Assessment planning and implementation in context

LAURA E. MARTIN, PH.D.
Assessment is a planning process

- Setting goals
- Developing strategies
- Outlining tasks
- Evaluating success

1. Establish and make public goals for student learning. Expressed as learning outcomes, criteria and standards.

2. Determine the evidence. What work will students do to demonstrate learning?


5. Draw conclusions about student learning achievements in the aggregate.

6. Act on the results to improve student achievement of learning goals.

Hybrid of Suskie (2009), the CIRTL Teaching-as-Research (TAR) framework, and Backward Design (McTighe & Williams, 1998)
Assessment cycle is a heuristic for creating, executing, and evaluating a game plan for student learning.

1. Establish and make public goals for student learning. Expressed as learning outcomes, criteria and standards.

2. Determine the evidence. What work will students do to demonstrate learning?


5. Draw conclusions about student learning achievements in the aggregate.

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✓ Given day’s class
✓ Course
✓ Degree Program

Hybrid of Suskie (2009), the CIRTL Teaching-as-Research (TAR) framework, and Backward Design (McTighe & Williams, 1998)
Program Learning Outcomes, together with program rubrics, represent a starting point for inquiry about learning and achievement, and the educational experience, from *a program-level perspective*.
What do we want to know from program-level assessment?

Are all our students learning what we intend (program-level outcomes) by the time of graduation?
Afternoon’s Outcomes

1. Develop a framework for inquiry into learning at the program level. *This includes*

2. Identifying complementary, actionable forms of direct and indirect evidence.

3. Identifying possible responses to assessment results.

4. Identifying who might be involved in program assessment, why, and how.

5. Consider audiences for program assessment reporting, including with whom results might be profitably shared.
Afternoon’s Outcomes Continued

6. How do we establish the habit of regular, meaningful inquiry as the faculty of department or a program?

Components of a habit
Some Key Questions for Assessment Planning

How do we make sure ..... 

1. Our department regularly completes an assessment cycle?
2. The process yields actionable results, representative of all students?
3. We close the loop, responding to results with actions, and a plan to re-assess?
4. The assessment process is inclusive?
5. The assessment process is connected to institutional planning processes?
Assessment is program planning

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Share Some Priorities

What questions are you hoping to answer afternoon?
What are you hoping to accomplish?
A Framework for Assessment Planning

OUTCOME 1: FRAMEWORK FOR INQUIRY INTO LEARNING AT THE PROGRAM LEVEL
Assessment is program planning.

1. Establish and make public goals for student learning. Expressed as learning outcomes, criteria and standards.

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Hybrid of Suskie (2009), the CIRTL Teaching-as-Research (TAR) framework, and Backward Design (McTighe & Williams, 1998)
Some key elements of a meaningful program assessment plan

1. Involves productive lines of evidence of student learning

2. In response to results, actions are taken to advance student learning, *and* plans are made to determine if the actions have the intended impact.

3. The program’s faculty members participate.

4. The plan helps to cultivate the habit of assessment as a program.
Activity: Assessment Plan Analysis

In teams, complete the worksheet to consider how a program assessment plan supports key attributes of a meaningful program-level assessment process.
Identifying and Gathering Evidence of Student Learning

OUTCOME 2: IDENTIFY COMPLEMENTARY, ACTIONABLE FORMS OF DIRECT AND INDIRECT EVIDENCE
An Essential Challenge

Gathering evidence/data is a critical element of program assessment. It requires advance planning and coordination.
Two challenges of evidence collection

1. Determining the evidence (steps 2, 1)
2. Logistics (step 4).

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Chipping away at the challenges of evidence collection

Cultivate faculty understanding and investment:

Working collaboratively as a faculty on steps 1 and 2 will likely make the logistics (step 4) much easier in the long run.
Qualities of Productive Evidence

1. Involves complementary lines of direct and indirect evidence (triangulation).

**Direct**
- *What* students know and can do.
- *How well* they can do it in relation to intended level of performance.

**Indirect**
- *Why* students are able to do what they do.
- *How* students have learned, to the degree that they have

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**Triangulation**
- Senior Theses
- Did our students learn?
- # of papers > 20 pages written
- Student self-reports of learning
## Types and Examples of Indirect Evidence

<table>
<thead>
<tr>
<th>STUDENT PERCEPTIONS OF THEIR LEARNING</th>
<th>FACTORS THAT INFLUENCE STUDENT LEARNING OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student self-ratings of knowledge and abilities</td>
<td>Surveys of student attitudes</td>
</tr>
<tr>
<td>Student reflections on what they have learned</td>
<td>Curriculum maps and course articulations</td>
</tr>
<tr>
<td>Student evaluations of their own work, ex. through application of a rubric</td>
<td>Counts of types of assignments</td>
</tr>
<tr>
<td></td>
<td>Counts of types of learning experiences in and out of the classroom</td>
</tr>
<tr>
<td></td>
<td>Interviews with teaching assistants about their perceptions of student learning opportunities</td>
</tr>
<tr>
<td></td>
<td>Descriptive data – demographics, etc.</td>
</tr>
</tbody>
</table>
Qualities of Productive Evidence

2. Evidence collectively will point to one or more courses of action to improve student learning.

Learning & Assessment Paradigm

- Learning Outcome
- Instructional Activities / Curriculum
- Collect & analyze evidence of student learning. Draw conclusions, revise instruction or outcomes.

Research Paradigm

- Hypothesis: what students will be able to do
- Experimental Design
- Gather data & draw conclusions about hypothesis
Types of “Actionable” Information

1. Insights into the cognitive processes (thinking skills) or knowledge that need attention.

<table>
<thead>
<tr>
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<th>Accomplished</th>
<th>Exemplary</th>
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<tbody>
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2. Insights into the *educational environment and experiences* supporting student learning.

3. Insights into student perceptions of their own learning.
Qualities of Productive Direct Evidence

3. The direct evidence asks students to demonstrate the criteria outlined in the rubric for the program outcome.

### Scientific Ethics Rubric:
Comprehend ethical issues and be able to apply an ethical decision-making framework to scientific decisions.

<table>
<thead>
<tr>
<th>Rubric Criteria</th>
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<td>Ethical Decision</td>
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Qualities of Productive *Direct* Evidence

4. The program’s curriculum (courses and other learning experiences) prepares students to succeed with the assignment/demonstrate the rubric criteria.

Assignment reflects intellectual tasks asked to do before. Not novel or unfamiliar.
5. **Authentic assessments** – ask students to engage in real life tasks; great pedagogy, good for assessment.

- Ex. Analyzing case studies with real data
- Ex. Draft a manuscript based on research results
Assessment for learning vs. assessment of learning (Ex. Smith and Barclay, 2010*)

Assessments for learning: Assignments designed to further student learning through the completion of the assessment, often called authentic or performance assessments (e.g. authentic assessments, capstone projects, senior thesis, signature assignment, etc.)

Assessments of learning: An assessment method that asks students to demonstrate knowledge or skills but does little to advance its development (ex. national exams, multiple choice embedded assessments, etc.)

Assessment for vs. of learning matters

Successful students value and learn what we “test” or assess for

What and how we assess really matters

We get more of what we assess for and less of what we don’t

Want to promote higher-order thinking

Barbara Wright, ACCU, 2009
Qualities of Productive *Direct* Evidence

6. Provides students with opportunity to do their best work – work most representative of their abilities and knowledge

   • Invest appropriate time
   • Incentives to do best work (e.g. appropriately weighted score)
   • “Embedded” not added-on, external to program expectations
Qualities of Productive Direct Evidence

7. Drawn from required course(s), so that all students represented, and experiences common to all students.

8. Collected at or near the time of graduation:
   • It’s efficient
   • Could potentially support WASC 5 Core Competency assessment or ILOs

<table>
<thead>
<tr>
<th>Courses</th>
<th>PLO #1</th>
<th>PLO #2</th>
<th>PLO #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>100*</td>
<td></td>
<td>I</td>
<td>I</td>
</tr>
<tr>
<td>110*</td>
<td>I</td>
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<tr>
<td>200</td>
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<td>D</td>
<td></td>
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<tr>
<td>202*</td>
<td>D</td>
<td>D</td>
<td>D</td>
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<tr>
<td>300</td>
<td>D</td>
<td></td>
<td>D</td>
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<tr>
<td>405*</td>
<td>M, A</td>
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Examples of Direct Evidence

- Capstone projects
- Portfolios
- Papers/lab reports
- Lab notebooks
- Design projects
- Presentations
- Think alouds
- Senior thesis

- Student reflections on values, attitudes and beliefs
- Employer or supervisor evaluations of student abilities
- Student responses to survey questions that ask them to demonstrate knowledge
Signature Assignments

A task, problem, case or project that can be tailored or contextualized in different disciplines or courses

• Signature assignments can be used within departments

• Or they can be used between departments – assessing a particular GE learning outcome across the campus
Example: University of Nebraska Kearny GE Assessment

Developed set of 6 common assessment assignments:

- Integrated summary
- Current event analysis
- Controversial Issue analysis
- Research Proposal
- Community introspection
- Media analysis

Faculty chooses assignment to fit his/her course

Scored with a common rubric, locally adapted AAC&U VALUE rubric

Part of class grade

For more information visit: http://www.unk.edu/academicaffairs/assessment.aspx?id=50159
Activity: Analyze a Program’s Choice of Evidence

Use the 8 qualities of productive evidence to analyze the program’s choice of evidence. (See handout.)

Discuss the following:

1. What are some strengths of the program’s choice of evidence?
2. What might be strengthened about the program’s choice of evidence?
3. What questions does it raise or are you left with?
Activity: Lines of Evidence

For one of your program’s learning outcomes, either

A. Evaluate the evidence against the 8 qualities for evidence. What are some strengthens of the evidence, direct and indirect? What could be improved? What questions does it raise?

B. Using the 8 qualities of evidence, identify one or more forms of direct evidence. One or more lines of complementary indirect evidence. What questions does this raise?
Two challenges of evidence collection

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2. Logistics (step 4).

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A key element of a sustainable multi-year, program assessment plan

For each line of evidence, the plan identifies

- from where it is gathered,
- when, including how often,
- and by whom.

Critical in small programs to ensure sufficient representative samples for valid and reliable results.
Institutional Rationale

Resourcing program assessment is an investment in academic planning, and one focused on a critical facet of student success: student learning.
Examples of Institutional Support

- Rubric development, assessment planning, etc.
- Indirect evidence – program and institution
- Evidence/data storage – e.g. student work samples to be assessed; assessment data gathered as part of grading.
- Communicating and storing results, actions, and supporting data.
- Others?
Acting on Evidence

OUTCOME 3: IDENTIFY POSSIBLE RESPONSES TO ASSESSMENT RESULTS.
Some key elements of a meaningful program assessment plan

1. Involves productive lines of evidence of student learning

✓ In response to results, actions are taken to advance student learning, and plans are made to determine if the actions have the intended impact.

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Assessment is a planning process

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Hybrid of Suskie (2009), the CIRTL Teaching-as-Research (TAR) framework, and Backward Design (McTighe & Williams, 1998)
What questions does program-level assessment attempt to answer?

Are all our students learning what we intend (PLOs) by the time of graduation? To what extent? How effective is our program at cultivating intended learning for our students?

- How well-aligned and articulated are courses and instruction as students move through the program. Are courses designed and organized to build on prior student learning in a cohesive, coherent, reinforcing manner?

- “degrees...represent more than simply an accumulation of courses or credits.”* 

*WSCUC, CFR 2.2
Refine the question of “how effective”

- To what degree is the program working: What *levels of performance* are students reaching by the time of graduation?
- What fraction of its students are reaching or exceeding the desired level of performance at the time of graduation?
- Is this true of all students, or are there subpopulations of students who consistently do not reach desired levels of performance?
- Is this good enough? Is the program’s faculty satisfied with the distribution of performance?
Scientific Ethics Rubric: Comprehend ethical issues and be able to apply an ethical decision-making framework to scientific decisions.

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What is meant by “levels of performance”?

Distribution of student performance relative to the program rubric standard of performance

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Summarizing Results: Use Frequencies

Averages are problematic: May not describe the actual distribution of student performance.

E.g. 50 papers scored

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<th>Mastery (4)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 (2%)</td>
<td>23 (50%)</td>
<td>4 (8%)</td>
<td>23 (50%)</td>
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- **Average score:** 3 = Proficient
- **Frequency of scores:** 8% are Proficient
Summarizing Results: Use Frequencies

Frequencies are more easily interpreted, particularly for identifying possible actions to improve student learning.

E.g. 50 papers scored

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How do you know if student performance is good enough?

**Conclusions Require Point of Reference:** Identify desired level of competency / benchmark/target for aggregate student performance.

I.e. What fraction of students at what level of performance at graduation?

E.g. 95% of students demonstrate proficient or better level of performance by graduation.

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What actions might a faculty take?

- Modify pedagogy/instruction in courses
- Revise course content/priorities and foci
- Reorder course sequence
- Establish/revise prerequisites
- Re-examine/revise PLOs
- Make no change
- Other?
Examples of Actions Taken

• Increased focus on writing, including number of writing assignments (Math)

• Assignments requiring students to locate primary and secondary sources were integrated into courses throughout the program; also adopted a common citation method (History)

• Adopted use of program-level rubric for students in classes that addresses multiple PLOs (Physics)

• Embarked on a project to re-align program curriculum from bottom to top in relation to PLOs and related rubrics, assessing success along the way (NSED)

• In courses, increased practice with the formal argument (Philosophy)
Activity: Acting on Evidence

In teams, review the Acting on Evidence scenario and draft answers to the questions, including the Final Reflection.
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Acting on the Evidence

Consider what you learned about the efficacy of the assessment process itself.

Rubric

Evidence & Data Collection

What worked well?
What can be improved?
The Habit: Sustaining Regular Program Assessment

OUTCOME 4: CONSIDER AUDIENCES FOR PROGRAM ASSESSMENT REPORTING, INCLUDING WITH WHOM RESULTS MIGHT BE PROFITABLY SHARED.
Group Brainstorm

Based on our work today, what ingredients (e.g. materials, knowledge, practices, people, support, etc.) do you think are essential to developing the habit of regular program assessment?
Some ingredients?

• Clear connection of program assessment to our own work in our classrooms. What does it mean to me as a faculty member committed to student learning in my courses?

• Integrating program assessment into the work we already do as faculty, our teaching AND our meeting habits.

• Knowledge of how to do it

• Clear, broadly shared assessment plan

• Time table for regularly engaging in the work

• Thoughtfully distributing the responsibilities among program faculty

• A point person, responsible for shepherding the process on behalf of the faculty

• Institutional commitment, recognition, and support
Group Brainstorm

What are some examples of institutional commitment, recognition, and support that would help establish the habit?
Some Relevant Institutional Processes

1. Program Review
2. Annual program reports
3. Annual budget cycle – assessment as a means to support requests
4. Strategic planning
5. Assessment of school/college or institutional outcomes
6. Re-appointment, tenure and promotion*****
7. Accreditation
8. Development
9. Recruitment
Final Reflection
Final Reflection

If program assessment is about a faculty team with a program-level game plan for intentional teaching and learning, such that each student and graduating class learns more than the last...

In what ways would your department or program....

• Be similar to how it is right now?
• Different from how it is right now?

What are some ideas for getting there?