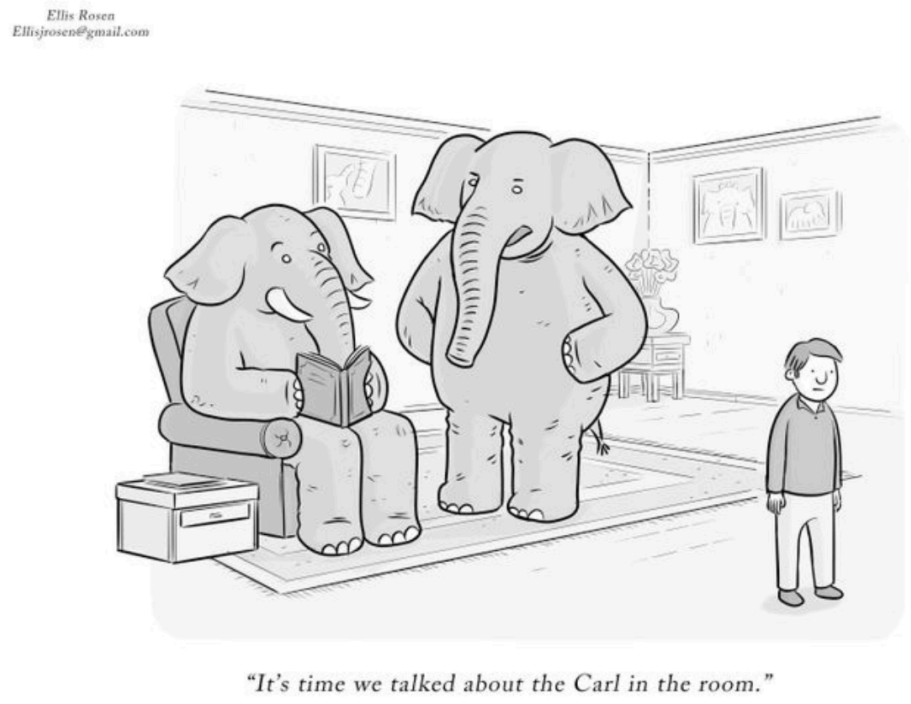
Assessment Basics for Student Learning Outcomes

Office of Assessment and Institutional Effectiveness

09.21.21



"It's time we talked about the Carl in the room."

Source: Huffpost https://www.huffpost.com/entry/cartoonist-ellis-rosen_n_5979e678e4b0da64e8770071

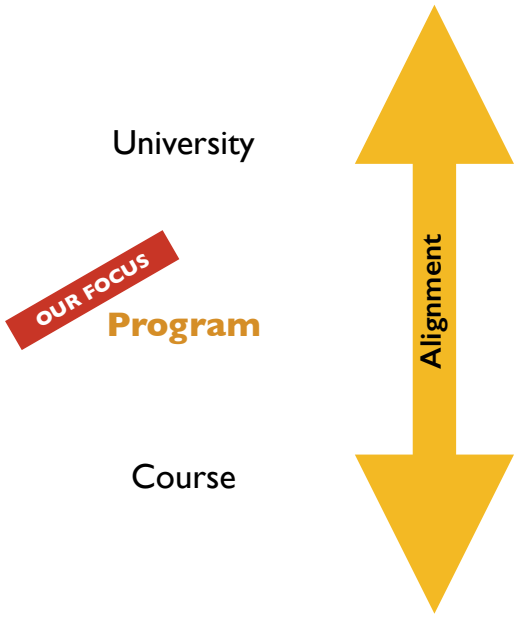
What is not assessment

- Assessment ≠ Accreditation
  - Accreditation requires assessment, but is not the primary purpose for assessment
- Assessment ≠ Evaluation
  - Assessment is faculty-controlled, reflective, and aimed to increase (not judge) quality of teaching and learning
- Assessment ≠ Lots of extra work
  - Assessment can be done with existing, embedded measures that do not require a new set-up

Assessment for improvement

- Assessment = Getting evidence-based answers to the questions that matter to us
  - *"Without data, you are just another person with an opinion."* *(W. Edwards Deming)*
- Assessment = Improving teaching and learning
  - Assessment helps identify areas for improvement in student learning, and ways to improve them
- Assessment = Demonstrating effectiveness
  - Assessment showcases the positive impact of our hard work on student learning and success

Three levels of assessment



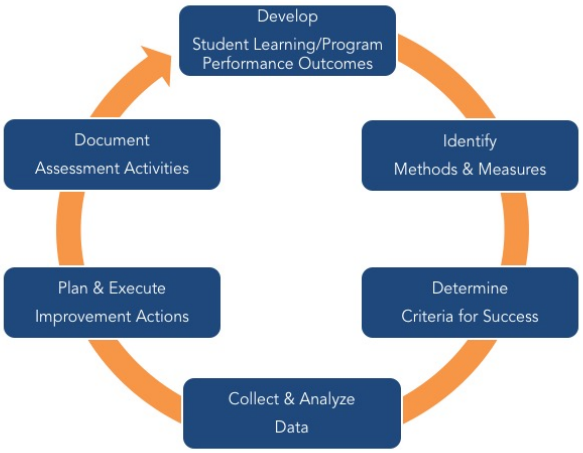
WSCUC Core Competencies
University Learning Goals
Strategic Plan Goals

Program SLOs

Course Learning Outcomes

Six-step assessment process*

What do we want our students to learn and/or our units to accomplish?



How are we documenting the assessment AND improvement activities/results?

What changes are we making?
Are the changes working?

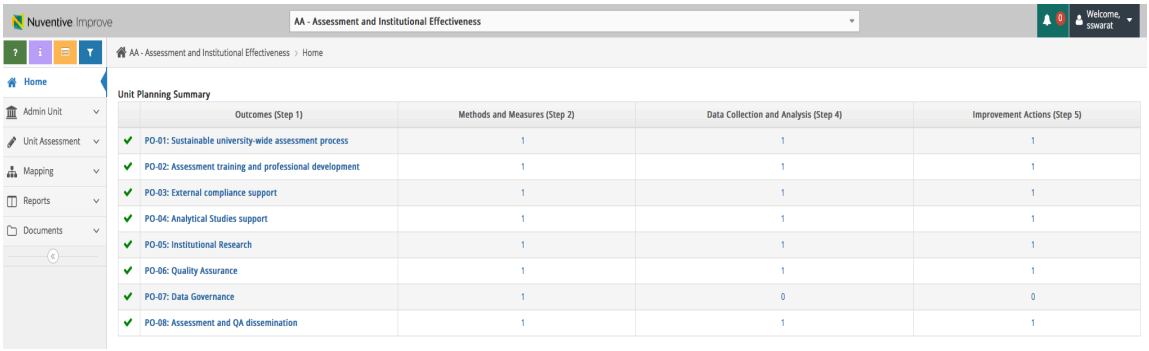
How are we doing?
How do we know?

What evidence do we need to know to determine whether we are successful?

How do we use data to confirm/improve our practices?

*AEEC Spring 2014

Annual assessment reporting and review



- Assessment management system (AMS) available year-round for documentation
- Annual report collection (Nov.15)
- Assessment liaisons review to provide feedback

Step 1: Develop student learning outcomes

- A statement
- Significant and essential learning that students achieve at the end of a program
- What students should be able to accomplish at the end of a course, curriculum, or any educational experience

SLO at different levels

WSCUC	Quantitative Reasoning
University	Graduates are able to apply quantitative reasoning to real-world problems.
OUR FOCUS **Program**	Students are able to use statistical tools to interpret data from research studies.
Course	Students are able to calculate and interpret a variety of descriptive and inferential statistics.

Start with a good SLO

Knowledge
Facts
Concepts
Theories
Principles

Skill
Critical thinking
Communication
Teamwork
Quantitative reasoning

Attitude
Civic engagement
Cultural competency
Professionalism
Life-long learning

- Learner-centered, not instructor-centered
- Simple language
- Specific, clear and concise
- Demonstrable and measurable
- Discrete (no "double-barrel" statements)
- Manageable (more is not better)

Common issues with SLOs

Criteria for good SLOs	Example SLO needing improvement
Learner-centered, not instructor-centered	Students will be provided with at least 2 internships to apply the skills in the field.
Simple language	Students demonstrate thorough and competent understanding of original texts, which is reflected in sound arguments to support assertions that are supported by careful presentation of evidence and include thoughtfully constructed refutations of the opposing view.
Specific, clear and concise	Students acquire the accumulated essential knowledge so that they can apply the knowledge to clinical issues in graduate school or in their work settings.
Demonstrable and measurable	Students demonstrate leadership skills by organizing and implementing projects in the community.
Discrete (no "double-barrel" statements)	Students understand and apply critical race theory and research methods demonstrated through independent research using standard English grammar and coherent written organization.
Manageable (more is not better)	5-7 SLOs (recommended)

Use curriculum mapping to ensure SLO and curriculum alignment

Course	SLO1	SLO2	SLO3	SLO4	SLO5
100	Introduced		Introduced		
101		Introduced			Introduced
200	Developed			Introduced	
230			Developed		
300	Developed	Developed			Developed
350		Mastered			Mastered
401	Mastered		Developed; Mastered		

- Does a course address any of the SLOs?
- Is the SLO addressed by the courses?
- Is there sufficient scaffolding?

Case Study: Step 1

Step 2: Identify methods & measures

- We are *already* and *always* assessing student learning
- The measure already in place is NOT always the best place to start
  - Does the measure address the SLO?
  - What is the action verb in the SLO?
- Use curriculum map to determine where to collect evidence for program level assessment

Use curriculum mapping to determine where to collect assessment evidence

Course	SLO1	SLO2	SLO3	SLO4	SLO5
100	Introduced		Introduced		
101		Introduced			Introduced
200	Developed			Introduced	
230			Developed		
300	Developed	Developed			Developed
350		Mastered			Mastered
401	Mastered		Developed; Mastered		

- Program assessment is focused on student competency "near or at graduation"
- Focus on courses where SLOs are "mastered"

Direct vs. Indirect

Direct
Student behaviors or products that demonstrate their mastery of SLO

Exam/Quiz
Paper/Presentation
Project/Portfolio
Recital/Exhibition
Peer evaluation
…

Use as **supplemental** evidence

Indirect
Reported perceptions about student mastery of SLO

Self-reflection essay
Self-report survey
Interview
Focus group
Report by alumni, employer, etc.
…

Direct evidence helps tell us "what", and indirect evidence helps tell us "why".

Embedded & Value-added

Embedded

- Measures integrated into the regular curricular process
- Can be used to judge individual student performance in a course, AND can be aggregated to demonstrate mastery of SLOs for a program
- Prioritize embedded measures

Value-added

- Measures designed to capture the increase in students' learning during a course or program
- More indicative of the contribution an institution/program/course makes to student learning
- Advanced practice (not required)

Choosing the right measure

- **Valid:** Are you measuring the outcome?
- **Reliable:** Are the results consistent?
- **Actionable:** Do the results clearly tell you what students can or cannot do?
- **Triangulation:** Are there multiple lines of evidence for the same SLO?
- **Meaningful and engaging:** Are faculty engaged? Do students care?
- **Sustainable:** Can the process be managed effectively within the program context?

Common issues with measures (part 1)

Critieria for good measures	Example measures needing improvement
Valid	1. To measure students' "global competency that allows students to conduct business with people in different global regions", students are asked to answer a final exam question in an elective not required for majors.
	2. To measure students' competency in performance, faculty track the length of time taken to achieve the next level of performance.
Reliable	1. To measure students' professional skills in the clinical settings, the internship site supervisors are asked to provide a brief holistic evaluation of students' professional skills.
	2. To measure students' written communication skills using a culmination exam while the exam is going through major revision.
Actionable	1. To measure students' understanding of major theoretical development milestones in the discipline, the faculty use a rubric to score student assignment. The rubric rates students' knowledge using a 5-point scale from "poor" to "excellent" without detailed descriptions.
	2. To measure students' application of key concepts and skills relevant to the discipline, an objective content test is administered in a 400 level course. The total score is used to determine student competency.

Common issues with measures (part 2)

Critieria for good measures	Example measures needing improvement
Triangulation	1. To measure students' ability to collaborate with others, a survey is administered to the students asking whether they worked with others in the course, and if so, how well the group worked.
	2. To measure students' critical thinking ability, multiple measures are used including a short-answer assignment, project customer evaluation, and student project self-reflection. They yield different results, but no connections are drawn.
Meaningful and engaging	1. To measure students' problem solving ability, students are invited to take a 2hr standardized test that is not part of the course or program. Students receive $50 for participation.
Sustainable	1. The program coordinator asks every course that is aligned with a program SLO to submit assessment data every semester to capture all relevant data. The coordinator will then go through all the data to determine whether the SLO is met.
	2. A program collects 50 student written samples from 200, 300 and 400 courses every year. The samples are scored by a committee of faculty in the summer.

Case Study: Step 2

Step 3: Determine criteria for success (CFS)

- A performance standard
    - What level of performance is good enough?
    - Pre-determined!
    - Supported by historical data, reasonable expectations, theoretical frameworks...
- Can assume multiple formats
    - Average
    - Distribution pattern
    - Change from previous year/cycle
    - Difference from peers or other comparison groups
    - Can be qualitative depending on the corresponding measure

Common issues with CFS

- Some measures lack CFS
    - Every measure needs a corresponding CFS
- Focus on average and ignore score distribution
    - Average can be easily skewed
    - Distribution is often more telling, and helps pinpoint areas for improvement
- Inappropriate CFS
    - Too high (e.g. 100% students score in the "excellent" category on all of the rubric criteria.)
    - Too low (e.g. Students score at the national average level.)
    - Ceiling effect (e.g. Client evaluation rating improves by 10% every year.)
    - Use average or "rate" when sample size is small (e.g. 75% students receive a score of 80% or higher, when the cohort size is typically less than 10.)

Step 4: Collect and analyze data

- Same as what we do in a research study
    - Why collect the data (see step 1 - SLO)
    - What data to collect (see step 2 - measures)
    - Where to collect data (reference curriculum map)
    - Who to include and how many
    - How the data are analyzed
- Sampling!
    - Relevant, Representative, and Reasonably sized
    - Determined by the outcome and program context
- **Disaggregation!**

Common issues with data collection and analysis

- No data
  - Expectation: 1 SLO per year
  - Special report needed if no data

What would you like to see in a student research paper?

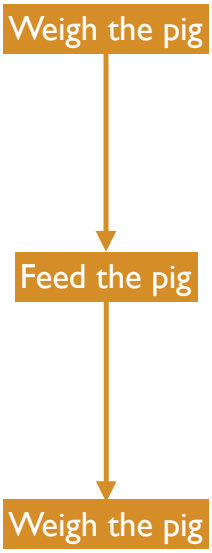
- Misalignment between steps
  - Data collected do not match measures
  - Data analysis does not reference or match CFS
- Insufficient description of data collection or analysis
  - Where did the data come from
  - Who and how many students were included
  - How were the data collected and analyzed
  - How did the data compare with CFS
  - How did the data compare to prior years
- No reflection on how data relate to practice
- No connection between data from multiple sources

Case Study: Step 3 & 4

Step 5: Plan and execute improvement actions

- Review the assessment findings
- Types of changes:
  - Curriculum
  - Pedagogy
  - Faculty support
  - Student support
  - Resources
  - Assessment plan
- Don't forget to re-assess the improvement actions!

Small changes matter



NILOA (2014)

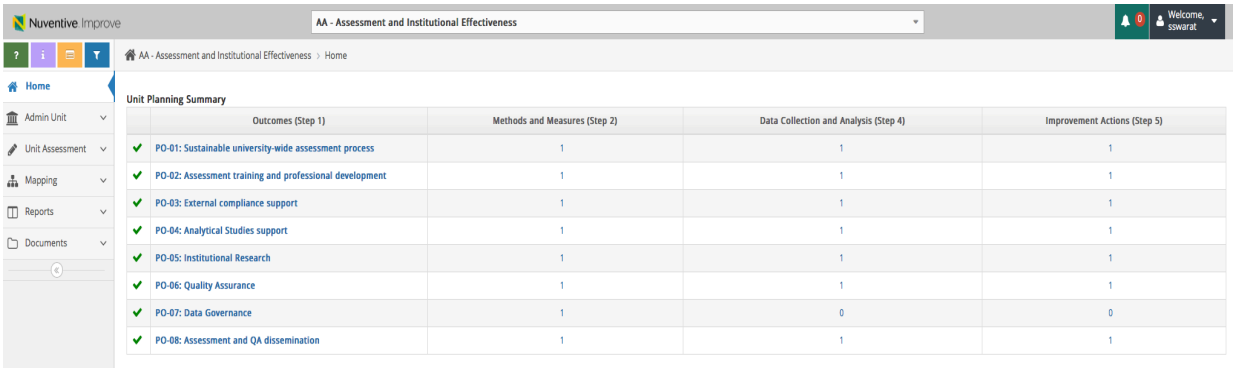
A good example for improvement actions

- For the "**Written Communication" SLO,** the B*usiness Communication* program scored student writings in a case analysis using an existing validated rubric, and found that students had the greatest deficiencies in the "Strategy" rubric criterion.
- For improvement, the program:
  - collected additional demographic data to narrow down the student population that needed the most help;
  - offered faculty development workshop on case analysis;
  - emphasized use of topic sentences and supporting evidence;
  - provided sample professional documents for use in classroom and homework exercises.
- The program reassessed after 3 years:
  - Writing communication scores improved 17% between 2009 and 2012

Common issues with improvement actions

- Improvement actions have no connection to the data
- Improvement actions are vague
  - *"The curriculum committee will review the results and determine the next steps."*
  - *"We will continue to monitor student performance and make changes to the curriculum."*
- Improvement actions do not have any follow-ups
  - Are the improvement actions from previous year/cycle implemented?
  - What is the impact of the improvement actions from the previous year/ cycle?
- Overemphasis on methodology (e.g. always focus on the measures)

Step 6: Document assessment activities



Outcomes (Step 1)	Methods and Measures (Step 2)	Data Collection and Analysis (Step 4)	Improvement Actions (Step 5)
PO-01: Sustainable university-wide assessment process	1	1	1
PO-02: Assessment training and professional development	1	1	1
PO-03: External compliance support	1	1	1
PO-04: Analytical Studies support	1	1	1
PO-05: Institutional Research	1	1	1
PO-06: Quality Assurance	1	1	1
PO-07: Data Governance	1	0	0
PO-08: Assessment and QA dissemination	1	1	1

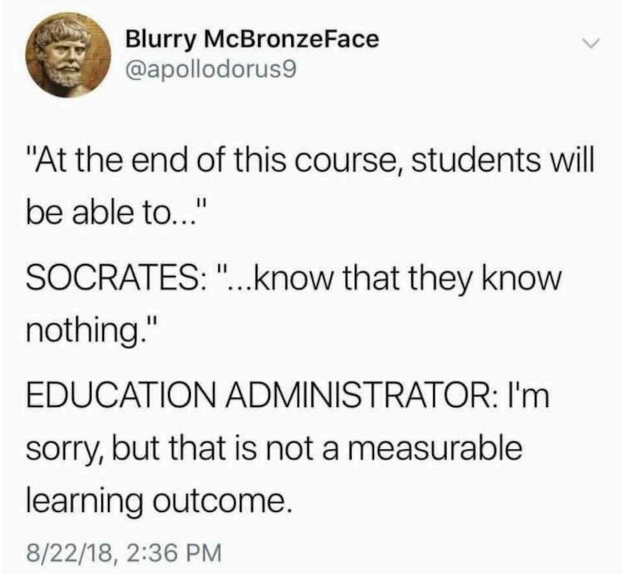
Document any time

Tell a coherent story

Weigh the pig AGAIN

Case Study: Step 5 & 6

Don't do assessment only to meet administrative requirements



Do assessment to improve student learning

"Wisdom is needed throughout the entire process of assessment for all levels of students - from the articulation of outcomes statements to the selection and application of assessment measures to the ever-difficult loop-closing activities for improving student learning."

- Timothy Reese Cain

data@fullerton.edu

www.fullerton.edu/data