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Data Collection, Reporting & Analysis

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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

OEE Workshop Learning Objectives

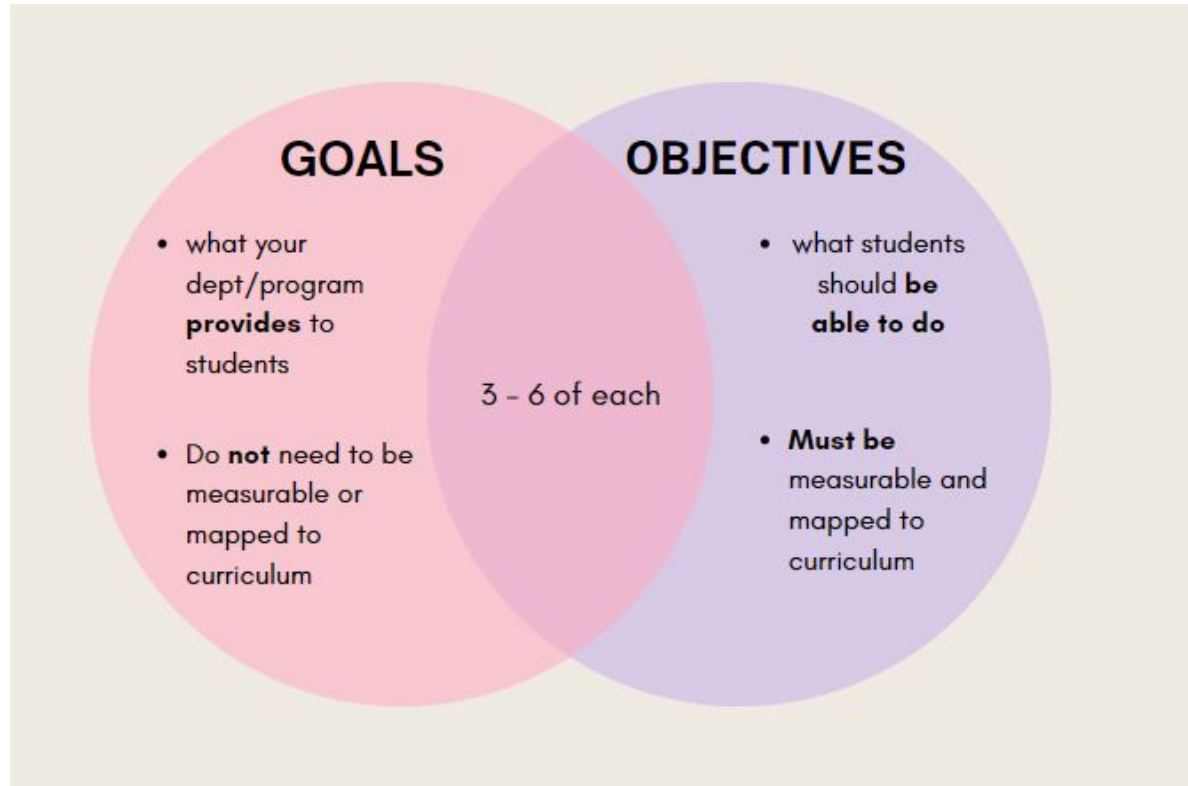
Upon completion of this workshop, participants will be able to:

- Create a data collection and analysis plan.
- Generate a report based on collected data and analyses.
- Finalize almost all components of OEE Assessment Plan Template.



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1. Quick Review: Identify your Program Goals & Learning Objectives (PLO)



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.

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.

	Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
Measurable Verbs	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.*



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2. Quick Review: Mapping & Metrics

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	



Direct Assessment: occurs when faculty evaluate student performance directly.	Indirect Assessment: occurs when asking others about their perspective or perceptions.
<ul style="list-style-type: none">• Case Study• Quiz• Exam• Group Project• Oral Presentation• Senior or Capstone Project• Problem Sets• Written work (essay, term paper, discussion board, etc.)	<ul style="list-style-type: none">• Course Evaluation• Student Survey• Faculty Survey• Alumni Survey• Employer Survey• Focus Group



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3. Quick Review: Benchmarks & Timelines

Why do we need to set benchmarks?

- A score or grade in isolation doesn't necessarily explain whether the outcome is good or not.
- “Good” is relative and may vary by context/discipline - we need a reference point!



Assessment Cycle Timeline

- You do not need to assess all PLOs every year.
- **You will be assessing at least one PLO per year.**
- Timing should align with your curriculum map selections.
- OEE recommends a **3-year assessment cycle.**
- Assessment is a cyclical, ongoing process of continuous improvement. Start over again once all have PLOs have been assessed!

Before we move on...

<https://tinyurl.com/yh58ucbm>



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4. Data Collection, Reporting & Analysis



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Data Collection: Creating a plan

Why do you we need to plan for data collection?

The Law Program has developed a curriculum map and determined where they will assess each PLO. They have determined four existing assignments that they can use to assess the PLOs. However, each course has at least two sections that are taught by different instructors with no standard rubric for the assignments. The data is collected, scored, and analyzed by the course instructor. For example, LAW 400 is taught by four instructors with different years of experience and approaches to the material.



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What could go wrong?

Why do you we need to plan for data collection?

- Lack of standardization and planning brings up some data collection challenges.
 - Not having a standard rubric will make it difficult to assess learning across sections of the course.
 - With no consensus on achievement benchmarks, there is no real way to assess the program outcomes.
 - Developing a plan for data collection is an important step to ensuring that your assessment work is sustainable and shared by the entire department.

Data Collection Plan

- Who collects the data (and where do they put it)?
- Where is the data collected?
- When is the data collected?
- How much data is collected?

Who collects the data (and where do they put it)?

- Who?
 - You, as the Assessment Coordinator
- Where do you put it?
 - Suggestion: Create google assessment folder (or any designated google folder)

When is the data collected?

- You can collect data without analyzing it so you should collect it each semester, every time the course or venue for assessment is offered.
- You want collection to be a regular occurrence
- Collect the data each year even if you don't analyze the data each year

How much data is collected?

“Collect enough evidence to feel reasonably confident that you have a representative sample of what your students have learned and can do. The sample should be large enough and representative enough that you can use the results with confidence to make decisions about a course or program. And take careful steps to ensure the accuracy and truthfulness of your assessment findings.” [Suskie, L. (2009). *Assessing student learning: A common sense guide* (2nd ed.). San Francisco, CA: Jossey-Bass. p. 47]

How much data is collected?

Strive for 100%

Completed Sample Sizes Needed for Various Population Sizes						
Population size	Sample size for a <u>90%</u> confidence interval			Sample size for a <u>95%</u> confidence interval		
	$\pm 15\%$ Sampling Error	$\pm 10\%$ Sampling Error	$\pm 5\%$ Sampling Error	$\pm 15\%$ Sampling Error	$\pm 10\%$ Sampling Error	$\pm 5\%$ Sampling Error
25	14	18	23	16	20	23
50	19	29	42	23	33	44
100	23	40	73	30	49	79
200	26	51	115	35	65	132
400	28	58	162	39	77	196

Data

- Begin by taking stock of the assessment artifacts and evidence at your disposal
- Review what data sources may already exist within the University or within your school, department or program.
- Determine what additional data may need to be collected at a local level, the process or policy or collection, and a responsible point person.
- Like assessment methods, data can be direct or indirect in nature. Using both types of evidence can provide multiple perspectives in the assessment process.
 - Direct evidence: tests, rubrics, certification or licensure exams, or field experience evaluations.
 - Indirect Evidence: job placement rates, salaries, retention rates, graduation rates, course grades, surveys of students or alumni.



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Data Analysis Plan

Data Analysis Plan Answers Three Questions:

1. What analysis methods are used?
2. When does analysis occur?
3. Who does the analysis?

What analysis methods are used?

- Depends on the type of data and criteria you have
- Numerical data uses descriptive statistics
- Non-numerical data such as observations, essays, performances will most likely be qualitative in nature and use rubrics or qualitative analysis

Examples:

- If your criterion is that 85% of students will pass a state licensure exam on the first attempt, you'll use descriptive statistics with a mean, frequency, and percentages.
- If your criterion is that at least 80% of students will score a “meets expectations” on the internship rubric for ethical behavior, this will be a rubric-based analysis.

When does analysis occur?

- You do not need to analyze each PLO each semester or even each academic year.
- You can collect the data without analyzing it and analyze the data on a schedule.

Who does the analysis?

- Consider these questions when thinking about who does the data analysis:
 - Will the course instructor conduct analysis and provide it to the program?
 - Will an individual faculty member or team conduct the analysis?
 - Who has expertise to conduct the analysis?



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Data Reporting

Reporting:

- Keep data summaries short, sweet and easy to interpret.
- Use concise, simple charts, graphs, lists, or PowerPoint slides. Avoid narrative reports.
- Aggregate data first, then drill down into details.
- Link results to your learning objectives and benchmarks to provide clear outcomes related to your established standards.
- Consider the audience receiving the report, and what data they might need to inform decision-making.
- Engage in meaningful discussion with stakeholders to determine what the data means for your program.
- As you collect evidence over time, provide historical trend data, such as a year over year analysis.

Review OEE template & reporting reqs

Fall 2022 - Spring 2023 Program Assessment Report

School or College	School of Law
Department	Department of Law, Ethics & Public Policy
Degree Program	Juris Doctor
Program Goals	<ul style="list-style-type: none"> The program provides students with the tools for active and effective participation as professionals in legal counseling, advocacy and decision-making. The program prepares students for the study of law as an integral component of larger social, political, economic and ecological systems. The program employs the Socratic Method, problem-based learning, and simulated or experiential learning to help students develop their legal skills and abilities.
2022-2023 Accomplishments	<ul style="list-style-type: none"> 95% retention rate for the most recently admitted cohort. 75% of graduates passed the Bar Exam (higher than New York State pass rate of 66%). Increased admissions process selectivity by 5% compared to last year.
2022-2023 Improvements	<ul style="list-style-type: none"> Inclusion of hybrid learning options in select courses. Successfully hired 2 new tenure-track FTEs with experience in distance learning. 5 Additional Teaching Assistantships offered. Expanded faculty office hours and leveraged scheduling support application to reduce administrative burden and increase student attendance at office hours.
2022-2023 Evidence that Prompted Improvement	<ul style="list-style-type: none"> Feedback from student surveys indicating a desire for increased flexible and/or distance learning formats as we emerge from the pandemic. Feedback from student focus groups indicating a need for more one-on-one support in the classroom. Data from student course evaluations suggesting better outcomes in classes supported by TAs.

Program Learning Objective 2: Upon completion of the degree, students should be able to synthesize legal texts and apply the legal principles extracted from the texts to new factual circumstances.	
Location in Curriculum Map (Course Name)	LAW 670
Assessment Method	Literature Review with Policy Recommendation
Timeline/Frequency	Spring 2022 (Assessed in Year 2 of 3-year cycle)
Benchmark	Average overall score of 20 on a 25-point rubric measuring analysis of at least 3 legal texts and synthesis of selected texts to form a sound policy recommendation.
Results/Findings	Results show an average overall score of 18 on a 25-point rubric. Students commonly lost points on citation requirements.
Actions/Improvements	Require student participation in citation training as a component of orientation. Regroup with instructors to determine whether citation requirements merits points within the rubric, as students otherwise scored well on content-related requirements.

School or College	
Department	
Degree Program	
Program Goals	
Accomplishments	
Improvements	
Evidence that Prompted Improvement <input type="checkbox"/>	

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	

Let's finish...

<https://tinyurl.com/yh58ucbm>

[Click here](#) or scan the QR code



to be redirected to OEE's Annual Assessment Report template
& Quick Reference Guide



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Questions?

Contact us!

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