Make Undergraduate Program Decisions Based on Evaluation of Individual Student Learning

a workshop on program learning outcomes assessment

Facilitator: Monica Stitt-Bergh

PowerPoint Slides ............ pages 1-25
Handout ....................... pages 26-30

Faculty regularly evaluate student products (e.g., papers, exams, presentations) and assign grades. Programs can harness these evaluations and put them to work in program-level decision making for the purpose of program improvement. In this workshop, participants will learn

- how to use individual student results for program-level assessment and decision making;
  and,
- low- and high-tech solutions to efficiently collect individual evaluations of student learning.

Examples will be from undergraduate degree programs.

Level: Beginner
Format: Presentation, activity, Q&A
Date/time/location: Thursday, March 19, 2015, 2:30 pm - 3:45 pm, KUY 106

Slide 1
Session Outcomes

You will be able to
• Use individual student results for decision making
• Name a technology solution for data management

Agenda

• Assessment cycle
• Examples
• Step by step
• Types of decisions
• Your turn
• Technology solutions
• Wrap up
Purpose of assessment

Program improvement, evolution, celebration

not individual evaluation or individual personnel decisions
This is the typical assessment cycle. First, faculty state what they want student to learn. Then, they examine the curriculum and ensure students are given sufficient opportunities to increase their knowledge and skill on the learning outcomes—both in courses and other degree requirements such as an internship or service learning. Third, faculty collect evidence to determine how students—as a whole—are meeting faculty expectations for learning for each learning outcome. Fourth, faculty in the program evaluate and interpret the evidence in order to guide program-level decisions. The results from the assessment of student learning are used for program improvement, program evolution, or celebration.
An example from the Pacific Islands Studies BA program.

- **Student learning outcomes**: the faculty targeted all 5 of their program SLOs last year.
- **Curriculum map**: faculty collaboratively agreed that the required senior capstone seminar could provide the evidence of learning.
- **Evidence of learning**: senior capstone student projects were evaluated in terms of all program SLOs using a rubric. N=10 students (this is a small major).
- **Interpretation of results**: The results showed that there was a gap in student preparation for research and writing.
- **Program decisions based on the evaluation of student learning evidence (capstone projects) and interpretation of findings**:
  - integrate writing workshops into required courses
  - create a resource for teaching writing and critical reading skills on a Laulima site
  - altered course assignments to include more research writing and less reflection writing
An example from the Computer Engineering BS program.

- Targeted student learning outcome: SLO #1 - “apply knowledge of mathematics, science, and engineering.”
- Curriculum map: showed three courses from which evidence could be drawn. The faculty teaching these three different courses targeted the SLO in their courses.
- Evidence of learning: The faculty developed assignments and exam questions that were directly related to that SLO. They evaluated students’ homework and exams to directly measure each student’s level of achievement on the SLO. N=161 students (from 3 courses).
- Faculty teaching the courses submitted their students’ results to the assessment coordinator who aggregated the results from the three courses.
- Interpretation of results: The results showed that students fell short of faculty expectations in their ability to apply knowledge of mathematics.
- Program decision: faculty voted to increase the required grade on prerequisite (math) courses from a “C-” to a “C.”
Slide 8

Step by step
Breakdown of the process

Slide 9

1. Target one or more learning outcomes.

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2. Use the SLO(s) and curriculum map to **identify courses** that can provide evidence.

*A collaborative activity*

Note: if your program has non-course requirements such as a practicum, clinical, internship, etc., evidence can be drawn from these experiences too.

The selection is best done as a collaborative faculty activity and, once selected, the locations from which evidence will be drawn should be made known to all faculty in the program.
2. Use the SLO(s) and curriculum map to identify existing evidence. A collaborative activity

The existing task/exam questions may need to be modified to align with the SLO.

The faculty who teach the selected courses or oversee the non-course requirement may need to modify their existing tasks/exams slightly so they more directly align with the student learning outcome(s) (SLO) being investigated.

Again, making this a collaborative activity, is vital to the process. During conversations about course-level tasks/exams, keep the focus on program-level SLOs and how each course/experience contributes to students’ cumulative learning. All faculty have a role in helping students reach the agreed-upon program outcomes.
3. Faculty teaching those courses collect evidence.

The faculty teaching the courses or experiences that have been selected will collect evidence from the students on the SLO(s). The evidence can be papers, exams, recordings of oral performances, etc.

4a. Evaluate evidence.

Who?

Who will evaluate the evidence? For the students’ course grades, the course professors will evaluate and grade. But for program-level assessment purposes, there are other options.

Note: if the evidence is an exam with only closed-ended questions (e.g., a multiple-choice exam), the following options can be used to develop high-quality exam questions.
The “gold medal” option is a committee (assessment or curriculum committee) that does the evaluation: a committee of 2-6 people and can include faculty outside the department, community members, employers. Two faculty members independently evaluate each student and their evaluations are combined. This is the gold medal option because

- can be considered more objective to have people other than the course instructor do a “blind” evaluation;
- two heads are better than one; and
- the conversation that takes place before, during, and after the scoring typically leads faculty to a better understanding of teaching and learning and they often change their teaching practices to help students achieve the SLOs.

If the evidence is an exam, the committee approach can be used to develop the exam questions that will be used as part of program-level decision making.
4a. Evaluate evidence.

Silver medal = If a committee approach is not feasible, the second best method is to hold an in-depth conversation about quality of student work or the exam questions BEFORE the assignment/exam is given. Gather the course instructors and other faculty members for a discussion, using prior student work samples. Reach a consensus on what’s excellent, good, and not acceptable for seniors ready to graduate. This meeting can be done in 60-90 minutes, especially if faculty read student work prior to attending. Then, during the semester, the course instructor evaluates the student work while keeping the group discussion in mind and submits his/her evaluations to the assessment coordinator.

It’s faculty discussions about student work that make assessment meaningful and useful. Without the discussions, assessment easily becomes a box-checking activity.
4a. Evaluate evidence.

Bronze = individual course instructors evaluate students by themselves, without input from anyone else. Even if they use a common rubric, the faculty members can give idiosyncratic evaluations. They submit their evaluations to the assessment coordinator.

Please use this method only if the other two are impossible.
4b. Evaluate evidence.

How?

- Rubric
- Observation checklist
- Exam with exam key

I recommend one of these tools to evaluate student work: rubric, observation checklist, exam key for an exam. The key is to collaboratively develop them with a faculty group. It’s the collaborative development that prompts useful conversations about teaching, learning, and faculty expectations of student performance. Take time at a committee meeting and at a department meeting to develop common tools for student evaluation. Share the rubrics and checklists with students.
4c. Interpret evidence.

To interpret the information, it must first be aggregated. The **aggregation turns individual student evaluation for course grades into program-level assessment.**

Someone—faculty member, student worker, secretary—needs to use technology to aggregate individual students’ results. The summarized results will reveal strengths and weaknesses at the program level.
5. Create and implement an improvement, evolution, and/or celebration plan.

A faculty committee or all program faculty (in small departments) can critically analyze the results. To critically analyze, they use their knowledge of the program, the students, the evidence and evaluation tool. A brainstorm session on the question, “what might have caused these results?” is a good first step.

Next, faculty can generate a list of possible actions and prioritize that list. The prioritized list becomes an improvement plan. Or a plan to evolve the program to meet new challenges. Or a celebration plan if all students are awesome.
Program Decisions
What types of decisions can lead to improvement?

Handout page 4

In my work with faculty, I’ve found that sometimes they have difficulties analyzing results and making decisions that can lead to program improvement. I’ve listed the types of decisions that programs make and I’ll highlight one or two from each category.

My goal in providing you with this list: you can start running down this list when you critically analyze the results to see if anything listed helps answer the question, “would changing any of these lead to an improvement of student performance?”
Program decisions

Curriculum

The most common change that I’ve seen made after faculty get the assessment results is 1.a.: Better alignment between tasks and SLOs.

When students fall short of expectations, it can be that in their courses, faculty were not actually asking students to practice that SLO. So, if the SLO specifies analysis, the course assignments, activities, rubrics, should give students practice in analysis.

Another common change: adding a course (item 1.f.). In undergraduate programs, I’ve seen programs add a research methods courses to better prepare students for a capstone experience.
Program decisions

Students’ out-of-course experience

A program can use students’ out-of-course experiences to heighten their awareness of the SLOs and to take responsibility for improving their knowledge and skills. Item 2.a. is very helpful if the program has mandatory advising: ask the advisers and students to collaboratively complete an SLO checklist and use it to guide course registration.

Program decisions

Program policy/procedure

The program can make policy changes or procedural changes. In the Computer Engineering example earlier, they make a policy change to the grade needed in pre-requisite courses.
After going through the assessment cycle, faculty learn what works and what doesn’t work for their program. If the program relied on volunteer faculty and students for the first assessment cycle, consider 4.c.: random selection of students to get a more reliable sample.

Any questions about any of these on page 4?
Handout, pages 1-3.

Read the information on pages 1 and 2 and then work with your table mates to answer the questions on page 3.

Table share-outs & discussion.
When faculty submit the information to the assessment coordinator, they can use one of these low cost technology solutions to make the data management easier.

Here is an example of a simple survey to collect faculty assessment results. Faculty can submit aggregated results from their courses, just be sure to get the number of students too.

If you would like help working with Excel, SurveyMonkey, Google Forms, etc., we can do that one-on-one.
Higher cost tech solutions

As soon as program assessment became mandated for all accredited institutions in the United States, entrepreneurs created technology solutions for purchase. These are expensive, but if they save faculty time and save resources (like paper), consider them.

Kapi‘olani CC and Leeward CC use Taskstream and LiveText, University of Guam uses TracDat for program assessment data management.

ExamSoft is different from the other three. Students complete exams and assignments online and faculty and programs can get aggregated results. It also has a rubric feature for paper evaluation.

If you are interested in any of these, we can talk one-on-one.
Meeting facilitation skills

- Interactive meetings aimed at creating a product
- Be more than talking heads

Handout page 5

I can’t stress enough the need for positive, productive meetings. I have a page of facilitation tips in the handout. Please use the face-to-face time with your colleagues to get meaningful work done. Be more than talking heads: aim for a product that will ultimately benefit students and the program.

Recap

- Use existing student work
- Aggregate individuals’ results to form a “program picture”
- Use technology to save time
- Hold interactive, positive, productive meetings
Any questions before you set off?

Mahalo nui!

Monica Stitt-Bergh, PhD, Associate Specialist
Assessment Office, University of Hawai‘i at Mānoa
Make Undergraduate Program Decisions based on Evaluation of Individual Student Learning

Case Study: Teamwork

**Target program SLO:** Students will be able to function well as a team member.

**Evidence:** Observation of team meetings held during class (450 + Lab); evaluated by the rubric (below)

### Curriculum Map

<table>
<thead>
<tr>
<th>Courses</th>
<th>Outcomes</th>
<th>Writing</th>
<th>Speaking</th>
<th>Research Methods</th>
<th>Research Ethics</th>
<th>Teamwork</th>
</tr>
</thead>
<tbody>
<tr>
<td>300 + Lab</td>
<td></td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>310 + Lab</td>
<td></td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective: 320, 340, or 360</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td>X</td>
</tr>
<tr>
<td>380</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>410 + Lab</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elective: 425, 435, or 445</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td>Varies</td>
<td></td>
</tr>
<tr>
<td>450 + Lab</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>480 Capstone</td>
<td></td>
<td>X-assessed</td>
<td>X-assessed</td>
<td>X-assessed</td>
<td>X-assessed</td>
<td></td>
</tr>
</tbody>
</table>

### Teamwork Skills Rubric (based on the VALUE Teamwork rubric)

<table>
<thead>
<tr>
<th>Contributes to Team Meetings</th>
<th>Substantially developed</th>
<th>Moderately developed</th>
<th>Minimally developed</th>
<th>Undeveloped</th>
</tr>
</thead>
<tbody>
<tr>
<td>Helps the team move forward by articulating the merits of alternative ideas or proposals. Supports a constructive team climate by doing all of the following:</td>
<td>Offers alternative solutions or courses of action that build on the ideas of others. Supports a constructive team climate by doing any three of the following:</td>
<td>Offers new suggestions to advance the work of the group. Supports a constructive team climate by doing any two of the following:</td>
<td>Shares ideas but does not advance the work of the group. Supports a constructive team climate by doing any one of the following:</td>
<td></td>
</tr>
<tr>
<td>Treats team members respectfully by being polite and constructive in communication. Uses positive vocal or written tone, facial expressions, and/or body language to convey a positive attitude about the team and its work. Motivates teammates by expressing confidence about the importance of the task and the team’s ability to accomplish it. Provides assistance and/or encouragement to team members.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fosters Constructive Team Climate</th>
<th>Responds to Conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>Addresses destructive conflict directly and constructively, helping to manage/resolve it in a way that strengthens overall team cohesiveness and future effectiveness. Identifies and acknowledges conflict and stays engaged with it.</td>
<td>Redirecting focus toward common ground, toward task at hand (away from conflict). Passively accepts alternate viewpoints/ideas/opinions.</td>
</tr>
</tbody>
</table>

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Results – individual students’ levels of skill development

<table>
<thead>
<tr>
<th>Student #</th>
<th>Constructive contribution</th>
<th>Fosters constructive team climate</th>
<th>Responds to conflict</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Minimally</td>
<td>Minimally</td>
<td>Minimally</td>
</tr>
<tr>
<td>2</td>
<td>Minimally</td>
<td>Minimally</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>3</td>
<td>Substantially</td>
<td>Substantially</td>
<td>Substantially</td>
</tr>
<tr>
<td>4</td>
<td>Moderately</td>
<td>Substantially</td>
<td>Minimally</td>
</tr>
<tr>
<td>5</td>
<td>Minimally</td>
<td>Minimally</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>6</td>
<td>Moderately</td>
<td>Moderately</td>
<td>Moderately</td>
</tr>
<tr>
<td>7</td>
<td>Moderately</td>
<td>Substantially</td>
<td>Minimally</td>
</tr>
<tr>
<td>8</td>
<td>Minimally</td>
<td>Moderately</td>
<td>Minimally</td>
</tr>
<tr>
<td>9</td>
<td>Minimally</td>
<td>Moderately</td>
<td>Undeveloped</td>
</tr>
<tr>
<td>10</td>
<td>Minimally</td>
<td>Substantially</td>
<td>Undeveloped</td>
</tr>
</tbody>
</table>

Results – aggregated: table

<table>
<thead>
<tr>
<th></th>
<th>Undeveloped</th>
<th>Minimally</th>
<th>Moderately</th>
<th>Substantially</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fosters constructive team climate</td>
<td>0</td>
<td>3</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>Constructive contribution</td>
<td>0</td>
<td>6</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Responds to conflict</td>
<td>4</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Results – aggregated: chart

![Number of Students (n=10)](chart)

Tips:
- Put aggregated results in a meaningful order such as most to least.
- Use color to indicate strengths and weaknesses.

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Discussion Questions:

1. What do the aggregated results say about student achievement on the target program SLO?

2. What are 2 possible reasons for these results? Brainstorm ideas.

3. What action(s) might the program consider given these results? Brainstorm ideas.
Types of Program Decisions to Improve/Evolve the Program

1. **Curriculum**
   a. Better alignment between tasks and SLOs: if the SLO specifies *analysis*, assignments and activities should give students practice in *analysis*
   b. Increase emphasis on SLOs in course content: review major theorists in all 300-level courses
   c. Models and examples: give students access to exemplary capstone projects and the scoring rubric early in the major
   d. Common rubric in multiple courses so students understand expectations
   e. Instructional methods: use problem-based inquiry instead of lecture-only pedagogy when SLO specifies higher-order thinking
   f. Add a course to address one or more SLOs.

2. **Students’ out-of-course experiences**
   a. Advising: ask advisers and students to collaboratively complete a SLO checklist and use it to guide course registration
   b. Targeted workshops: offer out-of-class help on areas of low SLO achievement
   c. Program advertising and program recruiting: revise brochure and webpage to emphasize the skills gained in the program
   d. Student handbook: emphasize SLOs and learning opportunities
   e. Career exploration and career services: offer brown-bag lunch series with local employers; partner with Career Services
   f. Social media: program presence on Facebook groups, Instagram, LinkedIn
   g. Awards: senior thesis prize with evaluation criteria tied to SLOs
   h. Exhibit student work: annual research symposium; hallway poster exhibit
   i. Technology, physical space, equipment: purchase equipment so students can practice GIS data modeling

3. **Program policy/procedure**
   a. Admissions standards: set “C” as minimum grade needed in certain courses before student can declare major
   b. Require appropriate SLOs on syllabi
   c. Provide structured support to Teaching Assistants teaching lower-division courses
   d. Change Teaching Assistant assignments to better support SLO achievement
   e. Increase/decrease class size
   f. Course sequence: add a pre-requisite
   g. Frequency of course offerings: offer core courses every semester
   h. Ask faculty to attend workshops (e.g., on how to give effective feedback to student writing)

4. **Assessment process**
   a. Assessment question: ask a meaningful question that faculty are interested in answering
   b. Assessment task: revise the task so it better meets the student learning outcomes
   c. Evaluation tool: revise the rubric
   d. Data collection methods: randomly select students instead of relying on volunteers
   e. Data collection methods: use existing class assignments because students are already motivated to do well on them because they count toward the course grade

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Facilitating Program Assessment Decision-making

Monica’s Top Tips

1. **Have a desired product/outcome and process** (place both on agenda and be ready to modify if needed)

<table>
<thead>
<tr>
<th>Desired Product/Outcome</th>
<th>Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>final student learning outcomes list</td>
<td>by evaluating draft student learning outcomes</td>
</tr>
<tr>
<td>narrow a list of commercial tests to best option</td>
<td>by evaluating alternatives and dot voting</td>
</tr>
<tr>
<td>understand curriculum coherence and identify gaps</td>
<td>by creating a curriculum map</td>
</tr>
<tr>
<td>ways to use assessment results</td>
<td>by brainstorming a list of possible actions</td>
</tr>
<tr>
<td>improve the program using assessment results</td>
<td>by prioritizing a list of actions</td>
</tr>
</tbody>
</table>

2. **Use redirection (after validation)**

   a. Bring up previous decision or idea

   “Melanie, you’re bringing up the idea of an alumni survey. The committee already decided not to do an alumni survey in fall so we will not discuss that anymore. Do you have another suggestion?”

   “Jonathan, here [point to statement] on the notes for today we’ve recorded your suggestion to change admissions standards. Is this recorded correctly?”

   b. Too much detail

   “It seems like we’re focusing on too many details right now—like how student names will be redacted from the samples. Can we move back to the larger question at hand?”

   c. Unconnected idea

   “Ryan, I hear you saying that the rubric needs to be changed. Can you help me understand how what you’re saying is connected to what we are talking about today, the distribution of results?”

   d. Tangential idea

   “Christie, sampling seems very important and tangential to this meeting’s focus. Can we put that in the minutes as something to discuss at a future meeting?”

3. **Make contributions visible**: Record ideas using markers + flip chart paper or a computer + wall projector.

4. **Decide how to decide**: Options:

   a. **Consensus**: consensus has been reached when everyone agrees the process has been fair, transparent, people feel heard, good information was used to reach a final decision, and people are willing to support—but not necessarily agree with—the final decision.

   When deciding by consensus, the goal is support, not 100% agreement. A consensus decision is one that everyone can support because a collaborative, respectful process occurred. The decision may be, but is not necessarily, the alternative most preferred by all members. Consider framing the question as, “Is this proposal something you can live with?”

   b. **85/15 rule**: 85% agreement is enough to pass.

   c. **Super majority**: 67% agreement is enough to pass.

   d. **Simple majority**: 51% agreement is enough to pass. [Not recommended because a 51/49 vote typically hinders implementation.]

5. **Reserve the last 5-10 minutes** to summarize, communicate praise for accomplishments, and state commitments/next steps.