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Student Learning: How Do We Know?

New Faculty Program
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Agenda and Goals

- Introductions
- Assessment of Student Learning
- Working with SLOs
- Assessment Techniques
- Acting on Assessment

Goals

- Leave today with some concrete ideas about how to proceed with assessing SLOs in your courses

Introductions

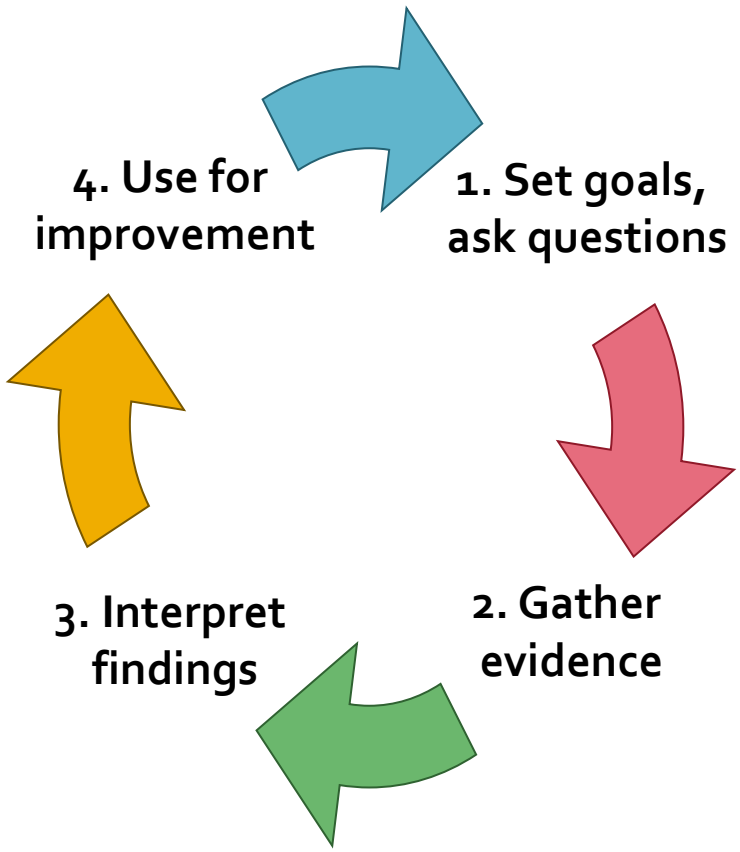
- Background
- Ideas about Assessment

- Your Turn
  - Name
  - Department
  - Courses or Outcomes
  - Concerns or Questions

Assessment of Student Learning

- Assessment is the systematic collection and analysis of information to improve student learning (and teaching).
- Part of the professional obligation of teaching.

Assessment Loop



Assessment of Student Learning

- Why?
  - Provides feedback to faculty and departments
  - Allows for regular improvement
  - Frame for students what they should be learning and your expectations
  - Helps students articulate what skills they've developed here at CCP once they leave
  - Answers the questions "Why are we learning this?" or "How did I get this grade?"
  - *Required by local, state, and regional accreditors*

Assessment vs. Research

- "**Assessment** guides good practice, while **research** guides theory development and tests concepts."

- **Assessment** typically has implications for a single institution, while **research** typically has broader implications for student affairs and higher education."

  (Schuh & Upcraft, 2001, p. 5)

Student Learning Outcomes

- What would a student look like, act like, think like if they were successful in your course?

- Learning outcome =
  - SWiBAT + **Bloom Word** + **Condition**

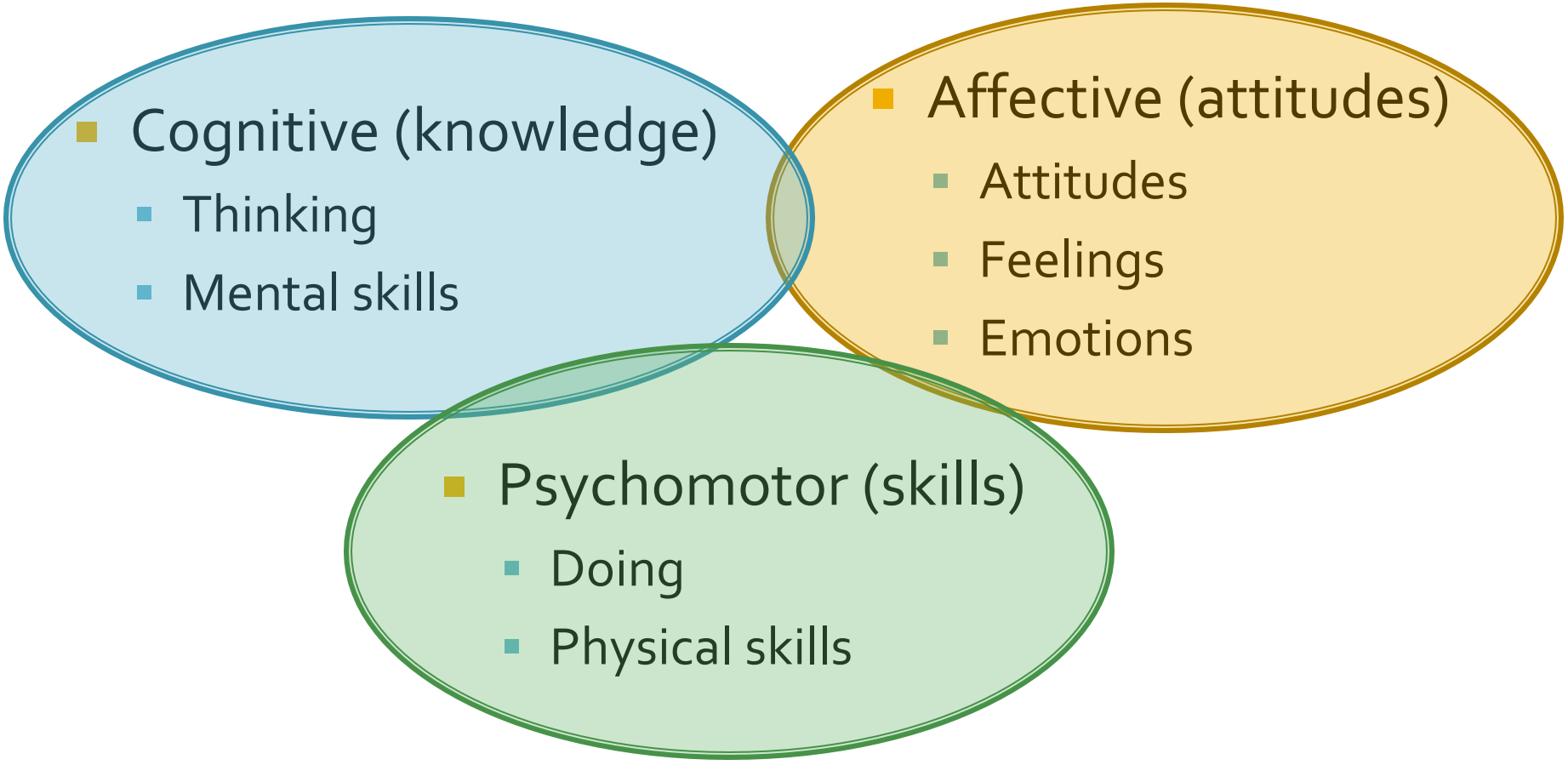
- **S**tudents **Wi**ll **B**e **A**ble **T**o **explain** various healthy lifestyle choices **as a result of completing Nutrition 101**.

Bloom's Taxonomy

- **Knowledge**: identifies, defines, describes
- **Understanding**: explains, summarizes, classifies
- **Application**: demonstrates, computes, solves
- **Analysis**: differentiates, diagrams, estimates
- **Synthesis**: creates, formulates, revises
- **Evaluation**: criticizes, compares, concludes

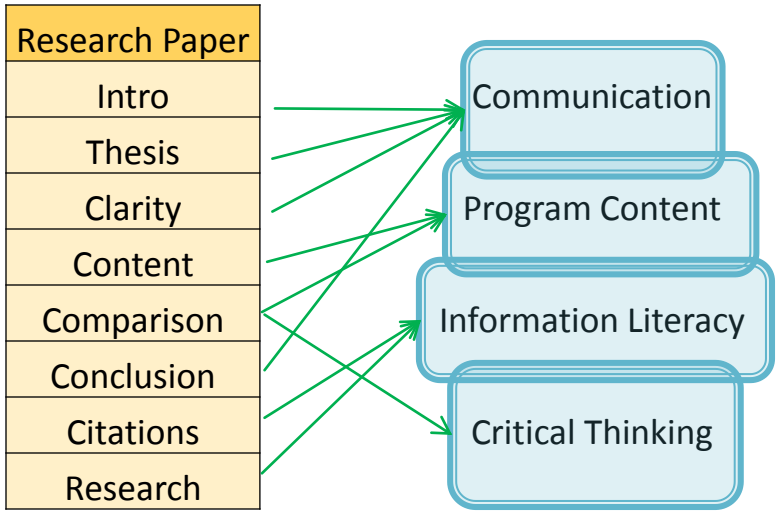
Bloom, B. S. (1956). *Taxonomy of educational objectives, handbook 1: The cognitive domain. New York: David McKay Company, Inc.*

Bloom's Domains

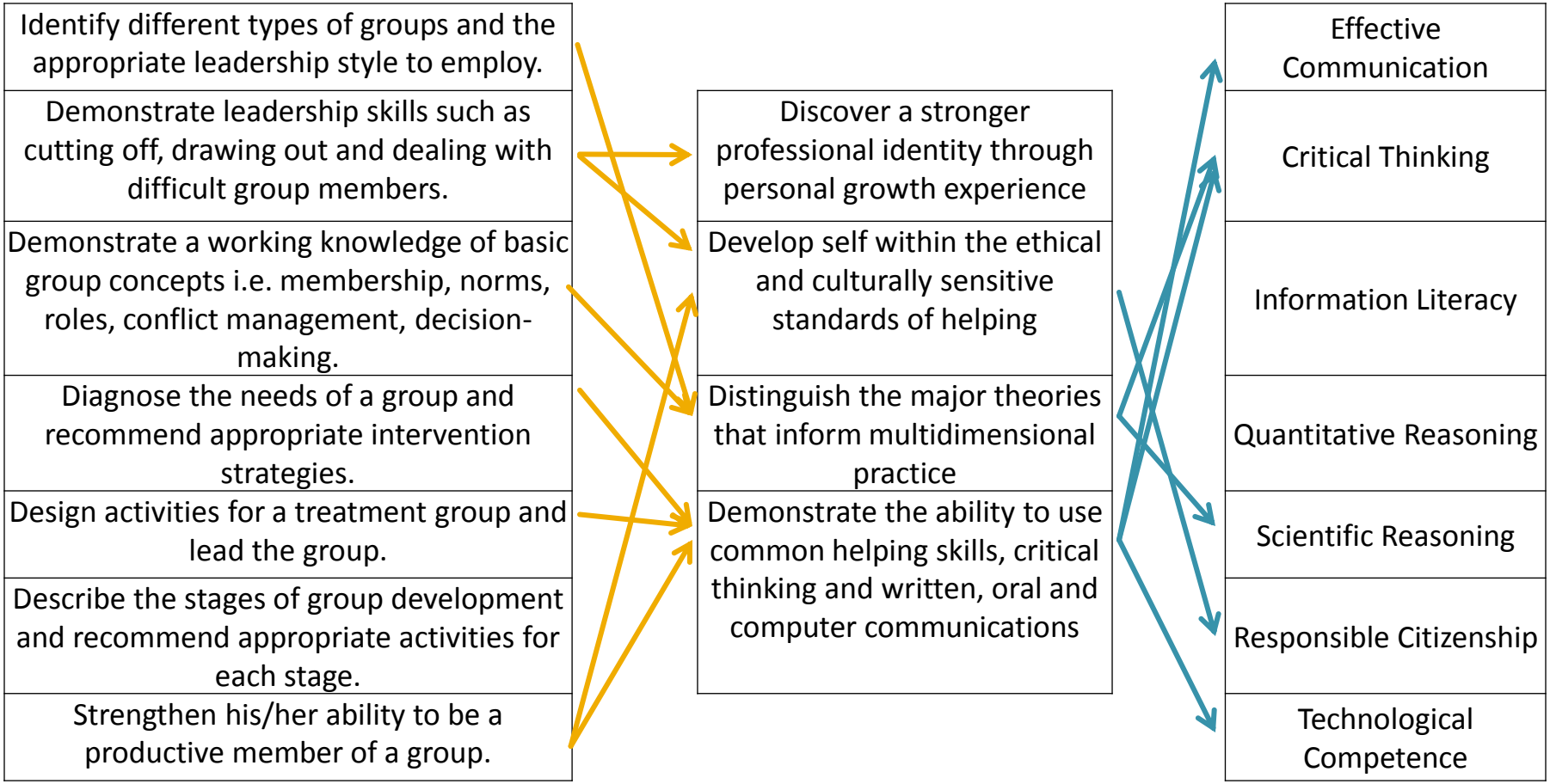


Student Learning Outcomes

- Every course and every program has student learning outcomes associated with it
- Each year, 20% of outcomes should be assessed
- The classroom activities, ideally, should be the source of data for multiple kinds of assessment projects.



Course → Program → College



Types of Assessments

- Direct: students are given opportunities to demonstrate their learning
  - Tests, essays, presentations, problem sets, etc.
- Indirect: students reflect on their learning and skills
  - Surveys, reflection essays, self assessments
- Formative: looking at a point in time
  - Minute Papers, Muddiest Point, etc.
- Summative: gauging learning over time
  - Rubrics, Common Exams/Questions, etc.
- Not Assessments
  - Reading an article
  - Having a class discussion

Assessment Techniques

- Rubrics
  - Used for a variety of assignments or exams
    - Writing/Presentations (Objective/Expressive)
    - Math/Science problems as well
    - Skills or Practical Applications
  - Breaks tasks into smaller parts
  - Provides clarity (give students early practice)

Sample Rubrics

Students will demonstrate excellence in the following areas of dance performance:				
Outcome	Excellent - 4	Good - 3	Satisfactory - 2	Needs Improvement - 1
Bodily Skills	The axial and locomotor movements are memorized and performed with control and skill.	The axial and locomotor movements are most often memorized and performed with some control and skill.	The axial and locomotor movements are somewhat memorized and performed with little control and skill.	The axial and locomotor movements are not memorized and performed without control and skill.

Sample Rubrics

	Capstone	Milestones		
	4	3	2	1
Interpretation: Ability to explain information presented in mathematical forms (e.g., equations, graphs, diagrams, tables, words)	Provides accurate explanations of information presented in mathematical forms. Makes appropriate inferences based on that information. For example, accurately explains the trend data shown in a graph and makes reasonable predictions regarding what the data suggest about future events.	Provides accurate explanations of information presented in mathematical forms. For instance, accurately explains the trend data shown in a graph.	Provides somewhat accurate explanations of information presented in mathematical forms, but occasionally makes minor errors related to computations or units. For instance, accurately explains trend data shown in a graph, but may miscalculate the slope of the trend line.	Attempts to explain information presented in mathematical forms, but draws incorrect conclusions about what the information means. For example, attempts to explain the trend data shown in a graph, but will frequently misinterpret the nature of that trend, perhaps by confusing positive and negative trends.

Sample Rubrics

CPR Practicum Scoring Rubric			
Action	Yes	No	Comments
Check the scene			
Check responsiveness			
- Tap the victim			
- Ask if the victim is okay/needs assistance			
Call 9-1-1 or ask a bystander to do so			
Position Head (Chin lift – Head tilt)			

Assessment Techniques

- Exam Questions
  - Several questions are better than a single one
    - Allow you to break down SLO into parts and see strengths and weaknesses
  - Questions that provide more range for answers are better than those that provide less
    - T/F vs. Multiple Choice vs. Short Answer

Assessment Techniques

- Pre/Post Tests
  - Demonstrates more directly the contribution of the course to learning
  - Can be used with skills (public speaking), affective (efficacy), or knowledge
  - Allows students to see their progress
- Portfolios
  - Allows measurement of growth over a course
  - Allows for the showcase of best efforts

Working with SLOs

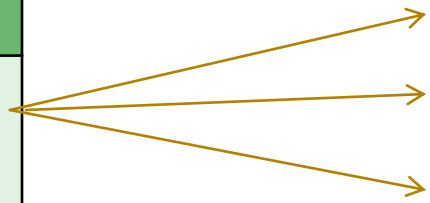
- What information on student learning/performance do you currently collect?
- How informative are each of these to understanding the student learning process?
- Are there gaps between the information you collect and your course objectives?

Working with SLOs

- What information on student learning/performance do you currently collect?
  - Look at the assignments, exams, talks, etc that you currently give. Can you map elements of these to the various student learning outcomes?
  - Are these assessments direct or indirect?

Working with SLOs

Student Learning Outcome Upon successful completion of this course, students will be able to:
Explain the standard archaeological methodologies for data collecting: excavation and survey.
Apply the techniques used for relative and absolute dating and archaeological stratigraphy to appropriate contexts.
Explain how recovered artifacts and architecture can be employed and analyzed to interpret ancient social, political, economic, and other cultural patterns.
Describe in broad outline the history of archaeology and the different interpretive models that have been used to study the past.



Quiz 1: Questions 2,4,5

Final Exam: Question 1, 6

Term Paper: Rubric Item 1

Working with SLOs

- How informative are each of these to understanding the student learning process?
  - When you look at your outcomes are your assignments covering the full spectrum of what you envision for the outcome?
  - Are there multiple techniques being used?
  - What constitutes 'success' for an individual? For a class?

Map your own SLOs

- Create a map of your SLOs to various assignments
  - Identify whether the information you're collecting is direct or indirect
  - What level of success would you expect for this SLO?
- What are you satisfied with, what concerns you?
- Share with a neighbor!

- What information on student learning/performance do you currently collect?
- How informative are each of these to understanding the student learning process?
- Are there gaps between the information you collect and your course objectives?

Assessment Techniques

- Other considerations
  - Class Size
    - Impacts types of assignments possible
  - Class Level
    - Standards can change
    - Feedback from future courses
  - Number of Sections
    - Flexibility vs. Consistency
  - Duration
    - Data can be accumulated over the semester (or multiple semesters)
    - Short to Long Assignments

Acting on Assessment

- So now what?
- Organizing the data
- Planning for change

Assessing what?	Assessment method(s)	Type of data collected	What do the results say?	Any surprises?	What will you do?

- What results trouble you the most?
- What is the low hanging fruit?
- When should you assess again?

Sample Outcomes

Course Outcome	Observable Data Point	Degree of Achievement (% of students performing at level)				
		Poor 0-20%	**Fair 21-40%**	**Average 41-60%**	**Good 61-80%**	**Excellent 81-100%**
Develop designs that manifest rudimentary awareness of human factors (ergonomics, cultural traditions, class and gender) in architectural and interior design, and products and processes associated with adaptive reuse of existing structures.	***Juried Review*** ▪Appropriately integrates design products (function, size, etc.) ▪Design manifests concern for human form and scale ▪Work references important cultural elements ▪Design makes good use of existing architectural elements (if applicable)		1/38 **3%**	6/38 **16%**	16/38 **41%**	15/38 **39%**
Conclusion: 83% of students achieve this outcome at either an "excellent" or "good" level	***Instructor Observation*** Appropriately integrates design products (function, size, etc.)		1/14 **7%**	1/14 **7%**	4/14 **29%**	8/14 **57%**

Summary

- Assessment of Student Learning …
  - should be a natural part of the classroom assessment process (grading).
  - is an ongoing, iterative process with the goal of improvement of student learning and faculty teaching.
  - often, is providing structure to the things that faculty are already doing.
  - is part of the reality of higher education today

Questions?

- Concerns? Fears? Questions?

- Contact information:

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