

Examples of Program-level Assessment of Student Learning

Presented by the Assessment Office
University of Hawai'i at Mānoa
February 24, 2009

Today's Agenda

- 1) Introductions
- 2) Example #1: Biology
- 3) Example #2: Economics
- 4) Your Program's Status: Checklist & Activity
- 5) Resources
- 6) Wrap Up & Quiz

Workshop Outcomes

At the end of the workshops, participants can

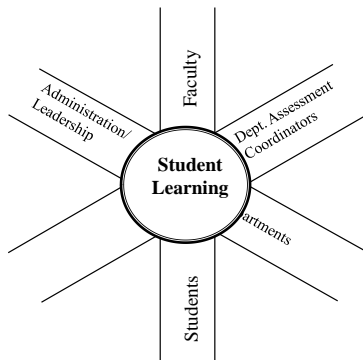
1. List the 5 phases in an assessment cycle
2. Name at least one myth associated with assessment
3. Name where assessment resources are located

Program Assessment

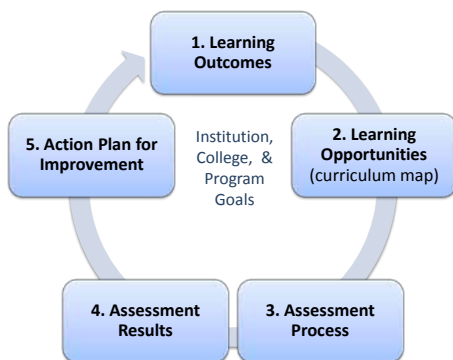
- “The systematic collection, review, and use of information about educational programs undertaken for the purpose of improving student learning and development.” (Palomba & Banta, 1999)
- It is **NOT** teacher evaluation, classroom assessment, or program review

Program Assessment

The Wheel of Assessment



Assessment Cycle



What can we learn about program assessment from this example?

EXAMPLE #1: BIOLOGY

Example #1: Biology

PROGRAM ASSESSMENT EXAMPLE: BIOLOGY

Program Goals: Graduates have
 1. knowledge of biological concepts, processes, systems, and techniques;
 2. a sufficient foundation to enter graduate school or a biology-related profession.

Students can

1. describe fundamental biological processes and systems;
2. demonstrate proper laboratory practice, proper use of equipment and the ability to use basic and advanced laboratory techniques in a variety of biological research areas;
3. perform appropriate analysis of data and draw valid conclusions from their analysis;
4. locate and use scientific literature, critically evaluate journal articles from the primary literature;
5. communicate findings of research in appropriate format (e.g., scientific journal article, poster or conference presentation).

Outcome 1: The Faculty decided to add an inquiry-based learning method (e.g., concept maps, target to 100, 200, 215, 225, and 411 to existing courses being taught. In addition, faculty members will emphasize to students how content connects across courses.

Outcome 2: The Faculty decided that, in addition to coursework, the laboratory method should be expanded for additional courses so students have the opportunity to fully demonstrate their capability. The Assessment Coordinator will review the assessment plan to reflect this change.



Course	01	02	03	04	05
200L	1	1	1	1	1
205L	1	1	1	1	1
215	R		1	1	1
225L	R, R, A	R, A, A	1	1	1
345	M, R, A		R	R	R
345L		M, R, A	R	R	R
455			M, R, A	M, R, A	M, R, A

The Department Chair convened a department meeting in February and the Assessment Coordinator reported on the results for Outcome 1 & 2.

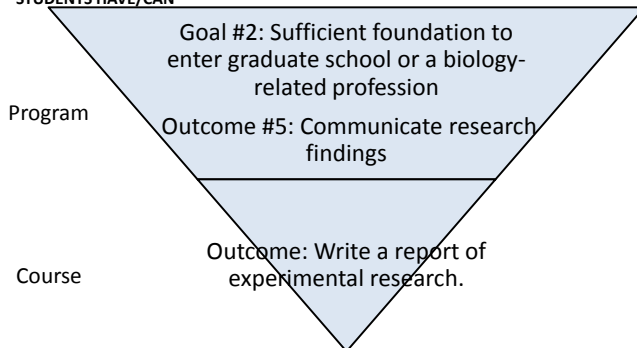
Outcome 1: 100% of students answered all questions correctly. 100% earned 1 or 2 answers. 100% earned 1 or more questions. Results did not meet pre-established criteria for success, which was 100% of students correctly answer all questions.

Outcome 2: 100% of students were rated as "not experienced" or "intermediate-experienced" on the Lab Observation Checklist. 40% were rated "beginning" and 10% were rated "not for most expectations". Faculty reported that students who were "beginning" or "not for most expectations" demonstrated ability to only use area. Results did not pre-established criteria for success, which was 100% of students meet or exceed expectations.

- Outcome 1: Outcome 1 & 2 in 2006-07; Outcome 1, A, & 1 in 2008-09. Report cycle in 2011-11.
- Assessment method: question. The instrument used students (structured) for the program outcomes.
- Data collection method: Outcome #1: course exams #2: observations #3: #4, & #5: research project.
- Sampling: 100% randomly selected.
- Production of data: Biological system questions evaluated by course instructor and reported to assessment coordinator. Lab activities completed, observations checklist. Faculty have applied data to reflect research report and to use presentation of results.
- Report cycle: Assessment coordinator submit results for department discussion and action.

1. Goals & Outcomes

STUDENTS HAVE/CAN



2. Learning Opportunities

- Provide multiple opportunities to learn
- Use a curriculum map to document opportunities
 - Appears as a table: outcomes across the top and requirements down the side (or vice versa)
 - Indicate "I," "R," and "M"
- Include non-course requirements and out-of-class activities (e.g., exit interview, research symposium)

3. Assessment Process

- Basic process:
 1. Ask a meaningful question
 2. Collect useful data
 3. Evaluate data
 4. Interpret results; report; discuss
- Meaningful, useful, feasible
- Sample: Collect data from a representative sample of students

4. Assessment Results

- Before collecting data/evidence:
 - Consider possible ways results could be used
 - Discuss "criteria for success"
- Involve the department
 - Assessment is faculty driven, faculty supervised
 - Faculty members are in the best position to use results

5. Action Plan for Improvement

- Document successes
 - Improve when needed
- } GOALS OF ASSESSMENT
- Create an *action plan* when results fall short
 - Areas where actions may be needed:
 - How a course is taught; what is taught; when it's taught
 - Prerequisites; frequency of course offerings
 - Benchmarks/standards (students may not be aware of)
 - Goals, outcomes, or assessment process (modify)

What can we learn about program assessment from this example?

EXAMPLE #2: ECONOMICS

Example #2: Economics

Program Assessment Example: Economics

Program Chair, Economics

1. understand the framework economists use to analyze real and economic issues
2. recognize how economic behavior and public policies affect the aggregate level of prosperity and distribution in property across members of society

Students can

1. apply the economic perspective to assess the validity, significance, and consequences of real world statements and determine how economic analysis can be used to evaluate the impact of government policies
2. distinguish between production, consumption, and distribution of resources and how people respond to incentives
3. distinguish between efficiency and equity, and determine the social gains and losses/ transfers and losses that result from particular instances of economic behavior and policies
4. assess how economic behavior and policies affect members of society
5. apply appropriate economic models to highlight key aspects of decision-making

Outcome 1: The Faculty were satisfied with the results and no changes were recommended. However, the Faculty noted that if the "measured" category increases in the next assessment cycle (in 2011) action will be needed.

Outcome 2: The Faculty decided students to give more opportunities to apply economic models through case studies in ECON 101. The Faculty also decided to implement this course



Course #	Outcomes				
	01	02	03	04	05
E101	I	I	I	I	I
E102	I	I	I	I	I
E201	N	N	N	N	N
E202	N	N	N	N	N
E203	N	N	N	N	N
E204	N	N	N	N	N
E205	N	N	N	N	N
E206	N	N	N	N	N

The Department Chair convened a meeting in March and the Assessment Coordinator reported on the results for Outcome 1 & 2.

Outcome 1: 90% of students were rated as "exemplary" or "acceptable." The remaining 10% were rated as "measured." Results met the pre-established criteria of success, which was 90% of students rated "exemplary" or "acceptable."

Outcome 2: 80% of students were rated as "exemplary," 17% were rated "measured" and 3% were rated as "unacceptable." Results did not meet pre-established criteria of success, which was 90% of students rated as "exemplary" or "acceptable."

Findings: Outcome 1 & 2 in 2007-08, Outcome 1, 2, & 3 in 2008-09

- Assessment method: questions. How we achieved our desired program learning outcomes?
- Data collection method: Outcome 1, 2, & 3: standardized exams; Outcome 1 & 2: capstone program
- Sampling: Outcome 1, 2, & 3: all graduating seniors; Outcome 1 & 2: 50% randomly selected
- Production of data: Faculty have agreed on "measured" questions that represent each area listed on the rubric; Faculty have agreed on rubric for response grid.
- Report results: Faculty have agreed on rubric and data to be made available from subject files to the Assessment Coordinator for Department Economics and action

1. Learning Outcomes

- Describe what students learn, rather than what faculty will do or “cover”
- Important to the program and discipline
- Observable to you and others
- Rely on verbs
- 3-6 outcomes are ideal

2. Learning Opportunities (Curriculum Map)

Courses	Program Outcomes				
	#1	#2	#3	#4	#5
E101	I	I	I	I	I
E102	I	I	I	I	I
E250	R	R		R	R
E251	R		R	R	
E272		R	R	M	
E380	R	M		M	
E495	M & A	M & A	M & A	M & A	M & A
E496	A	A	A		

Key: I = introduced; R = reinforced/practiced;
M = mastered at senior level; A = assessed

3. Assessment Process

- Start where you are
- Consider the size of the program and available resources
- Pre-determine criteria for success and ways results might be used

4. Assessment Results

- Celebrate and share good news
- Tailor the results report to the audience
- Discuss and reflect on
 - positive results
 - disappointing results
- Ask how/where improvements can be made

5. Action Plan for Improvement

- Agree on the area(s) of improvement
- Document the action plan
- Share the action plan
- Put the action plan in motion

Where is Your Program?

Program Assessment Status: ✓ list

1. Goals & outcomes published?
 - Program?
 - Courses?
2. Learning opportunities mapped?
3. Assessment process for at least one outcome completed? Plans in place for remaining outcomes?
4. Results interpreted?
5. Action plan created and implemented?

Publication options:

- Catalog
- Program website
- Brochure
- Program sheet
- Annual report
- Syllabi

Your Turn . . .

How's your program doing?

How might your program overcome challenges?

1. Complete the checklist. Review.
2. Predict 1-2 challenges you and your program might encounter (or already have)
3. In small groups, share & brainstorm ways to address the challenges
4. Be ready to share

Resources

- Assessment Office
 - Workshops each semester
 - Webpage: <http://manoa.hawaii.edu/assessment>
 - Lending Library in HAW 107
 - "Resources" section of website lists available books
- Assessment Coordinators (college- & program-level)
- Google

Wrap Up

- Questions?
- Were the workshop outcomes achieved? Can you:
 1. List the 5 phases of an assessment cycle?
 2. Name at least one myth associated with assessment?
 3. Name where assessment resources are located?
- Quiz and Workshop evaluation: Please turn in

Thank You!

Assessment Office

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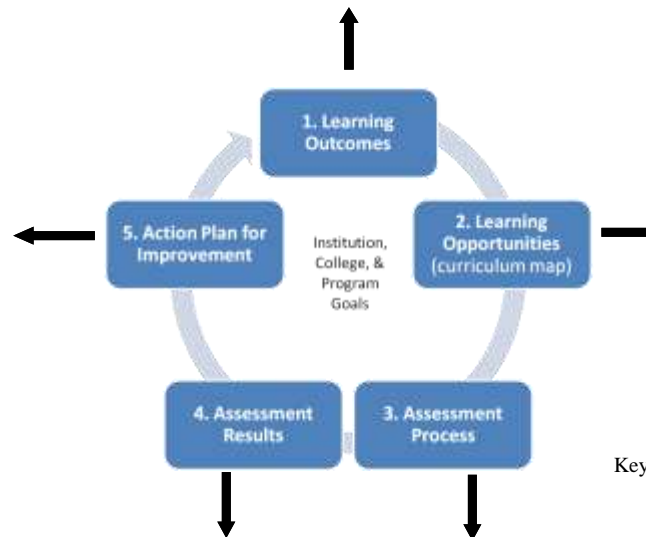
Program Goals. Graduates have
 1. knowledge of biological concepts, processes, systems, and techniques;
 2. a sufficient foundation to enter graduate school or a biology-related profession.

Students can

1. describe fundamental biological processes and systems;
2. demonstrate proper laboratory practice, proper use of equipment and the ability to use basic and advanced techniques in several areas of biology;
3. perform appropriate analysis of data and draw valid conclusions from their analysis;
4. locate and use scientific literature; critically evaluate journal articles from the primary literature;
5. communicate findings of research in appropriate formats (e.g., scientific journal article; poster or conference presentation).

Outcome 1. The faculty decided to add an inquiry-based learning method (e.g., concept maps; blogs) in 105, 205, 215, 325, and 435 to reinforce content learning. In addition, faculty members will emphasize in lectures how content connects across courses.

Outcome 2. The faculty decided that in subsequent assessments, the data-collection method should be expanded to additional courses so students have the opportunity to fully demonstrate their capability. The Assessment Coordinator will revise the assessment plan to reflect this change.



Course	Outcomes				
	#1	#2	#3	#4	#5
105/L	I	I	I	I	
205/L	I	I		I	
215	R		I		I
325/L	R & A	R & A		I	I
435	M & A		R	R	R
445L		M & A	R	R	R
455			M & A	M & A	M & A

Key: I=introduced; R=reinforced/practiced; M=mastered at senior level; A=assessed

The Department Chair convened a department meeting in February and the Assessment Coordinator reported on the results for Outcomes 1 & 2.

Outcome 1. 78% of students answered all questions correctly; 15% missed 1 or 2 questions; 7 % missed 3 or more questions. Results did not meet pre-established criteria for success, which was 90% of students correctly answer all questions.

Outcome 2. 93% of students were rated as “met expectations” or “exceeded expectations” on the Lab Observation Checklist. 6% were rated “developing” and 1% were rated “did not meet expectations.” Raters reported that students who were “developing” or “did not meet expectations” demonstrated ability in only one area. Results met pre-established criteria for success, which was 90% of students meet or exceed expectations.

- **Timeline.** Outcomes 1 & 2 in 2006-07; Outcomes 3, 4, & 5 in 2009-10. Repeat cycle in 2010-11.
- **Assessment research question.** Do seniors meet our standards (benchmarks) for the program outcomes?
- **Data-collection method.** Outcome #1: course exams. #2: observations. #3, #4, & #5: research project.
- **Sampling:** 30%, randomly selected.
- **Evaluation of data:** designated exam questions evaluated by course instructor and reported to assessment coordinator; lab assistants complete observation checklist; faculty team applies rubric to written research report and to oral presentation of results.
- **Report results:** Assessment coordinator summarizes results for department discussion and action.

Program Goals. Graduates

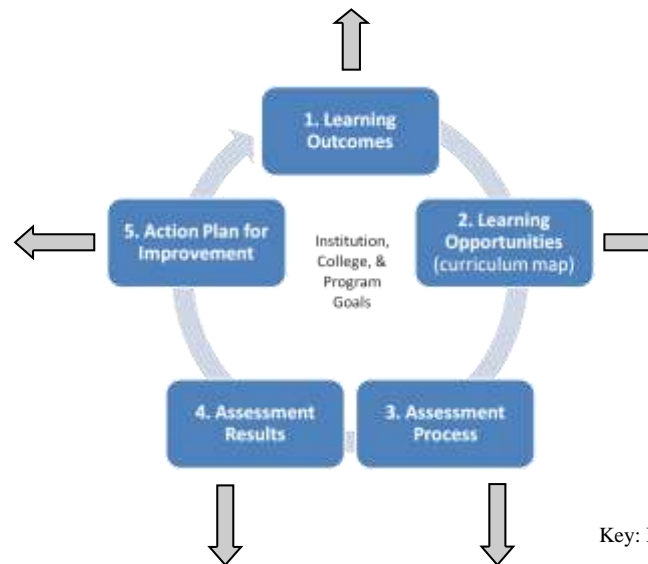
1. understand the framework economists use to analyze social and economic issues;
2. recognize how economic behavior and policies can effect both the aggregate level of prosperity and differentials in prosperity across members of society.

Students can

1. apply the economic perspective to assess the validity, significance, and consequences of real-world statements and situations they encounter;
2. make reasonable predictions regarding how scarcity affects choices and how people respond to incentives;
3. distinguish between efficiency and equity, and determine the social gains and losses/ winners and losers that result from particular instances of economic behavior and policies;
4. assess how economic behavior and policies affect members of society;
5. apply appropriate economic models to highlight key aspects of decision-making.

Outcome 4. The faculty were satisfied with the results and no changes were recommended; however, the faculty noted that if the “marginal” category increases in the next assessment cycle (in 2010) action will be needed.

Outcome 5. The faculty decided students be given more opportunities to apply economic models through case studies in E250. The faculty also decided to emphasize this outcome



Course #	Outcomes				
	#1	#2	#3	#4	#5
E101	I	I	I	I	I
E102	I	I	I	I	I
E250	R	R		R	R
E251	R		R	R	
E272		R	R	M	
E380	R	M		M	
E495	M & A	M & A	M & A	M & A	M & A
E496	A	A	A		

Key: I=introduced; R=reinforced/practiced; M=mastered at senior level; A=assessed

The Department Chair convened a meeting in March and the Assessment Coordinator reported on the results for Outcomes 4 & 5.

Outcome 4. 90% of students were rated as “exceptional” or “acceptable.” The remaining 10% were rated as “marginal.” Results met the pre-established criteria of success, which was 90% of students rated “exceptional” or “acceptable.”

Outcome 5. 80% of students were rated as “acceptable.” 15% were rated “marginal” and 5% were rated as “unacceptable.” Results did not meet pre-established criteria of success, which was 90% of students rated as “exceptional” or “acceptable.”

- *Timeline.* Outcomes 4 & 5 in 2007-08; Outcomes 1, 2, & 3 in 2008-09
- *Assessment research question.* Have we achieved our desired program learning outcomes?
- *Data-collection method.* Outcomes 1, 2, & 3: standardized exam; Outcomes 4 & 5: capstone project.
- *Sampling:* Outcomes 1, 2, & 3: all graduating seniors; Outcomes 4 & 5: 50% randomly selected.
- *Evaluation of data:* Faculty team agrees on “anchors” (projects that represent each score level on the rubric); faculty team applies rubric to capstone project.
- *Report results:* Faculty teams summarize results and make recommendations then submit them to the Assessment Coordinator for department discussion and action.