Assessment @ CSUF: An Overview

Irvine Campus

October 2014
Overview

• What is assessment?

• What is the infrastructure of assessment at CSUF?

• What is the process of assessment at CSUF?

• What is the assessment management system at CSUF?

• What support is available for assessment?

• What is the long-term plan for assessment at CSUF?
Your thoughts:

What is Assessment?
What is assessment

- Assessment is the systematic collection, review, and use of qualitative and quantitative data to improve student learning and development (UPS 300.002)

- Assessment answers:
  - What do we want our students to learn?
  - How are our students learning/doing?
  - What can we do to improve student learning?
Why do we need assessment

• Internal reflection and improvement

• Cultural change:
  • Teacher-centered to Learner-centered

• Accreditation:
  • Focus more on “outcomes” than “input”
  • Standardized way to measure institutional effectiveness

• Accountability/Quality Assurance
  • Performance-based funding...
What is NOT assessment

• Punitive

• Another way to evaluate faculty performance

• Grading

• A one-time exercise
Where do we carry out assessment

Course

Program

University

Alignment
Who is responsible for assessment

Office of Academic Programs

Office of Assessment & Educational Effectiveness

Assessment Liaison Workgroup

College/Division Assessment Committee

Department/Unit Faculty & Staff

Department/Unit Assessment Committee

Assessment and Educational Effectiveness Committee

Everyone!
What is the CSUF assessment process?

<table>
<thead>
<tr>
<th>University Policy on Assessment (UPS 300.022, March 2014)</th>
<th>Definition Principles Scope</th>
</tr>
</thead>
<tbody>
<tr>
<td>University Student Learning Goals (UPS 300.003, January 2014)</td>
<td>Desired Competency for CSUF Graduates</td>
</tr>
<tr>
<td>University Assessment and Educational Effectiveness Plan (AEEC, April 2014)</td>
<td>Infrastructure Responsibilities Process</td>
</tr>
</tbody>
</table>

**Six-step Assessment Process**
A six-step assessment process

- What do we want our students to learn?
- How are our students learning?
- How do we know?
- What evidence do we need to know to determine how well our students are learning?
- How are we documenting the assessment AND improvement activities/results?
- How do we use data to confirm/improve our teaching/learning practices?

- Develop Student Learning Outcomes
- Identify Methods & Measures
- Determine Criteria of Success
- Collect & Analyze Data
- Plan & Execute Improvement Actions
- Document Assessment Activities
Step 1: Develop Student Learning Outcomes

- Student Learning Outcomes (SLOs) are:

  Statements of what graduates should *know*, be able to *do*, and *value*.

- Sound SLOs are:
  - Learner centered, not instructor centered
  - Aligned with program/department/college/university goals and missions
  - Specific, clear and concise
  - Measurable
  - Discrete (no “double-barrel” statements)
  - Manageable
Step 1: Develop Student Learning Outcomes
(cont.)

- Develop SLOs using **Bloom’s Taxonomy active verbs**

<table>
<thead>
<tr>
<th>REVISED VERSION (Anderson &amp; Krathwohl, 2001)</th>
<th>EXAMPLE ACTIVE VERBS</th>
<th>ORIGINAL VERSION (Bloom, 1956)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creating</td>
<td>Designing, constructing, planning, producing, inventing</td>
<td>Evaluation</td>
</tr>
<tr>
<td>Evaluating</td>
<td>Experimenting, checking, hypothesizing, critiquing, justifying</td>
<td>Synthesis</td>
</tr>
<tr>
<td>Analyzing</td>
<td>Comparing, organizing, deconstructing, interrogating, finding</td>
<td>Analysis</td>
</tr>
<tr>
<td>Applying</td>
<td>Implementing, carrying out, using, executing, transferring</td>
<td>Application</td>
</tr>
<tr>
<td>Understanding</td>
<td>Interpreting, summarizing, paraphrasing, classifying, explaining</td>
<td>Comprehension</td>
</tr>
<tr>
<td>Remembering</td>
<td>Recognizing, listing, describing, retrieving, naming, finding</td>
<td>Knowledge</td>
</tr>
</tbody>
</table>
### Step 1: Develop Student Learning Outcomes

(cont.)

- SLO refinement examples

<table>
<thead>
<tr>
<th>BEFORE</th>
<th>AFTER</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students will learn major cognitive theories.</td>
<td>Students will critique each theory’s strengths and weaknesses.</td>
</tr>
<tr>
<td>Students will appreciate the benefits of exercise science.</td>
<td>Students will explain how the science of exercise affects stress.</td>
</tr>
<tr>
<td>Students will understand psychological principles for resolving personal issues.</td>
<td>Students can articulate how psychological principles can help resolve personal issues.</td>
</tr>
<tr>
<td>Students will understand the scientific method.</td>
<td>Students will design a grounded research study using the scientific method.</td>
</tr>
</tbody>
</table>
Step 1: Develop Student Learning Outcomes

(cont.)

- Prioritize SLOs: *Curriculum mapping*

<table>
<thead>
<tr>
<th>Course</th>
<th>SLO1</th>
<th>SLO2</th>
<th>SLO3</th>
<th>SLO4</th>
<th>SLO5</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Introduced</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>101</td>
<td></td>
<td>Introduced</td>
<td></td>
<td></td>
<td>Introduced</td>
</tr>
<tr>
<td>200</td>
<td>Practiced</td>
<td></td>
<td></td>
<td></td>
<td>Introduced</td>
</tr>
<tr>
<td>230</td>
<td></td>
<td></td>
<td>Practiced</td>
<td></td>
<td></td>
</tr>
<tr>
<td>300</td>
<td>Practiced</td>
<td>Practiced</td>
<td></td>
<td></td>
<td>Practiced</td>
</tr>
<tr>
<td>350</td>
<td></td>
<td>Mastered</td>
<td></td>
<td></td>
<td>Mastered</td>
</tr>
<tr>
<td>401</td>
<td>Mastered</td>
<td></td>
<td>Practiced; Mastered</td>
<td></td>
<td></td>
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</tbody>
</table>
# Step 2: Identify Methods and Measures

<table>
<thead>
<tr>
<th><strong>Direct assessment methods:</strong></th>
<th><strong>Indirect assessment methods:</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>- Course exam, quiz, assignments</td>
<td>- Student self-reflection essays</td>
</tr>
<tr>
<td>- Capstone projects/Final papers</td>
<td>- Graduate/Alumni surveys</td>
</tr>
<tr>
<td>- Student presentations</td>
<td></td>
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</tbody>
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<thead>
<tr>
<th><strong>Embedded assessment methods:</strong></th>
<th><strong>External assessment methods:</strong></th>
</tr>
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<tbody>
<tr>
<td>- In-class problem-solving activity</td>
<td>- Published tests</td>
</tr>
<tr>
<td>- Lab report</td>
<td>- Juried review of student artifacts</td>
</tr>
<tr>
<td>- Exam questions</td>
<td>- Clinical interview of students’ problem-solving</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>“Value-added” assessment methods:</strong></th>
<th><strong>“Non-value-added” assessment methods:</strong></th>
</tr>
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<tbody>
<tr>
<td>- Pre/Post tests</td>
<td>- Licensure exams</td>
</tr>
<tr>
<td>- Entrance/Exit Interviews</td>
<td>- Standardized tests (e.g. SAT, GRE)</td>
</tr>
</tbody>
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<table>
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<tr>
<th><strong>Formative assessment methods:</strong></th>
<th><strong>Summative assessment methods:</strong></th>
</tr>
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<tbody>
<tr>
<td>- “Minute paper” in class</td>
<td>- Final exam</td>
</tr>
<tr>
<td>- Concept mapping</td>
<td>- Concept inventory</td>
</tr>
</tbody>
</table>
Step 2: Identify Methods and Measures (cont.)

- Sound assessment methods/measures:
  - Engage multiple methods/measures
  - Are valid and reliable
  - Meaningful to faculty and students
  - Do not have to be dissertation-quality research
  - Sustainable over time
  - Yield information that can be used for improvement
Step 2: Identify Methods and Measures (cont.)

- Why do these methods need improvement?

<table>
<thead>
<tr>
<th>SLO</th>
<th>Method</th>
</tr>
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<tr>
<td>Student completing the program will demonstrate competence in conducting research.</td>
<td>Measure student participation rate in the senior research project.</td>
</tr>
<tr>
<td>Student completing the program will demonstrate level of mastery of key concepts that is comparable to students of similar program at other CSU campuses.</td>
<td>Measure student mastery of key concepts using final exams developed collaboratively by the course instructors.</td>
</tr>
<tr>
<td>Student completing the program will demonstrate confidence in conducting research.</td>
<td>Interview every student about their self-perception of research self-efficacy; analyze interview transcripts for themes.</td>
</tr>
<tr>
<td>Student completing the program will demonstrate critical thinking skills.</td>
<td>Ask students to voluntarily take an hour-long exam on critical thinking at the end of course completion that does not provide any immediate benefit to the students.</td>
</tr>
</tbody>
</table>
Step 2: Identify Methods and Measures (cont.)

• **Examples:**

  • **Communications:** A common writing assignment across all sections of COMM 362 to assess student written communication skills (reviewed by a panel of external professionals).

  • **Computer Science:** Classroom observation and peer observation in CPSC362 to measure students’ ability to work effectively as team members.

  • **Educational Leadership:** Used aspects of the student qualifying exam to assess students’ critical thinking ability (scored by a panel of 4-6 faculty using a rubric)

  • **Nursing:** Monitored student self-assessment of essential skills for advanced nursing practice through surveys upon entry into the program, at midpoint, and upon graduation.

  • **European Studies:** Assessed the SLO “understand holistically the historical development of European politics, economics, society and culture” by conducting a rubric-based scoring of student portfolios, coupled with a qualitative review of student self-assessment essays.

  • **Geological Sciences:** Assessed students’ ability to “integrate earth systems and cycles” by scoring their thesis, and collecting self-report through an alumni survey.
Step 3: Determine Criteria of Success

• A performance standard:
  • What level of performance is good enough?
  • Pre-determined!
  • Supported by historical data, reasonable expectations, theoretical frameworks...
Step 3: Determine Criteria of Success (cont.)

• Examples:

  • 95% of students’ capstone project received a rating of “very good” or “excellent” when using the writing communication effectiveness rubric.

  • 80% of students pass USMLE on the first attempt.

  • Compared to their national peers, 75% of students scored above the 50th percentile on the GRE subject test.

  • Over 2 years of the curriculum, students’s ability to synthesize multiple theoretical perspectives increased 1 point or more on a 4-point scoring rubric (using same essay assignment - pre/post).

  • The average rating of student self-perceived research efficacy is 4.0 or higher on a 6-point likert scale.
Step 4: Collect and Analyze Data

• Sampling, sampling, sampling!

• Don’t forget about the Criteria of Success

• Triangulate multiple methods/measures on the same SLO
Step 5: Plan and Execute Improvement Actions

• Assessment is for Improvement!

• Common types of changes:
  • Curriculum
  • Pedagogy
  • Faculty support
  • Student support
  • Resources
  • Assessment plan

• Improvements do not have to be dramatic

• Don’t forget to re-assess the improvement actions!
Step 5: Plan and Execute Improvement Actions

(cont.)

• **Examples:**

  • **Comparative Religion:** Students’ performance on a set of multiple-choice questions designed to assess student’s ability to “analyze and interpret written materials related to the study of religion” suggested areas in which less progress was made from one semester to the next. *Changes were subsequently made in 300 level courses to add more in-class exercises and writing assignments.*

  • **Mechanical Engineering:** Data from student exit survey, alumni survey, and industrial advisory board members’ evaluation of student performance in their organizations suggested weaknesses in technological competency. *The results led to the creation of new computer labs, purchase of new technology equipment, and hiring of 4 new faculty members within the past 2 years.*

  • **Child and Adolescent Studies:** Embedded essay question on the final exam revealed that 55% of the students achieved a rating of “met or exceeded competency” (using a 6-point rubric scale) on their grasp of Bronfenbrenner’s Ecological System’s Theory, a key concept for the discipline. *The department revised the learning goals associated with CAS 325A to clarify and emphasize the theories to be taught, and provided pedagogical strategies for effective and engaging approaches to teaching theory to the faculty.*
Step 6: Document Assessment Activities

- Document the 6-step process
- Tell a coherent story
- Demonstrate evidence of “a vital, ongoing assessment program”
- Take advantage of technology!
Step 6: Document Assessment Activities (cont.)
A Multi-Year Assessment Plan

• What to plan for:
  • Timeline
  • Infrastructure/Processes
  • Participants/Resources
  • Steps to turn assessment results into improvement actions
  • Self-evaluation/Reflection of the assessment process
A Multi-Year Assessment Plan (cont.)

• Guidelines:
  • Limit to 5-7 SLOs
  • Determine a realistic assessment plan cycle, i.e. how long (e.g. 7 years) to complete meaningful assessment of all SLOs
  • Create a multi-year assessment plan that assesses 1-2 SLOs a year
  • Make sure assessment is carried out by the entire program/department
  • Make sure the assessment plan is manageable and sustainable over time
Toward a University-wide Assessment Process

Prior to 2014-2015
- Academic Affairs: Instructional Units
- Academic Affairs: Non-instructional Units
- Student Affairs
- Information Technology

2014-2015
- Academic Affairs: Instructional Units
- Academic Affairs: Non-instructional Units
- Student Affairs
- Information Technology

2015-2016
- Academic Affairs: Instructional Units
- Academic Affairs: Non-instructional Units
- Student Affairs
- Information Technology
- All Other Campus Units
assessment@fullerton.edu

www.fullerton.edu/assessment