> Sage on the stage 	<ul style="list-style-type: none"> Designer of learning environments
Great teaching	<ul style="list-style-type: none"> Teach (present information) well and chose who can will learn 	<ul style="list-style-type: none"> Engage students in their learning Seek ways to help all students master learning objectives Use classroom assessment – identify objectives, routinely examine student's progress and make necessary adjustments Contribute to the scholarships of teaching
Course grading	<ul style="list-style-type: none"> Faculty as gate keepers Normal distribution expected 	<ul style="list-style-type: none"> Grades indicate mastery of learning objectives
Assessment	<ul style="list-style-type: none"> Reliance on grades, registration and course completion data, etc. 	<ul style="list-style-type: none"> Faculty use classroom assessment to improve learning in day-today courses Faculty use program assessment to improve learning throughout the curriculum

The job of instructors is moving from being seen as sage on the stage who conveys information to students to creating an effective learning environment based on "best practices" in teaching and learning. Instructors are expected to continually learn and adopt the new strategies and approaches. Institutions are expected to be able to demonstrate how well their students are learning.

Best Practices in Teaching and Learning

Examples of best practices in teaching and learning are now widely available through books, journals and on the Internet. A sampling of web sites with different strategies for teaching and learning is found on page 12. Faculty can adopt different active learning, cooperative learning and collaborative learning strategies that will assist in improving learning in students.

A widely noted overview of best practices is the Seven Principles for Good Practice in Higher Education (Chickering and Gamson, 1987 adapted from Ehrman and Chickering 1998). A point to note here, while there is ongoing research and new techniques and approaches to teaching and learning, basic principles such as Chickering's are still considered valid and models for improvement.

Seven Principles of Good Practice (Chickering and Gamson)

1. Encourages Contact between Students and Faculty

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

2. Develops Reciprocity and Cooperation among Students

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions sharpens thinking and deepens understanding.

3. Encourages Active Learning

Learning is not a spectator sport. Students do not learn much just by sitting in classes listening to teachers, memorizing pre-packaged assignments, and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences and apply it to their daily lives. They must make what they learn part of themselves.

4. Gives Prompt Feedback

Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. When getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves.

5. Emphasizes Time on Task

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professionals alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty, administrators, and other professional staff can establish the basis of high performance for all.

6. Communicates High Expectations

Expect more and you will get more. High expectations are important for everyone --for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations for themselves and make extra efforts.

7. Respects Diverse Talents and Ways of Learning

There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well with theory. Students need the opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learn in new ways that do not come so easily.

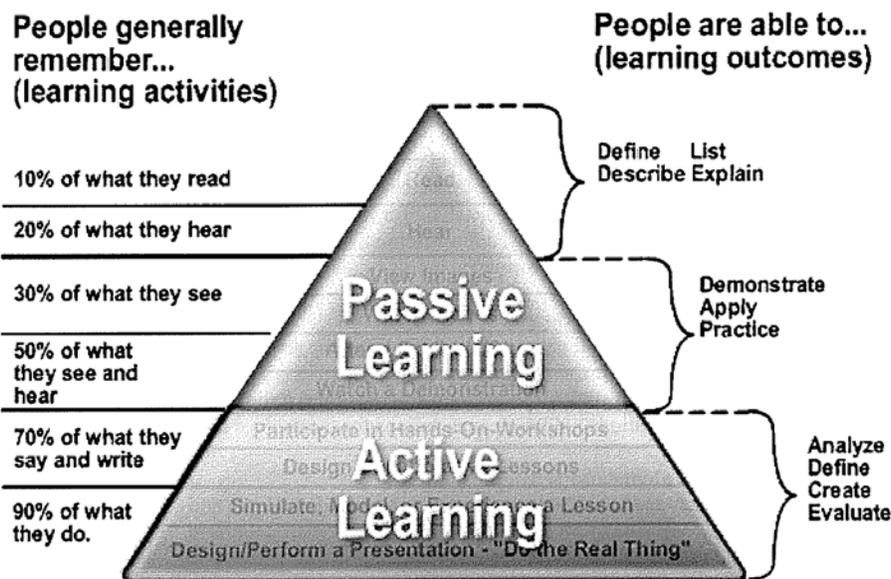
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--Arthur W. Chickering and Zelda F. Gamson, "Seven Principles for Good Practice,"
AAHE Bulletin 39: 3-7, March 1987

Teaching Strategies for Learning Centered

Active, cooperative and collaborate learning strategies are normally associated with developing learning centered institutions. There are numerous definitions for these learning strategies. Following are some basic definitions:

Active Learning is, in short, anything that students do in a classroom other than merely passively listening to an instructor's lecture. This includes everything from listening practices which help the students to absorb what they hear, to short writing exercises in which students react to lecture material, to complex group exercises in which students apply course material to "real life" situations and/or to new problems. (Paulson & Faust, California State University, Los Angeles)



Cooperative Learning is defined by a set of processes which help people interact together in order to accomplish a specific goal or develop an end product which is usually content specific. It is more directive than a collaborative system of governance and closely controlled by the teacher. While there are many mechanisms for group analysis and introspection the fundamental approach is teacher centered whereas collaborative learning is more student centered.

Collaborative Learning (CL) is a personal philosophy, not just a classroom technique. In all situations where people come together in groups, it suggests a way of dealing with people which respects and highlights individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the group's actions. The underlying premise of collaborative learning is based upon consensus building through cooperation by group members, in contrast to competition in which individuals best other group members. CL practitioners apply this philosophy in the classroom, at committee meetings, with community groups, within their families and generally as a way of living with and dealing with other people.

While collaborative learning is generally considered the highest level for a learning centered institution, but it is not necessarily the best place to start in developing a learning-centered institution. Incorporating active and cooperative learning strategies in instructional programs can assist faculty and students both with the skills, concepts and attitudes needed to become more learning-centered. More information with a wealth of strategies for active, cooperative and collaborative learning can be found in web sites listed at the end of this section (page 12).

Bloom's Taxonomy*

'This version of Bloom's Taxonomy is found on Businessballs web site <http://www.businessballs.com/>.

Benjamin Bloom and others proposed over 40 years ago three hierarchical learning domains: cognitive, affective and psychomotor. The taxonomy allows linking of assigned work to different developmental levels of learning. The taxonomy also helps instruction by focusing on what level of learning is intended to be addressed or achieved by students.

The following version of Bloom's taxonomy is from Businessball.com. This version of Bloom's was selected because it is inclusive (cognitive, affective and psychomotor domains) and provides examples of evidence to be measured. Bloom's taxonomy is useful in developing student, program and institutional student learning outcomes and administrative and student services objectives. Bloom's is also a key resource for developing and/or improving course outlines and course syllabi.

Generally, the higher level you achieve in Bloom's taxonomy (analysis, synthesis and evaluation) the higher level of learning and achievement will occur.

cognitive domain				
level	category or 'level'	behavior descriptions	examples of activity to be trained, or demonstration and evidence to be measured	'key words' (verbs which describe the activity to be trained or measured at each level)
1	Knowledge	recall or recognize information	multiple-choice test, recount facts or statistics, recall a process, rules, definitions; quote law or procedure	arrange, define, describe, label, list, memorize, recognize, relate, reproduce, select, state
2	Comprehension	understand meaning, re-state data in one's own words, interpret, extrapolate, translate	explain or interpret meaning from a given scenario or statement, suggest treatment, reaction or solution to given problem, create examples or metaphors	explain, reiterate, reword, critique, classify, summarize, illustrate, translate, review, report, discuss, re-write, estimate, interpret, theorize, paraphrase,

				reference, example
3	Application	use or apply knowledge, put theory into practice, use knowledge in response to real circumstances	put a theory into practical effect, demonstrate, solve a problem, manage an activity	use, apply, discover, manage, execute, solve, produce, implement, construct, change, prepare, conduct, perform, react, respond, role-play
4	Analysis	interpret elements, organizational principles, structure, construction, internal relationships; quality, reliability of individual components	identify constituent parts and functions of a process or concept, or de-construct a methodology or process, making qualitative assessment of elements, relationships, values and effects; measure requirements or needs	analyze, break down, catalogue, compare, quantify, measure, test, examine, experiment, relate, graph, diagram, plot, extrapolate, value, divide
5	Synthesis (create/build)	develop new unique structures, systems, models, approaches, ideas; creative thinking, operations	develop plans or procedures, design solutions, integrate methods, resources, ideas, parts; create teams or new approaches, write protocols or contingencies	develop, plan, build, create, design, organize, revise, formulate, propose, establish, assemble, integrate, re-arrange, modify
6	Evaluation	assess effectiveness of whole concepts, in relation to values, outputs, efficacy, viability; critical thinking, strategic comparison and review; judgment relating to external criteria	review strategic options or plans in terms of efficacy, return on investment or cost-effectiveness, practicability; assess sustainability; perform a <u>SWOT</u> analysis in relation to alternatives; produce a financial justification for a proposition or venture, calculate the	review, justify, assess, present a case for, defend, report on, investigate, direct, appraise, argue, project-manage

effects of a plan or strategy; perform a detailed and costed risk analysis with recommendations and justifications

The affective (soft skills) domain is becoming to be recognized as a key component of successful education. These are the skills that are often seen as vital to success in the work place and in broader life.

affective domain

level category or 'level'	behavior descriptions	examples of experience, or demonstration and evidence to be measured	'key words' (verbs which describe the activity to be trained or measured at each level)
1 Receive	open to experience, willing to hear	listen to teacher or trainer, take interest in session or learning experience, take notes, turn up, make time for learning experience, participate passively	ask, listen, focus, attend, take part, discuss, acknowledge, hear, be open to, retain, follow, concentrate, read, do, feel
2 Respond	react and I participate actively	participate actively in group discussion, active participation in activity, interest in outcomes, enthusiasm for action, question and probe ideas, suggest interpretation	react, respond, seek clarification, interpret, clarify, provide other references and examples, contribute, question, present, ate, become animated or excited, help team, write, perform
3 Value	attach values and express personal opinions	decide worth and relevance of ideas, experiences; accept or commit to particular stance or	argue, challenge. debate, refute, confront, justify, persuade, criticize,

			action	
4	Organize or Conceptualize values	reconcile internal conflicts; develop value system	qualify and quantify personal views, state personal position and reasons, state beliefs	build, develop, formulate, defend, modify, relate, prioritize, reconcile, contrast, arrange, compare
5	Internalize or characterizes values	adopt belief system and philosophy	self-reliant; behave consistently with personal value set	act, display, influence, solve, practice,

Psychomotor domain (Simpson)

level	category or 'level'	description	examples of activity or demonstration and evidence to be measured	'key words' (verbs which describe the activity to be trained or measured at each level)
1	Perception	awareness	use and/or selection of senses to absorb data for guiding movement	recognize, distinguish, notice, touch, hear, feel, etc
2	Set	readiness	mental, physical or emotional preparation before experience or task	arrange, prepare, get set
3	Guided Response	attempt	imitate or follow instruction, trial and error	imitate, copy, follow, try
4	Mechanism	basic proficiency	competently respond to stimulus for action	make, perform, shape, complete
5	Complex Overt Response	expert proficiency	execute a complex process with expertise	coordinate, fix, demonstrate

6	Adaptation	adaptable proficiency	alter response to reliably meet varying challenges	adjust, integrate, solve
7	Origination	creative proficiency	develop and execute new integrated responses and activities	design, formulate, modify, re-design, trouble-shoot

Deep versus Surface Learning

The concept of deep versus surface learning provides an approach that has great potential for improving student quality.

Deep learning promotes developing higher order thinking skills such as Bloom's analysis, synthesis and evaluation. Students are better able to compare and contrast, integrate components into a whole, assess situations from multiply viewpoint. Surface learning is seen as emphasizing more of knowledge and comprehension or rote learning that is often forgotten by students after a course has ended.

Deep learners are intrinsically motivated and incorporate new ideas they are learning with existing knowledge while surface learners tend to be more extrinsically motivated -concerned about grades and want to know what to study for the next test.

The following table compares deep versus surface learning.

Deep	Surface
Focus is on "what is signified"	Focus is on the "signs" (or on the learning as a signifier of something else)
Relates previous knowledge to new knowledge	Focus on unrelated parts of the task
Relates knowledge from different courses	Information for assessment is simply memorized
Relates theoretical ideas to everyday experience	Facts and concepts are associated unreflectively
Relates and distinguishes evidence and argument	Principles are not distinguished from examples
Organizes and structures content into coherent whole	Task is treated as an external imposition
Emphasis is internal, from within the student	Emphasis is external, from demands of assessment

Six factors have been seen to promote deep learning:

- Good teaching -Faculty are well prepared, confident
- Openness to student -Faculty are friendly, flexible, helpful

- Freedom in learning -Student have choice in what they study
- Clear goals and standards -Assessment standards, expectations are clearly defined
- Vocational relevance -Course seen as relevant to future careers
- Social climate -Good relations between students (social, academic)

Instructional methods can be a major factor on the impact of courses and programs on student learning. Instructional methods that promote deep learning include:

- Encouraging faculty/student interaction
- Encouraging student/student interaction
- Using active and interactive teachers methods
- Making links with what students already know to encourage sense of structure
- Allowing student input into course goals and methods, being receptive and flexible
- Discussing/teaching learning skills explicitly
- Trying to link course topics to students' lives and career aspirations

Assessment methods promoting deep learning:

- Define assessment goals and task clearly, and ensure they are congruent
- Allow choice of assessment tasks
- Stress tasks that allow time for information gathering, depth and reflection (e.g. projects versus exams)
- Encourage collaborative projects
- Choose tasks that require integration of information from a range of sources
- Give full and proactive feedback on labs, assignments and tests

Textbooks can to be different for deep versus surface learning. Under deep learning, fewer topics are covered, but in much greater detail. Surface learning tends to cover a large number of topics, but in limited detail. Textbooks that take a deep learning approach tend to be much smaller than those that take a surface learning approach.

Web Sites and References for Learning

Teaching and Learning

The Carnegie Foundation for the Advancement of Teachers. Materials also can be found on learning communities, faculty learning about learning and practical uses of data. Additional materials and sharing of information can be found at the Learning Commons **<http://commons.carnegiefoundation.org/>**.

IMPLEMENTING THE SEVEN PRINCIPLES: Technology as Lever is expanded information on the seven principles. **<http://www.tlgroup.org/programs/seven.html>**. The Seven Principles are presented with implementation ideas at <http://cte.udel.edu/TAbook/principles.html>.

The Center for Teaching Effectiveness provides an extensive site on Best Practices in Higher Education **<http://cte.udel.edu/bestpract.htm>**.

A nice handbook for professors and teaching assistants can be found on the University of Ottawa web site.

http://www.saea.uottawa.ca/index.php?option=com_content&task=view&id=564&Itemid=664&lang=en

Active, Cooperative and Collaborative Learning

There are numerous web sites that deal with active, cooperative and collaborative learning, a few follow. http://www4.ncsu.edu/unity/lockers/users/f/felder/public/Cooperative_Learning.html.

Active learning presented from an engineering/science standpoint **<http://clte.asu.edu/active/main.htm>**.

The Texas Collaborative for Teaching Excellence <http://www.texascollaborative.org/activelearnng.htm> provides extensive materials on Active Learning.

Cooperative learning in higher education is featured at **<http://clte.asu.edu/active/clinhighed.pdf>**.

The Foundation Coalition provides a short overview of cooperative learning with a wealth of detail at http://www.foundationcoalition.org/home/keycomponents/collaborative_learning.html.

Bloom's Taxonomy

Detailed information on Bloom's Taxonomy including background information and alternate forms of the psychomotor domain can be found at Businessball.com **<http://www.businessballs.com/bloomstaxonomyoflearningdomains.htm>**.

Assessing for Learning

Definition of Assessment

Thomas A. Angelo: (AAHE Bulletin, November 1995, P.7) specifies:

Assessment is an ongoing process aimed at understanding and improving student learning. It involves making our expectations explicit and public; setting appropriate criteria and high standards for learning quality; systematically gathering, analyzing, and interpreting evidence to determine how well performance matches those expectations and standards; and using the resulting information to document, explain, and improve performance. When it is embedded effectively within larger institutional systems, assessment can help us focus our collective attention, examine our assumptions, and create a shared academic culture dedicated to assuring and improving the quality of higher education.

The key elements of this definition are embedded in the University's principles of assessment and throughout the guidebook. The University is committed to seeing assessment as an ongoing process aimed at improving student learning in all of its departments, divisions, offices and campuses. We will set appropriate and high quality student learning outcomes and administrative and support services objectives. We will systematically gather, analyze and interpret evidence to determine how our performance is impacting student learning and use that evidence to continuously improve our systems. We will seek to develop a culture of evidence where assessment data and research provide a basis for decision making.

Approaches to assessment are changing to student and learning centered instruction. Peter Ewell, one of the nation's foremost authorities on outcomes assessment, summarized the state-of-the-art of assessment.

State of the Art of Assessment

- 1 **Assessment is considered essential.** "The assessment of student learning has become an essential operating requirement for colleges and universities". Virtually every accrediting body requires on-going assessment and demonstrated impact of the assessment process.
- 2 **Assessment involves scholarship.** Assessment should be thought of as ". . . less a 'mechanism' than a mindset. For faculty, this mindset is best characterized as turning familiar values of scholarship toward the core activities of teaching and learning"
- 3 **Assessment is here to stay.** Assessment has been around too long to be considered new or trendy, and it won't quietly fade away.
- 4 **Authentic assessment is on the rise.** Assessment is moving from standardized tests to performance-based assessment. Tests are becoming more complex, authentic, and real- world in character. They go beyond multiple-choice questions and ask students to write, show steps as they solve problems, and demonstrate creativity in tasks requiring design and analysis.
- 5 **The emphasis is on learning, not teaching.** Models of student development have changed from being teaching-centered to being learning-centered. The emphasis is on longitudinal development of students, the integration of in-class and out-of-class learning, and assessing the holistic nature of student growth within the university environment. We should assess programs, not just courses, and we should consider the impact of the entire environment on our students, including learning related to options such as clubs, research or performance forums, and community service.

- 6 **Assessment is being integrated into the teaching and learning process.** Assessment is moving from being conceptualized as an "add-on" to being part of the on-going teaching and learning process. "Practitioners have learned that good assessment can also be good pedagogy". Capstone courses throughout the nation are becoming occasions for reflection, analysis, and assessment of students and programs. "Samples of senior... papers and exercises . . . can be examined systematically according to faculty-designed scoring rubrics to determine patterns of overall student performance capable of helping identify and inform needed curricular revisions".

Based on a focus on creating a learning centered institution, the following principles and assumptions guide efforts to ensure assessment improves student learning.

Principles & Assumptions of Assessment

- 1) The assessment process is messy and inexact, but must be done as precisely as possible.
- 2) Outcomes measures should be as direct as possible, although indirect methods, such as industry perceptions, must be included and should somehow use existing artifacts.
- 3) Industry-specific professional testing measures of competence may be applied.
- 4) Assessment must impact improvement of curriculum, policy, and planning
- 5) Decisions arising out of assessment results are not meant to be punitive; rather, they are to be used for program and service improvements.
- 6) Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.
- 7) Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes.
- 8) Assessment is a goal-oriented process.

To support these principles and assumptions of assessment the University considers the following Nine Principles of Good Practice for Assessing Student Learning from the AAHE:

Nine Principles of Good Practice for Assessing Student Learning

1. The assessment of student learning begins with educational values.

Assessment is not an end in itself but a vehicle for educational improvement. Its effective practice, then, begins with and enacts a vision of the kinds of learning we most value for students and strive to help them achieve.

Educational values should drive not only what we choose to assess but also how we do so. Where questions about educational mission and values are skipped over, assessment threatens to be an exercise in measuring what's easy, rather than a process of improving what we really care about.

2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated and revealed in performance over time.

Learning is a complex process. It entails not only what students know but what they can do with what they know; it involves not only knowledge and abilities but values, attitudes and habits of mind that affect both academic success and performance beyond the classroom. Assessment should

reflect these improvements by employing a diverse array of methods, including those that call for actual performance, using them over time so as to reveal change, growth and increasing degrees of integration. Such an approach aims for a more complete and accurate picture of learning, and therefore, a firmer basis for improving our students' educational experience.

3. Assessment works best when the programs it seeks to improve have clear, explicitly stated purposes. Assessment is a goal-oriented process.

It entails comparing educational performance with educational purposes and expectations -those derived from the institution's mission, from faculty intentions in program and course design, and from knowledge of students' own goals. Where program purposes lack specificity or agreement, assessment as a process pushes a campus toward clarity about where to aim and what standards to apply; assessment also prompts attention to where and how program goals will be taught and learned. Clear, shared, implementable goals are the cornerstone for assessment that is focused and useful.

4. Assessment requires attention not only to outcomes but also and equally to the experiences that lead to those outcomes.

Information about outcomes is of high importance; where students "end up" matters greatly. But to improve outcomes, we need to know about student experiences along the way -about the curricula, teaching and kind of student effort that lead to particular outcomes.

Assessment can help us understand which students learn best under what conditions; with such knowledge comes the capacity to improve the whole of their learning.

5. Assessment works best when it is ongoing not episodic. Assessment is a process whose power is cumulative.

Though isolated, "one-shot" assessment can be better than none; improvement is best fostered when assessment entails a linked series of activities undertaken over time. This linked series may mean tracking the progress of individual students, or of cohorts of students; it may mean collecting the same examples of student performance or using the same instrument semester after semester. The point is to monitor progress toward intended goals in a spirit of continuous improvement. Along the way, the assessment process itself should be evaluated and refined in light of emerging insights.

6. Assessment fosters wider improvement when representatives from across the educational community are involved.

Student learning is a campus-wide responsibility, and assessment is a way of enacting that responsibility. Thus, while assessment efforts may start small, the aim over time is to involve people from across the educational community. Faculty play an especially important role, but assessment's questions can't be fully addressed without participation by student affairs educators, librarians, administrators and students. Assessment may also involve individuals from beyond the campus (alumni/ae, regents, employers) whose experience can enrich the sense of appropriate aims and standards for learning. Thus understood, assessment is not a task for small groups of experts but a collaborative activity; its aim is wider, better informed attention to student learning by all parties with a stake in its improvement.

7. Assessment makes a difference when it begins with issues of use and illuminates questions that people really care about.

Assessment recognizes the value of information in the process of improvement. But to be useful, information must be connected to issues or questions that people really care about. This principle implies assessment approaches that produce evidence that relevant parties will find credible, suggestive and applicable to decisions that need to be made. It means thinking in advance about how the information will be used, and by whom. The point of assessment is not to gather data and return "results"; it is a process that starts with the questions of decision makers, that informs and helps guide continuous improvement.

8. Assessment is most likely to lead to improvement when it is part of a larger set of conditions that promote change.

Assessment alone changes little. Its greatest contribution comes on campuses where the quality of teaching and learning is visibly valued and continually worked. On such campuses, the push to improve educational performance is a visible and primary goal of leadership; improving the quality of undergraduate education is central to the institution's planning, budgeting and personnel decisions. On such campuses, information about learning outcomes is seen as an integral part of decision-making and avidly sought.

9. Through assessment, educators meet responsibilities to students and to the public. There is a compelling public stake in education.

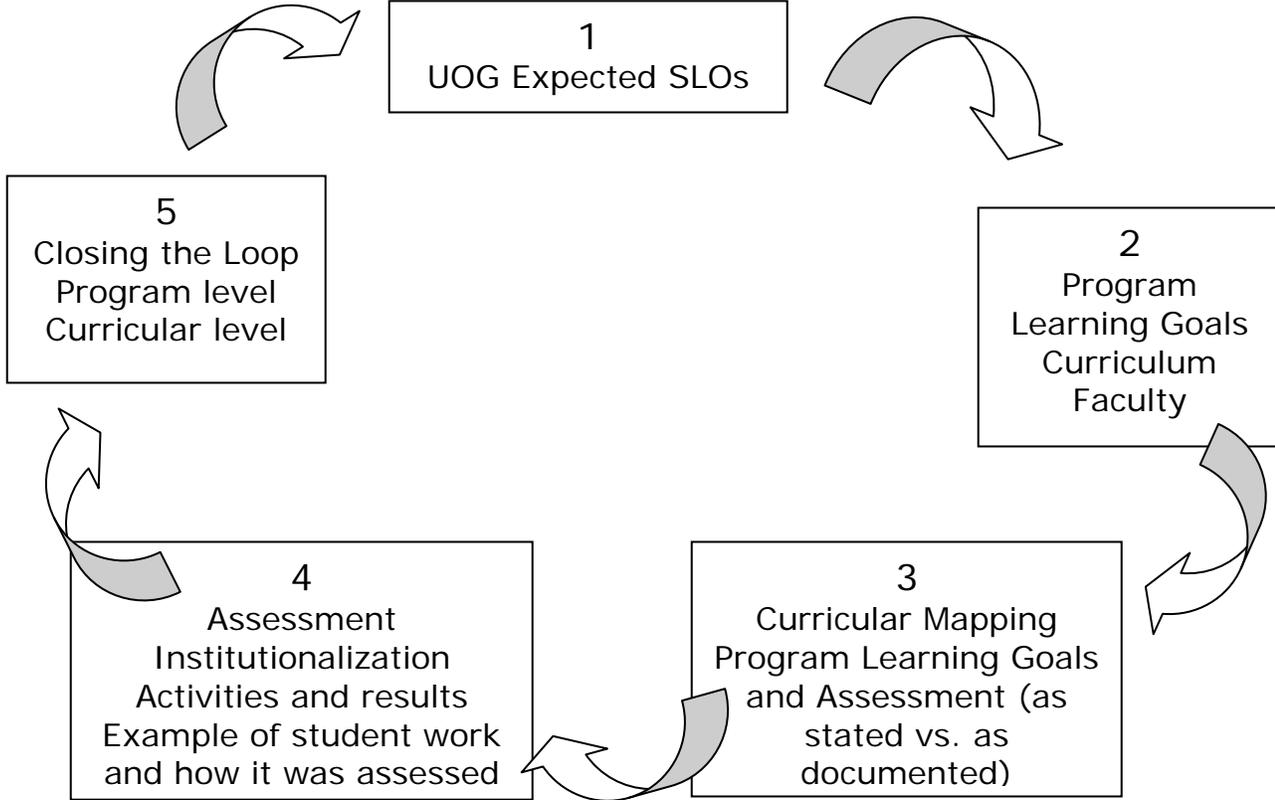
As educators, we have a responsibility to the island community that support or depend on us to provide information about the ways in which our students meet goals and expectations. But that responsibility goes beyond the reporting of such information; our deeper obligation -to ourselves, our students and society -is to improve. Those to whom educators are accountable have a corresponding obligation to support such attempts at improvement.

What does all of this mean when it comes to what's happening in the classroom? A number of items are being seen as critical for improving quality in instructional and support programs. The National Survey of Student Engagement (NSSE) is becoming a major tool for tracking and comparing quality. In 2009 over 600 postsecondary institutions participated in the annual NSSE survey which looked at the nature and quality of undergraduate experience. The survey looks at five different areas: active and collaborative learning, student effort, academic challenge, student-faculty interaction, and support for learners.

The Assessment Cycle

Much of the issues on assessment can be clarified when viewed as an assessment cycle. The following diagram is adapted from Amy Driscoll's presentation to the WASC Educational Seminar in February 2008. More information on the cycle of assessment and its relation to program review can be found in later sections of this guidebook.

Assessment Process/Loop



Student Learning Outcomes (SLOs)

Student learning outcomes need to be explicated stated at institutional, program and course levels. The SLOs specify what students are intended to learn and provide the criteria for assessment. Appendix B provides detailed information on SLOs and developing program mission statements, goals and SLOs to support quality instruction.

UOG Expected Student Learning Outcomes (December 2008)

Institutional SLOs will provide linkages across campus and with the University's mission as we all move forward with program review, assessment efforts, and curriculum development.

Some of the expected fundamental knowledge, skills, and values that the University of Guam **student will have demonstrated** upon completion of *any* degree are:

- Mastery of critical thinking and problem solving
- Mastery of quantitative analysis
- Effective oral and written communication
- Understanding and appreciation of culturally diverse people, ideas and values in a democratic context
- Responsible use of knowledge, natural resources, and technology
- An appreciation of the arts and sciences
- An interest in personal development and lifelong learning

Worksheets

Three worksheets have been developed to serve as a guide in assessment design, delivery and reporting of results at the University of Guam. The worksheets can be found in Appendix A.

Worksheet A: Mission and Outcomes/Objectives Development Worksheet

The worksheet provides steps to link the program's mission with the overall mission and strategic goals of the University and develop or identify program outcomes.

The mission statement and program outcomes should reflect realistically what students will be able to know, think, do and value during their time at the University.

The academic programs goals provide general statements about knowledge, skills, attitudes and values expected in graduates.

You may need to include a program review improvement outcome to your plan. Examples are outcomes to improve the recruitment into the program, linkages with employers to improve employment rates, and/or changes to reflect employer satisfaction or input into design. There may also be system improvement outcomes such as a coordinated review of program outcomes or a structured approach to review/revision of course level outcomes.

Appendix B provides an overview of how to develop student learning outcomes.

Worksheet B: Assessment Plan

This worksheet builds upon the results from Worksheet A and using the approach for developing evaluation questions (largely based on National Science and Kellogg Foundations materials). Data sources to answer the evaluation questions are identified, sampling techniques states and what type of analysis might be performed. A timeline of major assessment activities is also included.

Appendix C provides an explanation of evaluation questions, examples and processes for their development.

Worksheet C: Assessment Report

This worksheet provides a means of reporting tied directly to the data sources and is intended to assist in both answering the evaluation questions and "closing the loop" or stating how the results will be used to improve program delivery.

Web Sites and References for Assessing for Learning

The American Evaluation Association at <http://www.eval.org/> provides access to best thoughts and practices for evaluation. Of special note is the "American Evaluation Association Guiding Principles for Evaluators" at <http://www.eval.org/Publications/GuidingPrinciples.asp>.

The Education Testing Services provides information on developing a culture of evidence at <http://www.ets.org/Media/Cmpaign/2306/proceedings.html>. Links to documents, articles and book excerpts may be found at <http://www.ets.org/Media/Campaign/2306/readings.html>. The document "A Culture of Evidence: Critical Features of Assessments for Postsecondary Learning" provides an overview of various tools available for assessment at http://www.ets.org/Media/Resources_For/Higher_Education/pdf/4418_COEII.pdf

A web site that provides a good introduction to active and cooperative learning can be found at http://www4.ncsu.edu/unity/lockers/users/f/felder/public/Cooperative_Learning.html.

The Center of Teaching Effectiveness provides a web site on Best Practices in Higher Education at <http://cte.udel.edu/bestpract.htm>.

Assessment in and of Collaborative Learning at <http://www.evergreen.edu/washcenter/resources/acl/index.html> presents assessment issues in the learning centered movement from a leader in the field.

You may also want to review the web sites found at the end of the Focus on Learning section of this guidebook.

Assessment Techniques

The following assessment techniques are largely based on materials from Mary Allen, former Director of the California State University Institute for Teaching and Learning and a Professor Emerita of Psychology from California State University, Bakersfield.

Generally no one single type of assessment provides complete information needed to gauge student learning and mastery of learning outcomes. A combination of techniques is generally preferred. As can be seen below, each assessment technique has pros and cons -no assessment technique will provide perfect information on student learning.

In all cases, tracking and documentation of information in real time is vital to making assessment effective and efficient.

There are two basic types of assessing student learning - direct and indirect.

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, internship supervisors, employers, or faculty.

While assessment techniques vary widely, there are a set of properties that indicate properties of good assessment techniques.

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

Direct assessment of student is based on an analysis of student behaviors or products in which students demonstrate how well they have mastered student learning outcomes. The following are some of the major types of direct assessment showing the various pros and cons of each type of assessment. Direct assessment can apply to course, program and institutional level assessment. An additional factor that may affect which strategies to use at the University is assessing equity of courses and programs across the different campuses.

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

The following provides samples of different types of published tests. Of note is that many of the

published tests such as ACCUPLACER or COMPASS are primarily online.

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

The following are a set of steps that can be used in selecting published tests.

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
<ul style="list-style-type: none">• 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 tests are available only online.• Some publishers allow faculty to supplement tests with their own items, so tests can be adapted to better serve local needs.	<ul style="list-style-type: none">• 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.• Ability to use online versions of the tests may be hampered by limited bandwidth available to the college.

Locally-Developed Tests

Locally developed tests can be affective and fit local conditions, but are often time-intensive for development and may be difficult to compare against, regional, U.S. or International norms.

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 <i>summarize, evaluate, contrast, explain, describe, define, compare, discuss, criticize, justify, trace, interpret, prove, and illustrate</i> (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
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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

Embedded assignment and test items can be an effective technique to collect information across all multi-section courses on equity of course and program delivery and consistency of grading.

- 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 and presentations
- Homework assignments
- In-class presentations
- In-class writing assignments
- Poster presentations and student research conferences
- 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
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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.

services. <ul style="list-style-type: none"> • Data collection is unobtrusive to students. • Can provide information on equity of programs and services across all campuses. 	
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Portfolios

Portfolios provide concrete evidence of student work and can become effective in gauging changes in student ability across time.

- 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
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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

<p>process to individualize student planning.</p> <ul style="list-style-type: none"> • 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. 	<p>to assemble the portfolio if they haven't saved relevant materials.</p> <ul style="list-style-type: none"> • Students may refrain from criticizing the program if their portfolio is graded or if their names will be associated with portfolios during the review.
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Collective Portfolios

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

Collective Portfolio Strengths and Weaknesses	
Potential Strengths	Potential Weaknesses
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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

Indirect assessment of student learning can provide needed information for course, program and institutional level achievement. Three major techniques can be used: Surveys, Interviews and 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
<ul style="list-style-type: none"> • 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. 	<ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> ▪ Level of participation in survey can be low making bringing into question reliability of the results.

Surveys can be particularly effective at the program and institutional level. Often, offices such as IRPO can be responsible for developing surveys that span multiple programs or collect information about graduates or non completers. However, it is important that all programs participate in survey design to ensure needed information is captured by the survey instrument.

The college currently uses a web based program “Survey Monkey” for online surveys.

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
<ul style="list-style-type: none"> • Conduct the interview in an environment that allows the interaction to be confidential and uninterrupted. • Demonstrate respect for the respondents as <i>participants</i> in the assessment process rather than as <i>subjects</i>. 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 <i>not</i> 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
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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.

personal attention for respondents. • Open-ended questions allow faculty to uncover unanticipated results.	• Results can be difficult and time-consuming to analyze. • Transcriptions of interviews can be time-consuming and costly.
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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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • 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
<ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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

<p>outcomes being assessed.</p> <ul style="list-style-type: none"> • 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. 	<p>opinions if only one focus group is conducted.</p> <ul style="list-style-type: none"> • 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.
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Focus groups can be an effective mechanism to valid survey results.

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. The rubric for scoring the COMET essay is an example of an analytic rubric. (See Appendix E)

Holistic Rubric for Assessing Student Essays	
Inadequate	The essay has at least one serious weakness. It may be unfocused, underdeveloped, or rambling. Problems with the use of language seriously interfere with the reader's ability to understand what is being communicated.
Developing Competence	The essay may be somewhat unfocused, underdeveloped, or rambling, but it does have some coherence. Problems with the use of language occasionally interfere with the reader's ability to understand what is being communicated.
Acceptable	The essay is generally focused and contains some development of ideas, but the discussion may be simplistic or repetitive. The language lacks syntactic complexity and may contain occasional grammatical errors, but the reader is able to understand what is being communicated.
Sophisticated	The essay is focused and clearly organized, and it shows depth of development. The language is precise and shows syntactic variety, and ideas are clearly communicated to the reader.

Analytic Rubric for Peer Assessment of Team Project Members			
	Below Expectation	Good	Exceptional
Project Contributions	Made few substantive contributions to the team's final product	Contributed a "fair share" of substance to the team's final product	Contributed considerable substance to the team's final product
Leadership	Rarely or never exercised leadership	Accepted a "fair share" of leadership responsibilities	Routinely provided excellent leadership
Collaboration	Undermined group discussions or often failed to participate	Respected other's opinions and contributed to the group's discussion	Respected other's opinions and made major contributions to the group's discussion

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.

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 a document 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

- 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.

Group Readings

Rubrics can be applied by one person, but group readings can be very effective because they bring faculty together to analyze and discuss student learning. If data are aggregated as results

come in, the group reading can end with a discussion of what the results mean, who needs to know the results, what responses might be reasonable (e.g., curricula, pedagogy, or support changes), and how the assessment process, itself, could be improved.

Managing Group Readings

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

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?

Employers' View of Assessment & Evaluation

The American Association of Colleges and Universities has recently (November & December 2007) conducted a survey of employers view learning and assessment and ways for improvement. Employers were requested to provide information on where to focus resources to assessment student learning, key areas where students are expected to be knowledgeable or have skills, assessment techniques that show student capacities and assessment information employers see as valuable for assessing student potential.

Employers Advise Colleges Where To Focus Resources To Assess Student Learning

- 1 Faculty-evaluated internships or community-based learning experiences
- 2 Essay tests that measure students' problem-solving, writing, and analytical-thinking skills
- 3 Electronic portfolios of students' work, including examples of accomplishments in key skill areas and faculty assessments of them
- 4 Faculty-evaluated comprehensive senior projects demonstrating students' depth of skill in major & advanced problem-solving, writing, and analytic-reasoning skills
- 5 Tests that show how a college compares to others in advancing students' critical-thinking skills

Employers Evaluate College Graduates' Preparedness In Key Areas

- Teamwork
- Ethical judgment
- Intercultural skills
- Social responsibility
- Quantitative reasoning
- Oral communication
- Self-knowledge
- Adaptability
- Critical thinking
- Writing
- Self-direction
- Global knowledge

Assessments' Effectiveness In Ensuring College Graduates Have Skills/Knowledge

- Supervised/evaluated internship/community-based project where students apply college learning in real-world setting
- Advanced comprehensive senior project, such as thesis, demonstrating student's depth of knowledge in major & problem-solving, writing, and analytic reasoning skills
- Essay tests to evaluate level of problem-solving, writing, and analytical-thinking skills
- Electronic portfolio of student's college work, including accomplishments in key skill areas and faculty assessments

Assessments' Usefulness In Helping Employers Evaluate College Graduates' Potential

- Faculty supervisor's assessment of applicant's student internship/community-based project applying college learning in real-world setting
- Sample of applicant's student senior project and overview of faculty assessment of the project
- Electronic portfolio of applicant's college work, including accomplishments in key skill areas and faculty assessments
- Applicant's score on essay test to evaluate level of problem-solving, writing, and analytical- thinking skills

Generally employers saw multiple choice test of general content knowledge to be of limited use.

Glossary

Absolute attainment assessment -Assessment determines how well students have mastered learning objectives. The emphasis is on absolute attainment, rather than value-added-do students exhibit mastery of learning objectives at acceptable levels?

Actionable results -Results are actionable if they allow assessor to identify what needs to be changed to improve student learning.

Alignment -How well two systems converge for a common purpose; for example, how well the curriculum corresponds with program learning outcomes.

Alignment matrix -A matrix (table) that shows the relationship between two sets of categories, such as the relationship between program and course learning objectives.

Analytic rubric -A rubric for making a series of judgments, each assessing a characteristic of the product being evaluated.

Anonymity -Data elements cannot be associated with individual respondents.

Assessment -The collection and use of evidence to improve a product or a service.

Assessment steps (for program assessment) -Faculty develop learning objectives, check for alignment between the curriculum and the objectives, develop and implement an assessment plan, use result to improve the programs and routinely examine the assessment process and correct it, as needed.

Authentic assessment -The assessment process is similar to or embedded in relevant real-world activities.

Autonomy -Research participants have the right to self-determination and to make decisions about participation without undue pressure that would reduce this right.

Benchmark -A criterion for assessing results compared to an empirically developed standard.

Bias -Systematic under-or over -estimates of what is being assessed.

Bloom's taxonomy -A popular scheme for defining depth of processing.

Calibration (norming) -Evaluators are normed or calibrated so they consistently apply standards in the same way.

Checklist -A survey format that provides a list of options that can be selected.

Classroom assessment -Assessment to improve the teaching of specific courses and segments of courses.

Close the loop -Professionals discuss assessment results, reach conclusions about their meaning, determine implications for change, and implement them.

Close-ended questions -Questions for which answer options are predetermined by the data collector.

Closing question -Interview or focus group question that brings closure to the process.

Cluster party -A process for combine outcomes into clusters that can be assessed simultaneously.

Cluster sample -Groups of participants are assessed together, such as embedding assessment in several sections of a relevant course.

Coding scheme -A description of how to categorize responses in a content analysis.

Coefficient alpha -An indicator of internal-consistency reliability based on intercorrelations among test items.

Cohesive curriculum -A curriculum that systematically provides students opportunities to synthesize, practice, and develop increasingly complex ideas, skills, and values.

Collective portfolio -Collections of student work that are created by faculty for assessment purposes.

Competence interview -An orally administered test.

Competency -An alternative name for a learning goal or outcome.

Compound question -A question with two or more parts. Such questions might confuse respondents.

Computer-adaptive test -A test administered by a computer that is programmed to select the appropriate set of items to most efficiently and effectively measure each respondent.

Confidentiality -The person who conducts the assessment study is aware of who participated, but does not disclose this information,

Consensus -A decision-making process in which a group seeks to maximize the input and support of all participants.

Constructivism -A model for learning based on the assumption that learners actively process information and create cognitive models of reality.

Content analysis -Summarizing a set of communications by analyzing common themes and highlighting important issues.

Core curriculum -A general education program that usually has a focus on interdisciplinary coursework.

Course certification -A process for approving courses for the general education program.

Course diary -A record of the syllabus, assignments, exams, topics, handouts, and student performance in a specific course.

Course-level assessment -Conducting assessment within a specific course to monitor and improve learning in this course.

Course recertification -A process for renewing approval of course for the general education program.

Criterion-referenced interpretation -Interpreting results by asking if each student satisfies the stated criterion (e.g., Is each student a competent writer?).

Curriculum map -See **Alignment matrix**.

Deep learning -Conceptual learning which makes knowledge personal and relevant to real-world applications.

DEEP project -The Documenting Effective Educational Practice (DEEP) project is focused on characteristics of campuses with higher than expected retention and student engagement.

Demographic characteristics -Individual characteristics, such as age and sex.

Depth of processing -Degree of command of what is learned, ranging from knowledge of facts to the ability to use information to solve problems, create new ideas, and evaluate relative merit.

Developmental assessment -Repeated assessment information on individual students is used to track, verify, and support student development.

Developmental portfolio -A portfolio designed to show student progress by comparing products from early and late stages of the student's academic career.

Differences between ratings -An indicator of inter-rater reliability.

Digital portfolio -See **Webfolio**

Direct measure -Students demonstrate that they have achieved a learning outcome

Distributed general education program -The general education program consists of a wide variety of options for each requirement.

Embedded assessment -Assessment activities occur in courses. Students generally are graded on this work, and some or all of it is also used to assess program learning outcomes.

Engagement -Active, rather than passive involvement.

Expert-systems approach to rubric design -Faculty sort student work into categories, then determine characteristics that distinguish between categories to develop the rubric.

First-year experience programs -freshmen programs generally designed to help retain students through focusing on the development of engagement, academic skills, and awareness of campus support services.

Focus group -Planned discussion among groups of participants who are asked a series of carefully constructed questions about their beliefs, attitudes, and experiences.

Formative assessment -Assessment designed to give feedback to improve what is being assessed, or assessment of students at an intermediate stage of learning.

Formative validity -How well an assessment procedure provides information that is useful for improving what is being assessed.

Gateway course -A course that blocks students' progress because they are unable to pass it.

Generalize results -Results that accurately represent the population that was sampled.

Goals -General statements about knowledge, skills, attitudes, and values expected in graduates.

Great books -A model for helping students develop through reading, reflecting on, and discussing classic books.

Halo effect - A problem that occurs when judgments are influenced by each other.

Holistic rubric -A rubric that involves one global, holistic judgment.

Impact -Assessment results in appropriate changes to improve what is being assessed.

Indirect measure -Students (or others) report opinions.

Informed consent -Participants agree to participate in assessment projects based on knowing the purpose of the project, the expected use of the data, the rights to not participate and to discontinue participation, and if data will be anonymous or confidential.

Institutional effectiveness -How well an institution promotes its mission.

Institutional-level assessment -The general education program is assessed at the institution-wide level, usually in upper-division courses in the majors.

Intentional learning -Exhibited by students who are engaged, purposeful, and self-directive in their learning.

Intentional teaching -Designing learning experiences to help students develop mastery of specific learning outcomes.

Internal consistency reliability -A reliability estimate based on how highly parts of a test correlate with each other.

Inter-rater reliability -How well two or more rates agree when decisions are based on subjective judgments.

Interview protocol -A script and set of instructions for conducting interviews.

Learning outcome -A clear, concise statement that describe how students can demonstrate their mastery of a program goal.

Likert scale -A survey format that asks respondents to indicate their degree of agreement. Responses generally range from "strongly disagree" to "strongly agree".

Mission - A holistic vision of the values and philosophy of a program, department, or institution.

Norming. See Calibration.

Norms/ norm group -Results that are used to interpret the relative performance of others, e.g., test results might be compared to norms based on samples of college freshmen or college graduates.

Norm-referenced interpretation - Interpreting results by asking how well each student compared to other students (e.g., is each student above or below average compared to other students?).

Objective - An alternative name for a learning goal or outcome.

Open-ended question - A question that invites respondents to generate replies, rather than to pick a provided answer from among options.

Outcome -See **Learning outcome**

Parallel forms reliability -A reliability estimate based on correlating scores from two versions of the procedure.

Partially close-ended question - A question that provides an "other" option in addition to specified options. Respondents are invited to describe the "other" category.

Performances assessment -Students exhibit how well they have achieved an outcome by doing it, such as using a computer program.

Pilot study -An abbreviated study to test procedures before the full study is implemented.

Placement test -A test designed to identify where students should begin courses sequences, such as sequences in mathematics, composition, or foreign languages.

Portfolio -Compilations of students work. Students are often required to reflect on their achievement of learning outcomes and how the presented evidence supports their conclusions, **See also Collective portfolio.**

Privacy -Research participants' right to determine what personal information they will disclose.

Program-level assessment -The general education program is assessed within the program, such as among social science general education courses, to monitor and improve student learning within the program.

Protocol - See **Interview protocol.**

Purposeful sample -A sample created using predetermined criteria, such as proportional representation of students at each class level.

Qualitative assessment -Assessment findings are verbal descriptions of what was discovered, rather than numerical scores.

Quantitative assessment -Assessment findings are summarized with a number that indicates the extent of learning.

Quantitative literacy -Understanding the process and application of mathematics

Random sample -A sample selected in such a way that each member of the population is equally likely to be included.

Recall item -A test item that requires students to generate the answer on their own, rather than to identify the answer in a provided list.

Recognition item -A test item that requires students to identify the answer in a provided list.

Reflective essay -Respondents are asked to write essays on personal perspectives and experiences.

Reliability -The degree of measurement precision and stability for a test or assessment procedure.

Representative sample -An unbiased sample that adequately represents the population from which the sample is drawn.

Response rate -The proportion of contacted individuals who respond to a request.

Roadblock course -See **Gateway course**.

Rubric -An explicit scheme for classifying products or behaviors into categories that are steps along a continuum.

Sampling distribution -The probability distribution of a statistic calculated in all possible samples of the same size.

Sampling fluctuation -Variability in a statistic across samples

Scaffolding -Organizing a course or curriculum to gradually build knowledge, skills, or values,

Scoring rubric -See **Rubric**

Seven principles for good practice in higher education -Chickering and Gamson's (1987) summary of how to help adult students learn.

Showcase portfolio -A portfolio that documents the extent of learning by featuring the student's best work.

Specimen set -Test questions, instructions, score reports, and other materials that are provided to help professionals decide if a test is appropriate for their intended use.

Standardized test -A test that is administered to all test takers under identical conditions.

Structured group interview -A type of focus group with less interaction than traditional focus groups. Facilitation of such groups requires fewer skills than for tradition focus group.

Summative assessment -Assessment designed to provide an evaluative summary, or assessment that occurs as students are about to complete the program being assessed.

Surface learning -Learning based on memorization of facts without deep understanding of what is learned.

Survey -A questionnaire that collects information about beliefs, experiences, or attitudes.

Test blueprint -A plan for the creation of an exam that specifies what is being assessed, at what level the assessment should be, and the relative weighting of test components.

Test-retest reliability -A reliability estimate based on assessing a group of people twice and correlating the two scores.

The fives -Gaffs (2004) exercise for stimulating discussion of general education goals and outcomes.

Think aloud -Students reflect on their thinking as they do tasks, and reviewers assess the sophistication of the thinking process.

Traditional focus group - Free-flowing discussions among participants, guided by a skilled facilitator who subtly directs the discussion in accordance with predetermined outcomes.

Triangulation -Multiple lines of evidence lead to the same conclusion.

Validity -How well a procedure assesses what it is supposed to be assessing.

Value-added assessment -Student learning is demonstrated by determining how much students have gained through participation in the program.

Warm-up question -A non-threatening question asked near the beginning of an interview or focus group.

Webfolio -A portfolio that is submitted on a web site or compact disk.

Writing-across-the-curriculum-An initiative for all faculty, regardless of discipline, to help students improve writing skills.

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