



# **Six-Step Assessment Process: Student Learning Outcomes**

Assessment: Basics

09.18.17



# Get ready for WSCUC



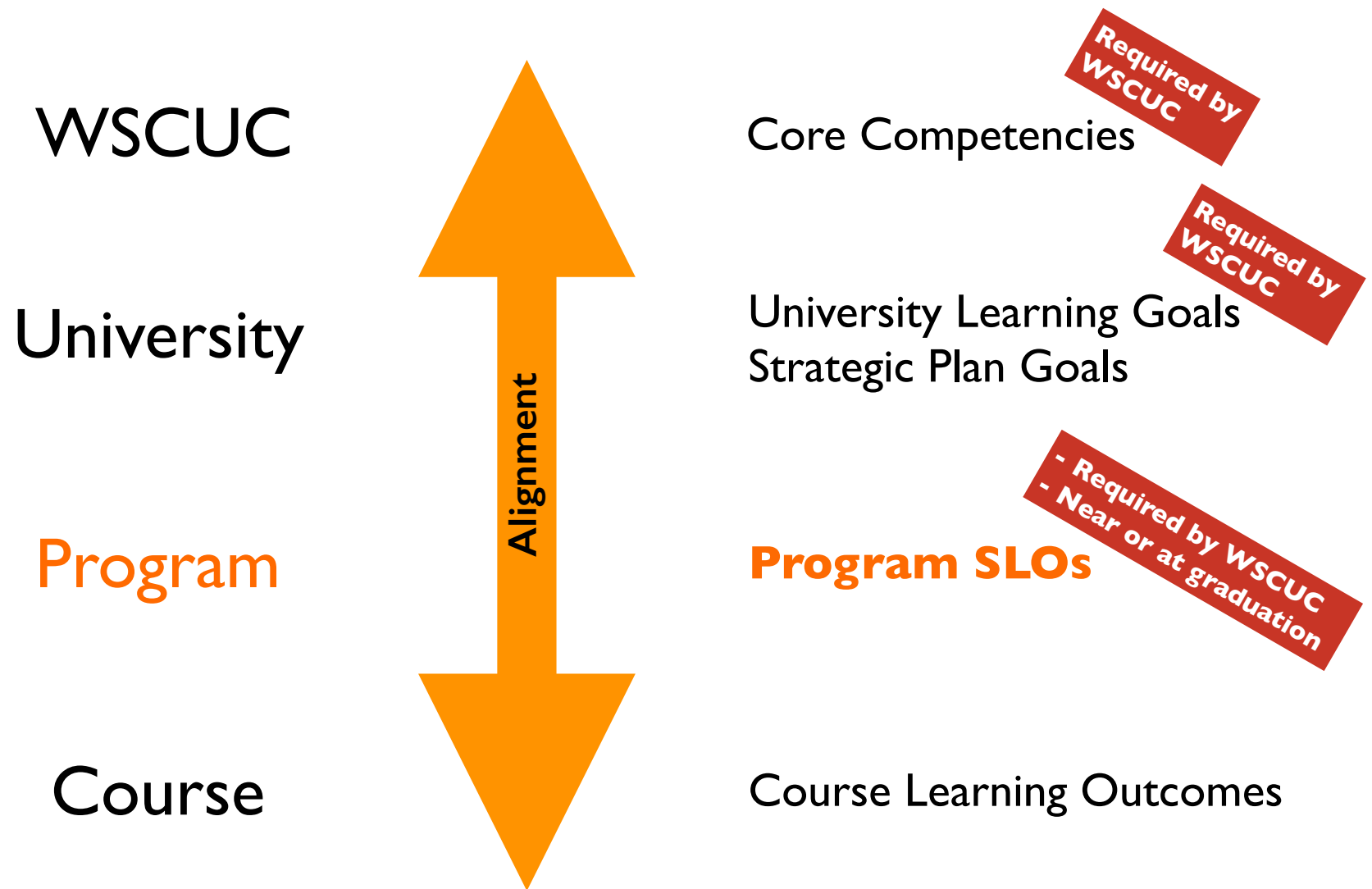
## Areas of Concern:

- Integrated strategic plan
- Assessment
- Student success
- Funding



# Where do we carry out assessment

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# SLOs at different levels

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**WSCUC**

Quantitative Reasoning

**University**

Graduates are able to apply quantitative reasoning to real-world problems.

**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.

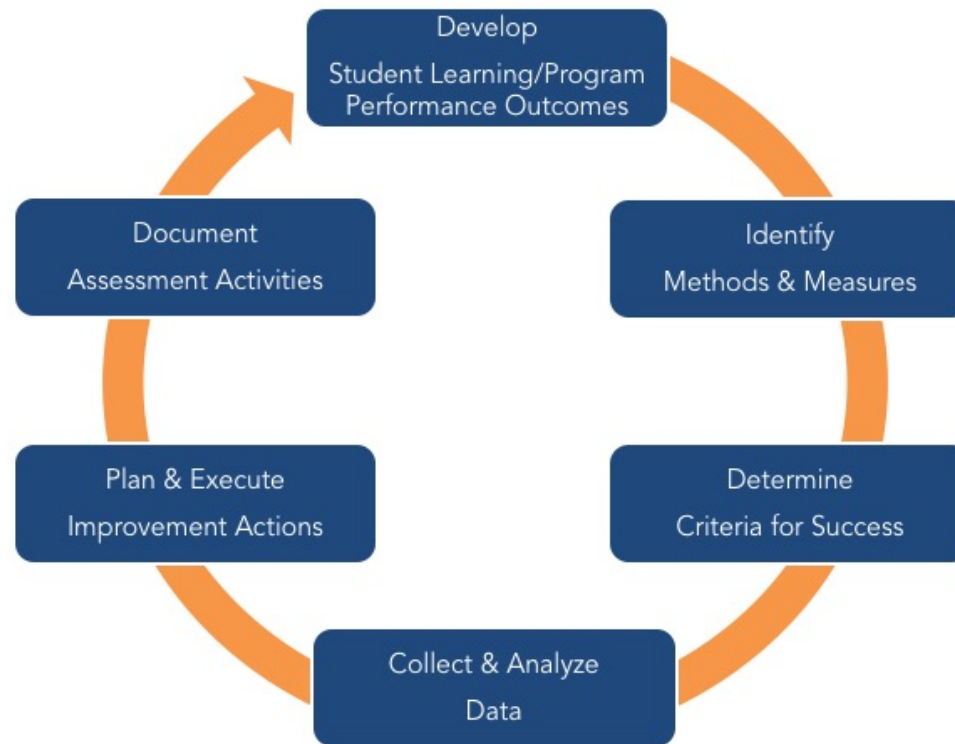
# Six-step assessment process\*

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*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?*



# Step 1: Develop student learning outcomes

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- 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
  - *Example: “At the end of the Assessment Basics workshop, participants will be able to differentiate ‘indirect’ evidence from ‘direct’ evidence of learning.”*



# What is a SLO

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## Knowledge

Facts  
Concepts  
Theories  
Principles  
...

## Skill

Critical thinking  
Communication  
Teamwork  
Quantitative reasoning  
...

## Attitude

Civic engagement  
Cultural competency  
Professionalism  
Life-long learning  
...



# Where do SLOs come from

**WSCUC**

**University**

**Program**

**Course**

**Alignment**

- General vs. Discipline-specific
- “Top-down” vs. “Bottom-up”
- Adapt from existing “best practices”
- Engage faculty
- Involve important but often forgotten stakeholders (students, alumni, employers, etc.)





# Mission...Goals...Outcomes...Objectives...

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Mission

Holistic vision of the values and philosophy of an institution/department/program

Goals

Broad, general statements about knowledge, skills, attitudes, etc. expected in students

Outcomes

Clear, specific “operational definitions” of goals  
**Learner-centered**

Objectives

Intended instructional strategies or learning opportunities  
**Instructor-centered**



# What are good SLOs

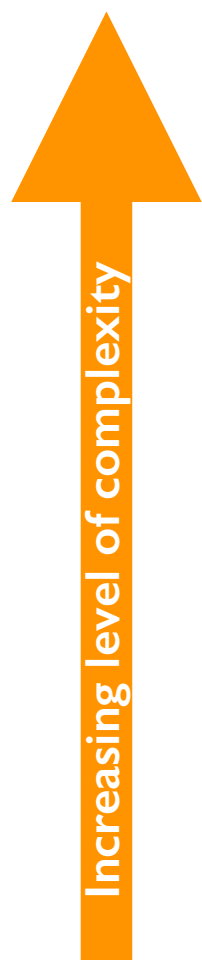
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- Learner-centered, not instructor-centered
- Aligned with the mission and goals of WSCUC, university, college, program, etc.
- Focus on “high-priority learning”
- Real (not aspirational)
- Simple language
- Specific, clear and concise
- Demonstrable and measurable
- Discrete (no “double-barrel” statements)
- Manageable (more is not better)

*\*Adapted from Mary Allen workshop (2006) & ALA (2016)*



# Sound SLOs are Active



| <b>LEVELS of SLOs</b><br>(Bloom et al., 1956) | <b>BLOOM'S TAXONOMY</b> EXAMPLE ACTION VERBS       |
|---|--|
| <b>Evaluation</b>                             | Assess, Conclude, Criticize, Justify, Value        |
| <b>Synthesis</b>                              | Assemble, Create, Design, Produce, Reconstruct     |
| <b>Analysis</b>                               | Analyze, Compare, Differentiate, Experiment, Solve |
| <b>Application</b>                            | Apply, Demonstrate, Modify, Practice, Use          |
| <b>Comprehension</b>                          | Convert, Explain, Interpret, Paraphrase, Report    |
| <b>Knowledge</b>                              | Define, Describe, List, Name, Outline              |



# SLO examples

| ULG                           | SLO  | Program                            |
|-------------------------------|--|------------------------------------|
| Intellectual literacy (ULG 1) | Students can describe and/or explain relevant theories, concepts and related research findings.  | Child and Adolescent Studies, B.S. |
| Critical thinking (ULG 2)     | Apply mathematics, chemistry, biology and/or physics to help clarify the mechanism behind major geological systems.  | Geology, B.A.                      |
| Communication (ULG 3)         | Communicate interpretations and conceptualizations of theatrical material orally, in writing, and through performance or other means of artistic expression. | Theatre Arts, B.A.                 |
| Teamwork (ULG 4)              | Recognize and apply appropriate concepts and theories of motivation to achieve group and organizational goals.   | Business Administration, B.A.      |
| Community perspective (ULG 5) | Students will use sociological knowledge and skills to engage with local and global communities for the purpose of social justice.                           | Sociology, B.A.                    |
| Global community (ULG 6)      | Students can describe and explain causes and consequences of change over time in and across different global regions.  | History B.A.                       |

# Curriculum mapping

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| <b>Course</b> | <b>SLO1</b> | <b>SLO2</b> | <b>SLO3</b>            | <b>SLO4</b> | <b>SLO5</b> |
|---------------|-------------|-------------|------------------------|-------------|-------------|
| <b>100</b>    | Introduced  |             | Introduced             |             |             |
| <b>101</b>    |             | Introduced  |                        |             | Introduced  |
| <b>200</b>    | Practiced   |             |                        | Introduced  |             |
| <b>230</b>    |             |             | Practiced              |             |             |
| <b>300</b>    | Practiced   | Practiced   |                        |             | Practiced   |
| <b>350</b>    |             | Mastered    |                        |             | Mastered    |
| <b>401</b>    | Mastered    |             | Practiced;<br>Mastered |             |             |

# Curriculum mapping example I

Curriculum Map: Student Learning Goals, CAS Core Courses, and Year of Assessment

| Year | SLG   | 101 | 201 | 215 | 394 | 300 | 301 | 305 | 310 | 325A | 325B | 321 | 322 | 323 | AdvPr | 490 | 491 |
|------|---|-----|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-------|-----|-----|
| 1    | 1a. Describe and explain relevant theories, concepts, and related research findings.  |     |     | *   | *   | *   | *   | *   | *   | D/M  | D/M  | D/M | D/M | D/M | *     | M   | M   |
|      | 1b. Identify and describe normative development.  |     | *   | *   | *   | *   | *   | *   | *   | D/M  | D/M  | D/M | D/M | D/M | *     | *   | *   |
| 5    | 1c. Describe individual, cultural, and environmental differences.   |     |     | *   | *   | *   | *   | D   | *   | D    | D    | D   | D   | D   | *     | M   | M   |
|      | 4c. Identify funding, services, and advocacy strategies at the local, state, federal, and international levels that support children, adolescents, families and communities | *   |     | *   | D   | *   | *   | *   | *   | *    | *    | *   | *   | *   | M     | *   | M   |
| 3    | 2a. Identify, access, analyze and synthesize relevant sources   | *   | *   | *   | *   |     |     | I/D | D   | D    | D    | D   | D   | D   | D     | M   | M   |
|      | 2b. Critically analyze research studies.  | *   | *   | *   | *   |     |     | I/D | *   | D    | D    | D   | D   | D   | *     | M   | M   |
| 4    | 3a. Write effectively in APA style, taking purpose and audience into account  | *   | *   |     | *   | I/D | I/D | I/D | *   | D    | D    | D   | D   | D   | *     | M   | M   |
|      | 3b. Make effective oral presentations, taking purpose and audience into account   | *   | *   | *   | *   |     |     |     | *   | *    | *    | *   | *   | *   | D     | M   | M   |
| 2    | 4a. Apply theories, concepts and research findings to promote child well-being  |     |     | *   |     | *   | *   | *   | *   | D    | D    | D   | D   | D   | M     | M   | M   |
|      | 4b. Identify relevant ethical and legal issues and the impact of possible actions in real-world situations  | *   |     |     | D/M | *   |     | I/D | *   | *    | *    | *   | *   | *   | M     | *   | M   |

**I: Introduced    D: Developed    M: Mastered**

# Curriculum mapping example 2

| Course/Learning Experiences        | Obj 1 (Identification of 80s Components) | Obj 2 (Research Methodology) | Obj 3 (Writing Critically) | Obj 4 (Oral Comm) |
|------------------------------------|--|------------------------------|----------------------------|-------------------|
| PCUL201 (Introduction to the 80s)  | 3  | 0                            | 1                          | 0                 |
| PCUL301 (80s Music)                | 3  | 0                            | 1                          | 2                 |
| PCUL302 (80s Fads)                 | 3  | 0                            | 1                          | 0                 |
| PCUL303 (80s TV and Movies)        | 3  | 0                            | 0                          | 2                 |
| PCUL304 (80s Technology)           | 3  | 1                            | 1                          | 0                 |
| PCUL361 (Methods and Analysis)     | 0  | 3                            | 1                          | 0                 |
| PCUL401 (80s Politics and Culture) | 1  | 1                            | 3                          | 0                 |
| PCUL402 (Profiles of 80s Icons)    | 1  | 0                            | 1                          | 3                 |
| PCUL403 (The Music Video)          | 2  | 0                            | 0                          | 0                 |
| PCUL404 (The 80s and Today)        | 0  | 2                            | 3                          | 0                 |
| PCUL480 (Capstone)                 | 0  | 2                            | 2                          | 2                 |

Table 2. Curriculum Map of Pop Culture Program (Oral Communication is Objective 4).

Coverage of objective: 0 = No Coverage, 1 = Slight Coverage, 2 = Moderate Coverage, 3 = Major Coverage

# Case Study: Step 1





## Step 2: Identify methods and measures learning

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- We are *already* and *always* assessing student learning
- The evidence/measures already in place is NOT always the best place to start
  - Do the measures address the SLO?
  - What are the active verbs in the SLO?



# Direct vs. Indirect

## Direct

Student behaviors or products that demonstrate their mastery of SLO

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

...

## Indirect

Reported perceptions about student mastery of SLO

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

...

Use as supplemental evidence

**Direct evidence helps tell us “what”, and indirect evidence helps tell us “why”.**



# Formative vs. Summative

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## Formative

Evidence of student learning gathered during a course/program for the purpose of guiding teaching and learning improvements

One-minute paper  
“Muddiest” point  
In-class problem solving

...

## Summative

Evidence of student learning gathered at the conclusion of a course/program for the purpose of measuring student proficiency

Final exam  
Thesis/Dissertation  
Capstone project

...



# A bit more vocabulary...

## 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

## Authentic

- Assessment measures that ask students to apply their learning to solve real-world problems, or meaningful tasks that replicate “real world” scenarios

## 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 make to student learning



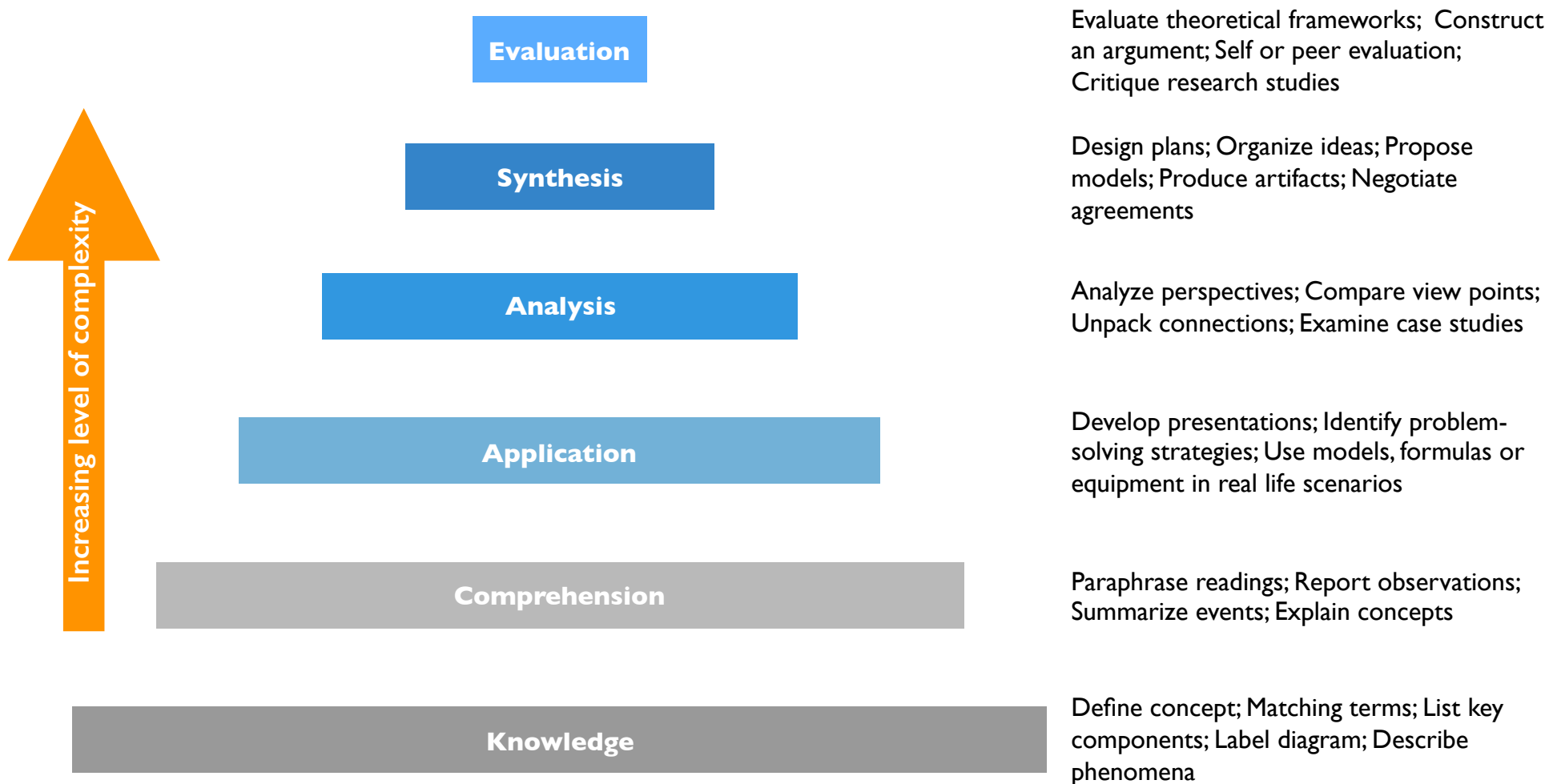
# Choosing the right measure

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- **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?



# Align measures with outcomes





# Triangulating direct and indirect measures

## Chemistry - B.S. program:

SLO: Student can explain the fundamental chemistry principles.

### DIRECT

- Final exam questions (Multiple-choice/Short-answer)
- Senior project (paper/presentation)
- ACS exam
- Concept inventory
- ...

### INDIRECT

- Graduation survey
- Alumni survey
- Employer focus groups
- ...



# Triangulating direct and indirect measures

## Nursing - D.N.P. program:

SLO: Student are able to work effectively in a team.

### DIRECT

- Scenario-based exam questions
- Team project score
- Team member peer evaluation
- Instructor observation
- ...

### INDIRECT

- Self-reflection journal
- Self-assessment survey
- Student interviews
- ...





# Triangulating direct and indirect measures

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## GE program:

SLO: Student will analyze, interpret, and utilize verbal or numerical information.

### DIRECT

- Signature assignment
- Capstone project
- Common exam (CLA+ or local)
- ePortfolio
- ...

### INDIRECT

- Student survey
- Student reflection essays
- Faculty focus group
- ...



# Collect meaningful evidence in a feasible way

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- We are *already* and *always* assessing student learning
- Grading is not assessment, but assessment could contribute to grading
- Prioritize embedded measures
- Look for capstone courses, culmination experiences, etc.
- Look for measures that yield multiple lines of evidence



# What are rubrics

- Scoring guides that explicitly classify learning products/behaviors into categories that vary along a continuum.
- No one format - Flexible!

Basic elements:

| Criteria   | Performance Levels   |  |  |   |
|--|--|--|--|---|
|  | Capstone<br>4  | Milestones<br>3                      2   |  | Benchmark<br>1  |
| <b>Explanation of issues</b>   | Issue/ problem to be considered critically is stated clearly and described comprehensively, delivering all relevant information necessary for full understanding.  | Issue/ problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions.  | Issue/ problem to be considered critically is stated but description leaves some terms undefined, ambiguities unexplored, boundaries undetermined, and/ or backgrounds unknown.          | Issue/ problem to be considered critically is stated without clarification or description.  |
| <b>Evidence</b><br><i>Selecting and using information to investigate a point of view or conclusion</i> | Information is taken from source(s) with enough interpretation/ evaluation to develop a comprehensive analysis or synthesis. Viewpoints of experts are questioned thoroughly.  | Information is taken from source(s) with enough interpretation/ evaluation to develop a coherent analysis or synthesis.<br><i>Viewpoints of experts are questioned</i>                                 | Information is taken from source(s) with some interpretation/ evaluation, but not enough to develop a coherent analysis or synthesis.  | Information is taken from source(s) without any interpretation/ evaluation. Viewpoints of experts are taken as fact, without question.                        |
| <b>Influence of context and assumptions</b>  | Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.  | <i>Identifies</i>  | <i>Identifies</i>  | Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position. |
| <b>Student's position (perspective, thesis/hypothesis)</b>   | Specific position (perspective, thesis/ hypothesis) is imaginative, taking into account the complexities of an issue. Limits of position (perspective, thesis/ hypothesis) are acknowledged. Others' points of view are synthesized within position (perspective, thesis/ hypothesis). | <i>Specific position (perspective, thesis/ hypothesis) takes into account the complexities of an issue. Others' points of view are acknowledged within position (perspective, thesis/ hypothesis).</i> | <i>Specific position (perspective, thesis/ hypothesis) acknowledges different sides of an issue.</i>   | Specific position (perspective, thesis/ hypothesis) is stated, but is simplistic and obvious.   |
| <b>Conclusions and related outcomes (implications and consequences)</b>                                | Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.   | Conclusion is logically tied to a range of related information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.                                | Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly. | Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.                  |

Detailed performance description

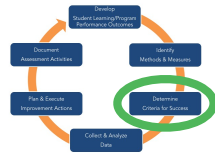


# A rubric example: Critical Thinking

| CRITERIA |  | 1   | 2  | 3  | 4   | N/A |
|----------|--|---|--|--|---|-----|
|          |  | Below Basic   | Basic  | Proficient   | Advanced  |     |
| A        | <b>INFORMATION ORGANIZATION</b><br><br>Appropriately present and organize supporting information   | No communication of information from sources.<br>The use of information is inconsistent or inappropriate so the intended purpose is not achieved.     | Communicates and organizes information from sources.<br>The information is not well synthesized.           | Communicates, organizes and synthesizes information from sources.<br>Intended purpose is achieved, but would benefit from improved clarity .               | Communicates, organizes and synthesizes information from sources to fully achieve a specific purpose with exceptional clarity.  | N/A |
| B        | <b>SOURCE SELECTION</b><br><br>Choose information from reliable, relevant and valid sources  | Information taken from questionable and/or irrelevant sources.  | Information taken from somewhat adequate and reasonable sources.   | Information taken from adequate and reasonable sources.  | Information taken from high quality and relevant sources.   |     |
| C        | <b>ARTICULATION PROCESS</b><br><br>Analyze, evaluate or interpret information critically for accuracy, appropriateness or sufficiency to pursue specific conclusion(s), argument(s) or solution(s)                 | Poor evaluation or interpretation of the information.   | Limited evaluation or interpretation of the information.   | Proficient evaluation or interpretation of the information.  | Sophisticated evaluation or interpretation of the information.  | N/A |
| D        | <b>VALIDITY AND RELEVANCE OF ARGUMENT/CONCLUSION</b><br><br>Clearly articulate the value, validity and relevance of argument(s) and conclusion(s), and if applicable, acknowledge relevant personal perspective(s) | Arguments are unsupported or irrelevant (to the assignment).<br>Conclusions are unsupported, non-existent, or unrelated to the information presented. | Arguments are weakly supported.<br>Conclusions are somewhat logical, but incomplete, flawed or irrelevant. | Arguments are relevant (to the assignment) and supported for relevant patterns to emerge.<br>Conclusions adequately follow from the information presented. | Arguments are relevant (to the assignment) and highly supported in a sophisticated manner allowing for important patterns to emerge.<br>Innovative conclusions follow from the information presented. | N/A |
| E        | <b>CREATIVE APPLICATION OF KNOWLEDGE</b><br><br>Apply prior academic knowledge to a new context  | No application of prior learning or existing knowledge to a new context   | Limited or simplistic application of prior learning or existing knowledge to a new context                 | Appropriate application of prior learning or existing knowledge to a new context   | Thoughtful or innovative application of prior learning or existing knowledge to a new context that reflects integration and synthesis of information, and complexity of the issue.                    | N/A |

*Developed by the GE Faculty Learning Community (16-17)*

## Case Study: Step 2



# Step 3: Determine criteria for success

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- **A performance standard:**

- What level of performance is good enough?
- Pre-determined!
- Supported by historical data, reasonable expectations, theoretical frameworks...



# Criteria for success examples

| Program                       | Method/Measure  | Criteria for Success   |
|-------------------------------|---|--|
| Dance, B.A.                   | Annual Dance Major assessment of students' demonstration of technical skills, application of performance concepts, and understanding of movement vocabulary | 70% of students will receive a "meets expectations" or "exceeds expectations" using the grading rubric     |
| Liberal Studies, B.A.         | Exit survey on interdisciplinary connections  | At least 80% of the students respond to the relevant exit exam question with options "high" or "very high" |
| Educational Leadership, Ed.D. | Student survey on self-perceived knowledge and competence   | A minimum of 75% of candidates have an average rating of 3 or higher                                       |



## Step 4: Collect and analyze data

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- Sampling!
  - Relevant, Representative, and Reasonably sized
  - Determined by the outcome and program context
  - Moderate sample size is sufficient (e.g. “50-80” rule; 20-30%).
    - Very large sample size is rarely needed.
    - If homogenous student population, small samples are sufficient.
- Coordinate with other campus initiatives that can measure student learning



## 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
  - More data collection?
- Don't forget to re-assess the improvement actions!

Small changes matter

Weigh the pig

Feed the pig

Weigh the pig

NILOA (2014)

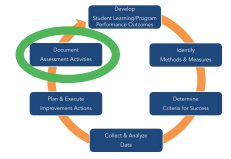


# Improvement actions example

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- **Business Communication**

- Student writings of a case analysis were graded using the CLASS rubric, and found that students had the greatest deficiencies in “Strategy”.
- *Program 1) collected additional demographic data to narrow down weakness population; 2) offered faculty development workshop on case analysis; 3) emphasized use of topic sentences and supporting evidence; 4) provided sample professional documents for use in classroom and homework exercises.*
- *Writing communication scores improved 17% between 2009 and 2012*



# Step 6: Document assessment activities



Organize planning and accreditation

Tell a coherent story

campuslabs **Planning**

Home My Dashboard Institution Courses Reports Administration

Institution - Planning Items

Assessments Strategic Plans Master Items

Table Filtered By: Fiscal Year: FY 2015 Outcomes [Edit Filter](#)

- University
  - Academic Affairs
    - Academic Operations and Finance
    - Academic Programs
      - Academic Advisement Center
      - Assessment and Educational Effectiveness
      - Freshman Programs
      - Graduate Programs
      - Health Professions Advising
      - Online Programs
      - Undergraduate Programs and General Education
      - University Honors Program
    - College of Communications
    - College of Education
    - College of Engineering and Computer Sciences
    - College of Health and Human Development

|  | Number        | Name  | Start    | End       | Progress |
|--|---------------|---|----------|-----------|----------|
|  | 102-002-PO-01 | <a href="#">Implement 6-step process assessment framework</a>         | 7/1/2014 | 6/30/2018 | ➔        |
|  | 102-002-PO-02 | <a href="#">Implement Compliance Assist</a>                           | 7/1/2014 | 6/30/2018 | ➔        |
|  | 102-002-PO-03 | <a href="#">Enhance assessment expertise</a>                          | 7/1/2014 | 6/30/2018 | ➔        |
|  | 102-002-PO-04 | <a href="#">Implement Annual Report process</a>                       | 7/1/2014 | 6/30/2018 | ➔        |
|  | 102-002-PO-05 | <a href="#">Implement Program Performance Review (PPR) process</a>    | 7/1/2014 | 6/30/2018 | ➔        |
|  | 102-002-PO-06 | <a href="#">Ensure compliance-related assessment of accreditation</a> | 7/1/2014 | 6/30/2018 | ➔        |

Fiscal Year: FY 2015

➔ New Item

**Weigh the pig AGAIN**

## Case Study: Step 5 & 6

# A multi-year assessment plan

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- **What to plan for:**

- Timeline
- Process
- Participants
- Steps to turn assessment results into improvement actions
- Self-evaluation/Reflection of the assessment process

# A multi-year assessment plan (cont.)

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- **Guidelines:**

Outcome is not  
for only 1 year

- 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
- Consider overlapping assessment (of new SLO) and improvement (of assessed SLO) activities
- Make sure assessment involves the entire program/department

[assessment@fullerton.edu](mailto:assessment@fullerton.edu)

[www.fullerton.edu/assessment](http://www.fullerton.edu/assessment)