Stony Brook University

Mapping & Metrics
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OEE Workshop Series: Assessment Process

Step 1: Articulating Goals And Objectives (Aug./Sept)

Step 2: Mapping And Metrics (Sept.)

Step 3: Benchmarks And Timelines (Oct.)

Step 4: Data Collection, Analysis, and Reporting (Nov.)

Step 5: Closing The Loop (Jan./Feb.)

Fall 2022 Assessment Reports due 2/20/23

Brief introductions:

- Name

- Department

- Program

- Specific Questions? Put them in the chat!

OEE Workshop Learning Objectives

Upon completion of this workshop, participants will be able to:

- Identify courses which align with assessment of your PLOs.

- Create a curriculum map through collaborative exercises with colleagues.

- Differentiate between direct, indirect, formative and summative assessment methods.

- Select appropriate assessment methods to measure student learning in your program.

School or College	
Department	
Degree Program	
Program Goals	
Accomplishments	
Improvements	
Evidence that Prompted Improvement	

Program Learning Objective 1: Upon completion of the degree, students should be able to…	
Location in Curriculum Map (Course Name)	
Assessment Method	
Timeline/Frequency	
Benchmark	
Results/Findings	
Actions/Improvements	

SBU Program Assessment Template

Quick Review: Goals & Objectives

Goals:

- What your dept./program provides to the students

- Recommend 3-6 goals

- Do not need to be measurable or mapped to curriculum

Objectives (PLOs):

- What students should be able to do

- Recommend 3-6 PLOs

- Need to be measurable and mapped to your curriculum

Using Bloom's Taxonomy

Learning objectives should align with the level or setting of the institution, program (undergraduate, graduate, doctoral), course (introductory course, culminating course), and discipline or subject matter. Bloom's taxonomy can serve as a helpful tool to select a verb to fill in the blank in the learning objective "formula" above that is appropriate for its context.

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Step 1. Determine audience and timeline.
Learning objectives are concise extensions of the phrase, "By completing the [degree/certificate/ program], students will be able to_____."

Step 2. Select a measurable verb to describe what you want students to engage in.

Measurable Verbs

Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
arrange, define, detail, duplicate, find, identify, indicate, label, list, locate, order, pronounce, recall, recognize, recite, state	associate, categorize, clarify, classify, decipher, describe, examine, explain, generalize, paraphrase, summarize, translate	apply, calculate, carry out, compute, conduct, demonstrate, determine, discover, employ, execute, graph, implement, operate, perform, solve, use, utilize	analyze, break down, categorize, classify, compare, contrast, differentiate, discern, dissect, distinguish, investigate, question	argue, assess, choose, conclude, convince, critique, debate, defend, discredit, evaluate, judge, justify, persuade, rate, recommend, solve, validate, verify	assemble, assimilate, build, change, combine, compose, construct, create, design, develop, formulate, generate, hypothesize, invent, produce, synthesize, theorize, write

Step 3. Include additional supporting details to provide

Examples: Students will be able to…

...create *a measurable learning outcome* using Bloom's Taxonomy as a framework.

...evaluate *organizational decisions* based on business ethical principles.

...compare *works of art* from the Impressionism and Post-Impressionism eras.

...apply *the quadratic equation* to an algebra word problem.

...describe *the basic theories* in developmental psychology.

...identify *elements in the periodic table*.

Your turn!

Select or create a Program Learning Objective (PLO) and enter it into the chat.

We'll come back to this later.

Take Inventory

- Copies of all course syllabi for the program

- Assignment descriptions (ideally already in syllabi)

- Program schedule

- List of required vs elective courses

- Copies of any student surveys (intake/exit surveys, self-assessments, etc.)

- Dialogue with key faculty or other stakeholders

Considerations for your Assessment Plan

- What data is needed to evaluate student learning?

- Is that data already being collected? Or do you need to create a new assessment point for collection?

- When is that data collected?

- Who will collect the data?

- How will the data be collected?

- How will the data be stored/documented?

Program Based Review and Assessment: Tools & Techniques for Program Improvement, UMass Amherst OAPA

Don't Reinvent the Wheel!

- Use what you're already doing in your classes *(course-embedded assessments)*

- Integrate improvements or new assessment methods as needed

- May require some trial and error - but that's part of the assessment process!

What is a curriculum map?

- A visual aid, such as a table or spreadsheet, which links your program learning objectives (PLO) to the following components:

  - course in which it is assessed
  - semester/year in which it is assessed
  - instructor responsible for assessment
  - CLO which supports and addresses the PLO
  - Metric that measures the PLO (assessment method or assignment)

- *It is not a program schedule.*

Sample Curriculum Map

Program X Curriculum Map	Course 1	Course 2	Course 3	Course 4...
Learning Objective 1	X Quiz 1			
Learning Objective 2		X Term Paper		X Oral Presentation
Learning Objective 3...			X Case Study	

Why do I need a curriculum map?

- Helps programs think through timing and placement of assessments relative to curricular milestones

- Helps communicate teaching expectations to faculty and learning expectations to students

- Helps demonstrate program alignment between:
  - Institutional, Dept, Program mission and goals
  - Program Learning Objectives and Course Learning Objectives
  - PLos/CLOs and Assessment Methods
  - Assessment Methods and Assessment Timeline

How do I create a curriculum map? Try this exercise!

- Distribute a numbered list of PLOs to your program faculty

- Ask each faculty member to review and consider:
  - Are any PLOs covered in their class as a major (M) part of the course?
  - Are any PLOs covered in their class as a minor (m) part of the course?

- Compile the results in a grid format organized by PLO, Course Code and semester/year for faculty discussion and active revision

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Draft Curriculum Map 1.0: Brainstorm

Program ABC Curriculum Map					
Course Code	ABC 101	ABC 103	ABC 202	ABC 301	ABC 304
Semester	Fall Year 1	Spring Year 1	Summer Year 1	Fall Year 2	Spring Year 2
PLO 1	M		m		M
PLO 2	M		m		
PLO 3		M	m		M
PLO 4	m	M	m	m	
PLO 5		m	M		m

Draft Curriculum Map 2.0: Find Balance

Program ABC Curriculum Map					
Course Code	ABC 101	ABC 103	ABC 202	ABC 301	ABC 304
Semester	Fall Year 1	Spring Year 1	Summer Year 1	Fall Year 2	Spring Year 2
PLO 1	M				M
PLO 2	M		m		
PLO 3		M			M
PLO 4		M		m	
PLO 5			M		m

Completing Your Curriculum Map

1. Link the PLO assessment point to an appropriate CLO
2. Link the PLO/CLO to an assessment method
3. Distribute to faculty and students and confirm responsibilities for assessment, data collection and documentation

Future Considerations:

- Consider if "leveling" is relevant to your program:
  - Introduced, Reinforced, Developed & Assessed checkpoints
  - Beginner, Intermediate Advanced proficiency checkpoints
  - Entry, Mid-point, or exit evaluations

Adapted from Curriculum Mapping and Assessment: Utilizing Effective Curriculum Design Principles for Improvement," by Michael Heel, February 2015.

Final Curriculum Map: Connect the Dots

Program ABC Curriculum Map					
Course Code	ABC 101	ABC 103	ABC 202	ABC 301	ABC 304
Semester	Fall Year 1	Spring Year 1	Summer Year 1	Fall Year 2	Spring Year 2
PLO 1	CLO 3 Quiz 1				CLO 1 Capstone
PLO 2	CLO 4 Final Paper		CLO 6 Final Exam Q10		
PLO 3		CLO 1 Reflective Journal			CLO 1 Capstone
PLO 4		CLO 2 Group Project		CLO 5 Video Project	
PLO 5			CLO 2 Case Study Analysis		CLO 4 Oral Presentation

Your turn!

Think about the PLO you provided earlier.

Where would you map it? Which course in your program best assesses that PLO?

Enter it in the chat!

Types of Assessment Methods

- Formative Assessment

- Summative Assessment

- Direct Assessment

- Indirect Assessment

Formative & Summative Assessments

Formative:

- Low-stakes measures

- Occurs throughout a course or program

- Checks for learning

- Informs modifications to teaching strategies

Summative:

- High-stakes measures

- Occurs at the end of a module, course or program

- Culminating measure to check for total knowledge/skills gained

- Informs outcomes/findings

FORMATIVE SUMMATIVE

WHEN THE CHEF TASTES THE SOUP

WHEN THE GUESTS TASTE THE SOUP

THINK OUT LOUD

FROM STEVE WHEELER'S BLOG "THE AFL TRUTH ABOUT ASSESSMENT"

Direct Assessments

- **Measures actual student learning** of content or a specific skill

- Can highlight student strengths - what's working well?

- Can reveal gaps in student learning - what isn't being retained?

  - Is an improvement needed in the *delivery of content*?

  - Is an improvement needed in the *assessment method itself*?

- Can be directly observed by faculty through concrete, tangible, or visible evidence

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Indirect Assessments

- **Measures student perceptions of learning** (rather than actual performance)

- Serves as a proxy for learning measurement

- Can be subjective, but provides important insight into the student learning experience

Direct & Indirect Assessments

Direct Assessment: occurs when faculty evaluate student performance directly.	**Indirect Assessment:** occurs when asking others about their perspective or perceptions.
• Case Study • Quiz • Exam • Group Project • Oral Presentation • Senior or Capstone Project • Problem Sets • Written work (essay, term paper, discussion board, etc.)	• Course Evaluation • Student Survey • Faculty Survey • Alumni Survey • Employer Survey • Focus Group

Assessment methods are imperfect measures of student learning, but there are different advantages to each type. Good assessment plans will integrate both direct and indirect measures.

Can I use the final course grade as a metric?

- Not recommended - hard to demonstrate how a letter grade supports achievement of specific PLOs.

- Grades may include non-substantive components: attendance, timely submission of assignments, etc.

- Only do so if there is a clearly defined rubric with criteria to link class grades back to the PLO content and skills.

Using Course Grades as an Assessment Method

"In and of themselves, grades are not direct evidence of student learning. That is, a numeric or a letter grade alone does not express the content of what students have learned; it reflects only the degree to which the student is perceived to have learned in a specific context."
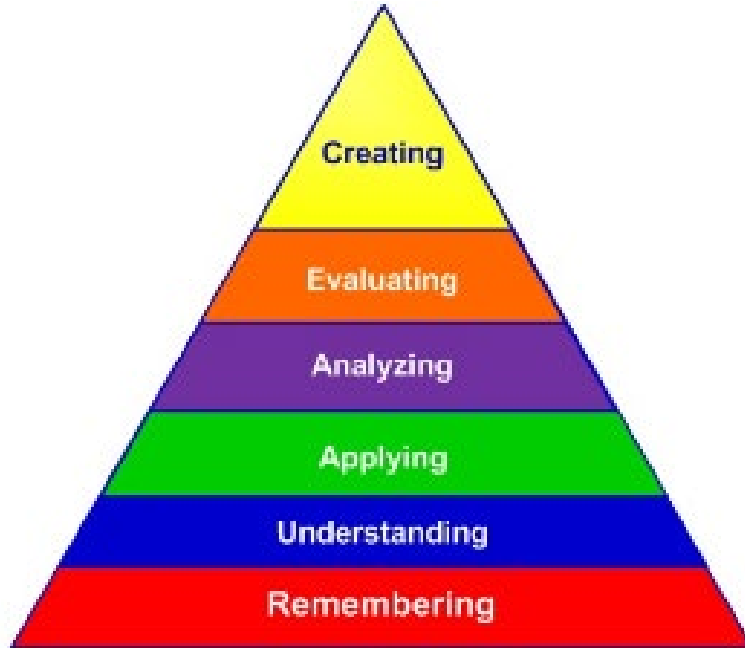
Keep it Simple

- Select measures that are manageable given your available time and resources

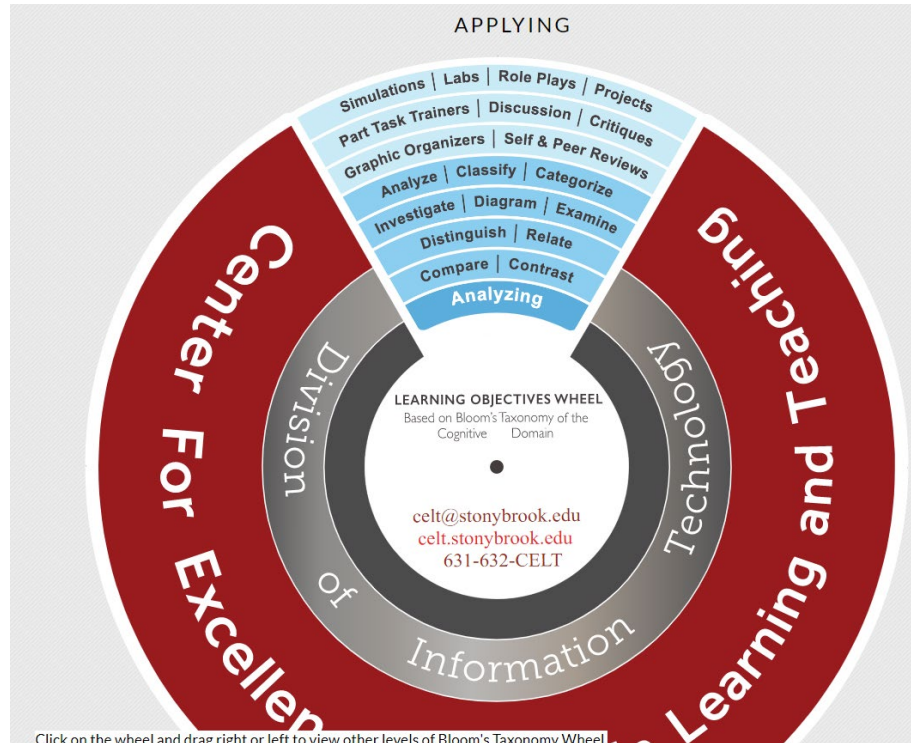- Select measures that will provide useful feedback for your program

Aligning PLOs & Assessments Using Bloom's Taxonomy

Link PLO verb from Bloom's Taxonomy to the Assessment Method based on its level in the pyramid

SBU CELT's Bloom's Taxonomy Wheel

https://apps.tlt.stonybrook.edu/bloomsTaxonomyWheel/

Click on the wheel and drag right or left to view other levels of Bloom's Taxonomy Wheel.

Your turn!

Think about the PLO and course you provided earlier.

What method or metric would you use to assess it?

Enter it in the chat!

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Questions?
Contact us!

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Stony Brook University

- Register for Upcoming Workshops

- Attend the Assessment Symposium on 11/10/22

- 1:1 Consultations with OEE (email, Zoom, or in-person)

https://www.stonybrook.edu/commcms/oee/