

# The Basics of Program Learning Outcomes Assessment Process and Mapping

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October 29, 2021

What?

Why?

When?

How?

What?

The background features abstract, overlapping geometric shapes in various shades of blue, ranging from light to dark, creating a modern and dynamic visual effect.

# Assessment Defined

- ▶ Assessment is any systematic procedure for collecting information that can be used to make inferences about the characteristics of people or objects (AERA et al., 1999).
- ▶ Dary Erwin defines assessment as “The systematic basis for making inferences about the learning and development of students.... (Erwin, 1991).
- ▶ Fred Volkwein maintains that “assessment is a process, not a product; it is a beginning, not an end” (Bauer & Volkwein, 2000).
- ▶ Assessment, then is not simply a one-time survey or test on student mastery of a concept, nor a simple series of inventories. The ongoing, cyclical nature of assessment means that it is an administratively complicated but highly challenging process. It answers the question, “How do we know what students are learning, and how well they are learning it?”



# Principles of Assessment

1. The assessment of student learning begins with educational **values**.
2. Assessment is most effective when it reflects an understanding of learning as multidimensional, integrated, and revealed in performance over time.
3. Assessment works best when the programs it seeks to improve have clear, explicitly stated **purposes**.
4. Design assessment approaches that generate **actionable evidence** about student learning that key stakeholders can understand and use to **improve** student and institutional performance.
5. Assessment works best when it is ongoing, not episodic.

Why?

# Assessment Framework

- ▶ There are two approaches to assessment:
  1. Assessment for accreditation compliance.
  2. Assessment for continuous improvement.

According to Wang, Gill and Baroody, most institutions fall into category 1.

# SACSCOC Requirements Related to Student Learning Outcomes

2.1 - Institutional mission

7.1 - Institutional effectiveness

8.2 - Student Outcomes

9.3 - General education requirements



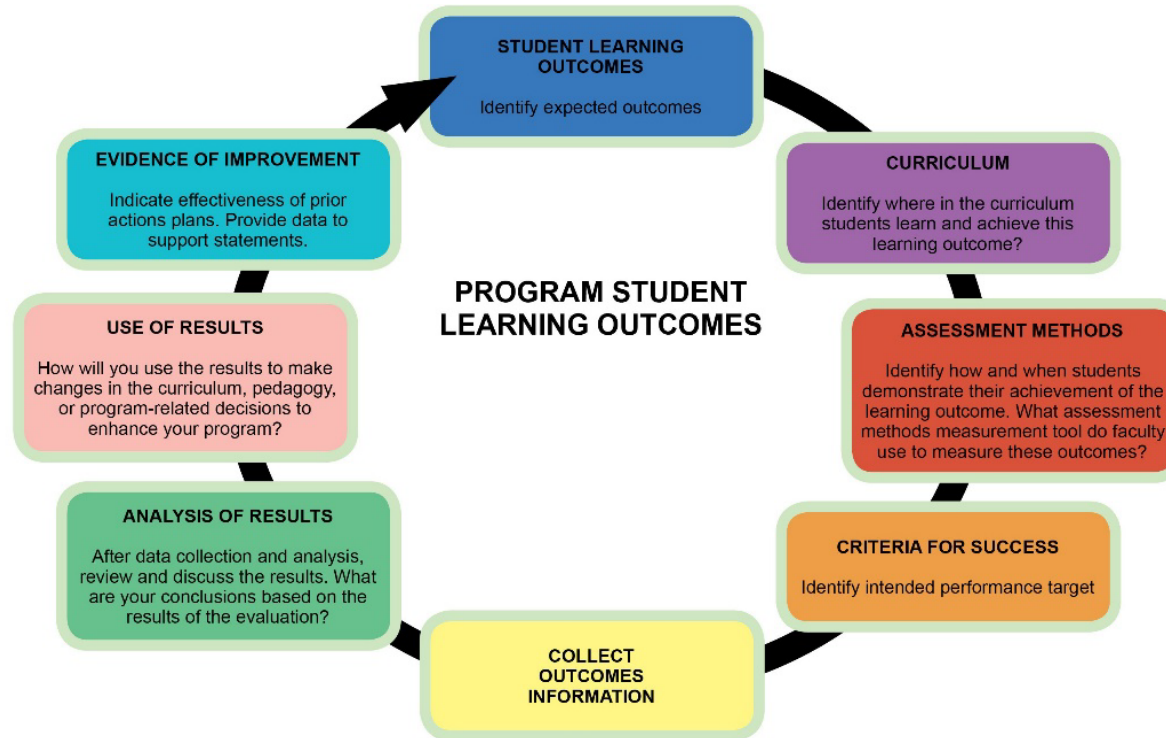
# Terms Defined

- ▶ **Evaluation** - focuses on making a judgment about someone or something; typically driven by asking question(s) or making a judgement on the basis of a set of standards.
- ▶ **Assessment** - is a process of collecting, reviewing and using data for the purpose of improvement in current performance.
- ▶ **Goal** - long-term aims that you want to accomplish - broad.
- ▶ **Objective** - concrete attainments that can be achieved by following a certain number of steps - measurable
- ▶ **Outcome** - the desired results - specific.
- ▶ **Program Learning Outcome (PLO)** - expected student learning outcome at the program level.
- ▶ **Student Learning Outcome (SLO)** - expected student learning outcome at the course level

When?

# Outcomes Assessment for Continuous Improvement - Annual Assessment Cycle

## Tennessee State University Annual Cycle for Continuous Improvement

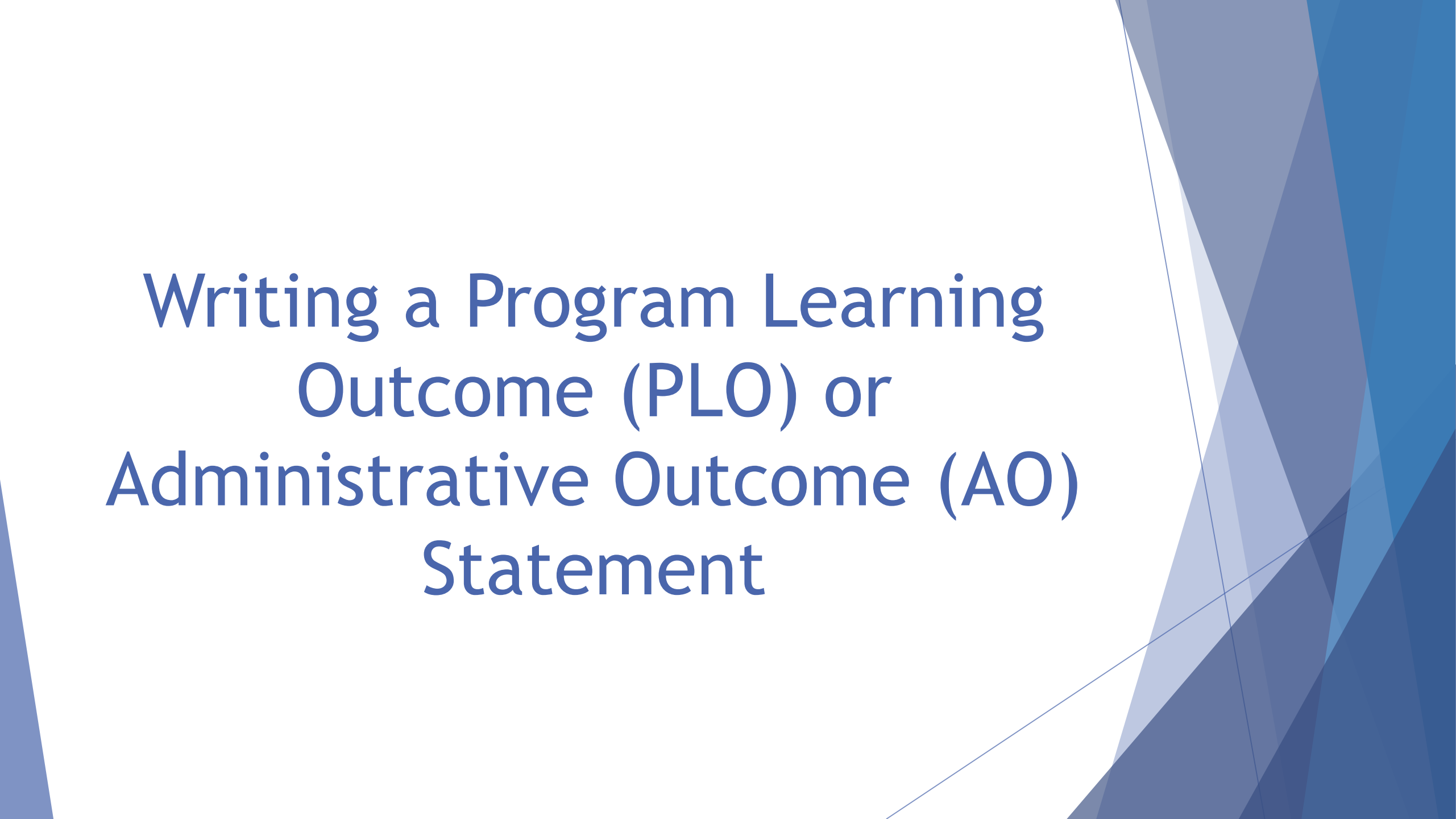


# Annual Assessment Cycle

It is important to think through all steps of the assessment cycle. It is important to remember that assessment is an iterative process, intended to provide useful feedback about what and how well students are learning. When developing the plan, it is important to think through all steps of the cycle.

1. Set program or unit outcomes (student learning, operational, or quality of service). For academic programs, decide and articulate what students should know, value, and/or be able to do when they complete the program. For support units, decide and articulate issues that are pertinent and important to the department that will enable the department to improve.
2. Curriculum: identify where in the curriculum students learn and achieve the learning outcome.
3. Develop and implement assessment methods: design tests, assignments, reports, performances, or other activities that measure the types and quality of learning expected.
4. Establish criteria for success and performance target.
5. Collect and Review the assessment data: analyze the results of the assessments to see what they show about operational efficiency or student learning and if the criteria were met.
6. Use results for improvement. Create an action plan: decide how to address issues raised by the assessment data to improve operational efficiency or student learning; how will the results be used to make changes to enhance the unit or program.
7. Evidence improvement (close the loop): Implemented prior year plan and document changes made - what was the impact, was it successful or non-successful.

How?

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# Writing a Program Learning Outcome (PLO) or Administrative Outcome (AO) Statement

# Completing the Program Assessment Plan

## ▶ - Mission/Purpose of the Program

All departments should already have a mission/purpose statement. Revisit your department's *Mission/Purpose Statement*.

Is it brief, concise and distinctive?

Does it clearly identify the program's purpose?

Is it clearly aligned with the mission of the institution?

Does it explicitly articulate the essential functions/activities of the program?



## GENERAL INFORMATION

### General Program Information

[View All](#)



#### General Information

Last Modified: 06/16/2021, V. Oates



#### University Mission

Tennessee State University, through its legacy as an HBCU and land grant institution, transforms lives, prepares a diverse population of leaders, and contributes to economic and community development by providing affordable and accessible educational programs at various degree levels promoting academic excellence through scholarly inquiry, teaching, research, lifelong learning, and public service.

#### Institutional Strategic Goal(s) or Objective(s) Supported

Goal #1: Attract, prepare, and graduate scholars to change the world.

Goal #3: Create a transformative educational environment that impacts Middle Tennessee and beyond.

Goal #5: Promote, strengthen, and sustain academic excellence in teaching and learning.

#### College or Division Mission/Purpose

The College of Agriculture, Human and Natural Sciences fosters and integrates teaching, research, and extension. By providing quality science-based education, the College enables individuals of diverse backgrounds to achieve advancements within family, food, agricultural chemical, and biological systems thereby improving lives in Tennessee, the nation, and the global society.

#### Program or Unit Mission/Purpose

The mission of the Department of Human Sciences at Tennessee State University is to prepare students for leadership roles in Family and Consumer Sciences careers. Human Science professionals empower individuals, strengthen families and enable communities through education, development and discovery (research) and extension (outreach).



# Step 1: Developing Program Learning Outcomes

- ▶ You can do this by clearly answering the question: “What knowledge, skills, abilities, or attitudes distinguish the graduates of our **program** from other students on campus?”
- ▶ What knowledge, skills, abilities or attitudes have students attained by the end of any set of college experiences-classes, programs, degrees, certificates?
- ▶ What is the end result you hope to see?

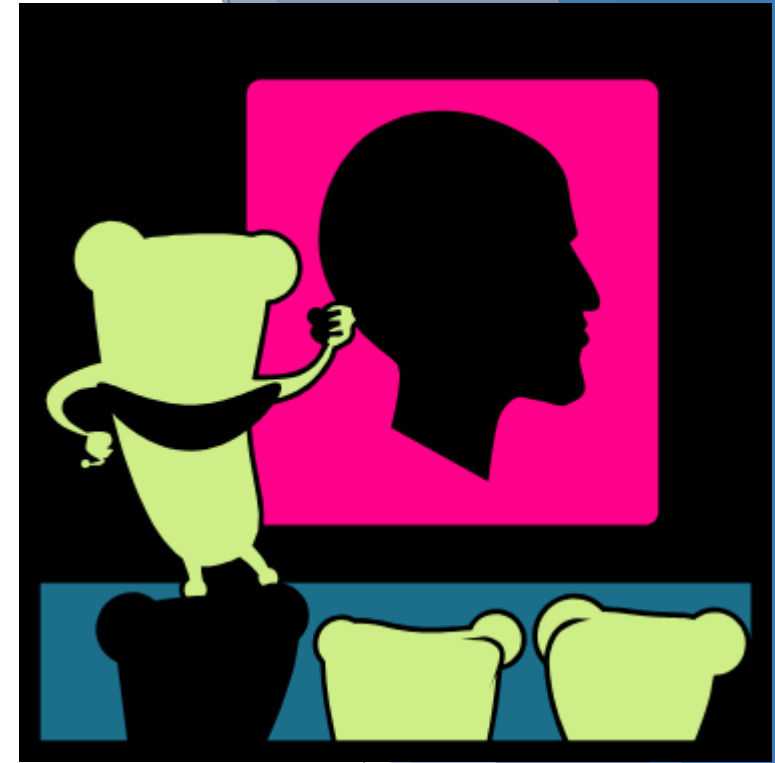
# Being SMART with Program Learning Outcomes

- ▶ **S** - specific and significant
- ▶ **M** - measurable and meaningful
- ▶ **A** - attainable and achievable
- ▶ **R** - realistic, but also relevant and results-oriented
- ▶ **T** - time-based, but also can be tracked timely

# Step 1: Defining Learning Outcomes

**Identify what students are able to:**

Know (cognitive), Think (attitudinal) Do (behavioral) as a result of completing the educational program.



# Formula for writing a student learning outcome statement

**SWiBAT** +  
**Bloom**  
**Word** +  
**What** +  
**Condition**  
= PLO

**SWiBAT**- an acronym for Students will be able to...

**Bloom Word**- calibrates the type of learning you expect and ensures that learning outcome will be measurable.

**What**- the actual thing you expect students to be able to do, think or know after participating.

**Condition**- describes the program, leadership opportunity or service where the learning is intended to occur.

# Example of Poor/Best Outcome Statements

- ▶ ***“Poor Learning Outcome Statement: Students should know the historically important systems of psychology.”***
- ▶ This is poor because it says neither what systems nor what information about each system students should know. Are they supposed to know everything about them or just names? Should students be able recognize the names, recite the central ideas, or criticize the assumptions?”
- ▶ ***“Better Learning Outcome Statement: Students should understand the psychoanalytic, Gestalt, behaviorist, humanistic, and cognitive approaches to psychology.”***
- ▶ This is better because it says what theories students should know, but it still does not detail exactly what they should know about each theory, or how deeply they should understand whatever it is they should understand.”
- ▶ ***“Best Learning Outcome Statement: Students will be able to recognize and articulate the foundational assumptions, central ideas, and dominant criticisms of the psychoanalytic, Gestalt, behaviorist, humanistic, and cognitive approaches to psychology.”***
- ▶ This is the clearest and most specific statement of the three examples. It provides even beginning students an understandable and very specific target to aim for. It provides faculty with a reasonable standard against which they can compare actual student performance.”

Common Pitfalls	Suggestions
1. Not aligned with curriculum	<ul style="list-style-type: none"> <li>• Use curriculum map as a guide</li> </ul>
2. Too many PLOs for one program	<ul style="list-style-type: none"> <li>• Have 3-4 PLOs, keep it manageable – what is most important to the program</li> </ul>
3. Too broad (e.g., <i>understand, know, learn, appreciate</i> ), not measurable	<ul style="list-style-type: none"> <li>• <b>Avoid using these words</b>, select action verbs - Bloom words to specify definite, observable behaviors</li> <li>• State so that the outcome can be assessed by more than one method (ideally).</li> </ul>
4. Too complex or too wordy	<ul style="list-style-type: none"> <li>• Keep it simple</li> </ul>
5. Multiple PLOs combined into one	<ul style="list-style-type: none"> <li>• Keep them separate</li> <li>• Example: Students will <i>explain</i> the fundamental concepts in cell biology <u>and</u> <i>apply</i> the lab techniques in conducting experiments for scientific inquiry.</li> </ul>

# Evaluating Quality of Outcomes

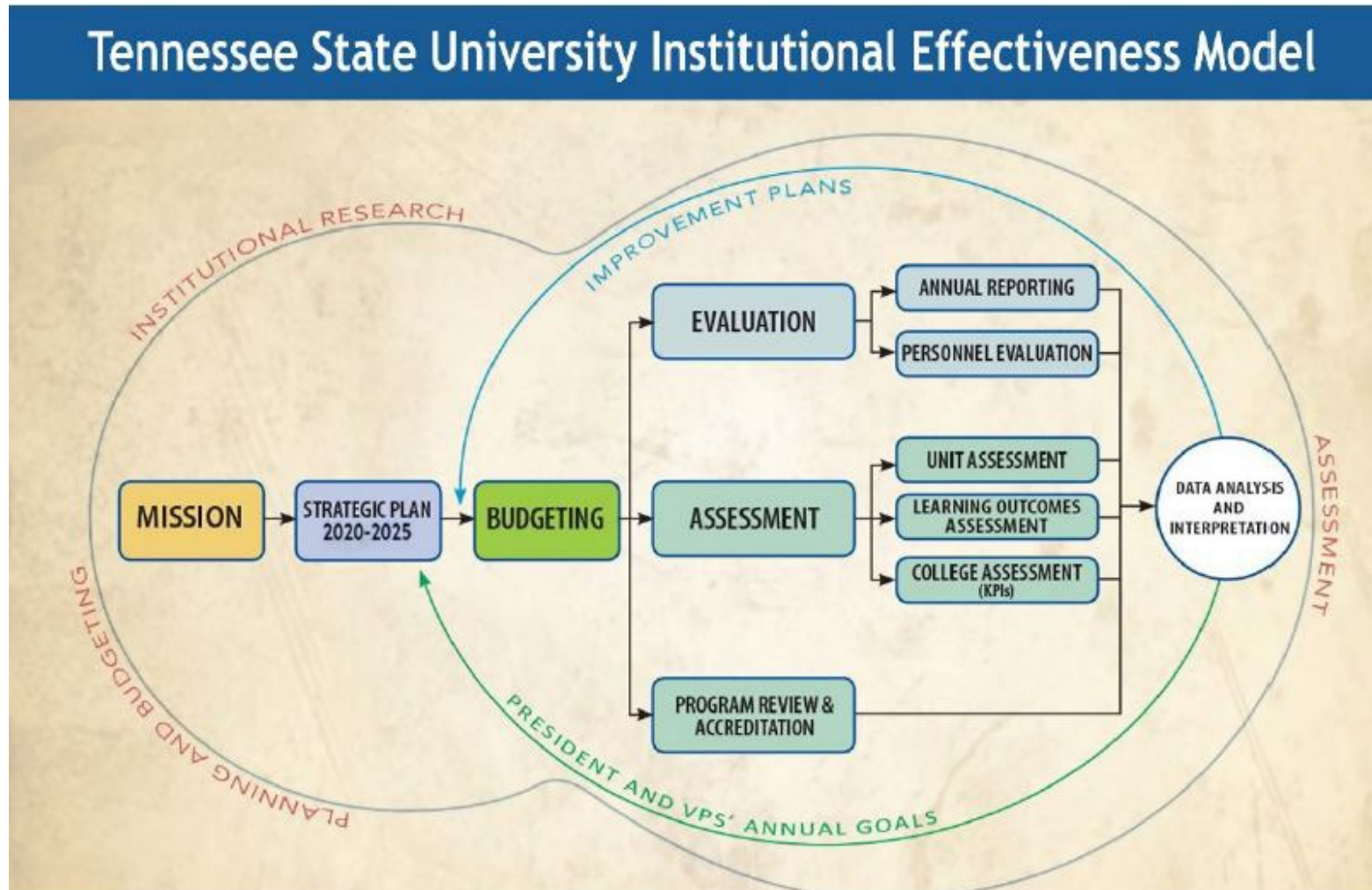
- ▶ Are outcomes aligned with your mission and goals?
- ▶ Is it possible to collect accurate and reliable data for each outcome?
- ▶ Taken together, would the indicators associated with the outcomes accurately reflect the key results of the programs, operations, or service offered by your department?
- ▶ Is there anything missing?
- ▶ Are they stated so that more than one assessment method can be used?
- ▶ Can they be used to identify areas to improve?

# Step 2: Mapping



# Mapping to Institutional Goals

- ▶ Linking to institutional goals. By mapping learning outcomes to align with curricular and institutional goals, linkages can be made that demonstrate mission-congruent activities and outcomes across the institution.



# Curricula analyses (Curriculum Mapping)

- ▶ Once you have decided upon the essential program learning outcomes, identify where in the curriculum and coursework the students receive the opportunities to learn the knowledge, practice the skills, or develop the attitudes and values incorporated in the learning outcome.
- ▶ Determine the links between the stated learning outcomes and the assessments used in the course. Often learning outcomes are stated but not assessed or assessments may not be included in the course that is not linked to any learning outcomes.

- A method to align curriculum with program learning outcomes, instruction, and assessment
- A curriculum map
  - Reveals gaps and overlaps in curriculum and improves coherence
  - Documents what is taught and when
  - Fosters collaboration and communication among faculty
  - Encourages reflective practice
  - Promotes student learning

## What Does a Basic Curriculum Map Look Like? A Template

	PLO 1. [statement]	PLO 2. [statement]	PLO 3. [statement]
[Course 1]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 2]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 3]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 4]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 5]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 6]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 7]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 8]	[I/R/M]	[I/R/M]	[I/R/M]
[Course 9]	[I/R/M]	[I/R/M]	[I/R/M]

- I=Introduced; R=Reinforced; M=Mastered; A=Assessment measure selected for SLO assessment.
- **PLO= Student learning outcome at the program level.**
- PLO statements can also be put below the curriculum map.

# How to Create a Basic Curriculum Map?

## 4 Steps:

1. Develop and insert PLOs
2. Insert required courses
3. Determine level of instruction (Introduced/Reinforced/Mastered) for a specific course in relation to a specific PLO
4. Modify curriculum as needed

	PLO 1	PLO 2	PLO 3
101	I		
102	R	I	I
201	R	R	R
202	R	R	
301		R	R
302	R		R
401	M, A	R	R
402		M, A	R
403			M, A

I=Introduced; R=Reinforced;  
M=Mastered; A=Assessment  
measure selected for PLO  
assessment.



## Basic Curriculum Map

(B.A., Mass Communications)	PLO 1	PLO 2	PLO 3
MCO 201 Intro to Mass Media	I	I	I
MCO 210 Reporting & Writing	I	I	I
MCO 222 Audio Production I		R	
MCO 223 Video Production & Theory			R
MCO 231 Convergence		R	R
MCO 250 History of Journalism	R		
MCO 312 Comm Theory & Research	R		
MCO 320 Media Writing		R	
MCO 325 Media Law & Ethics	M, A		
MCO 326 TV & Video Production			R
MCO 329 Audio Production II	R		R
MCO 350 Public Relations Writing		R	
MCO 363 Broadcast Announcing		R	R
MCO 415 Film Criticism			R
MCO 423 Video Production III		R	
MCO 421 Advanced Practicum		M, A	
MCO 431 Feature Writing		R	
MCO 435 Media Management			R
MCO 475 Supervised Media Training			R
MCO 481 Mass Comms Seminar		R	
MCO 485/486 Internship		R	M, A
COM 305 Human Speech		R	
COM 300 Empowered Speech			R

- PLO 1. Students will analyze the law and freedom of speech and press as it relates to Mass Communications.
- PLO 2. Students will write correctly and clearly in forms and styles appropriate for the communication professions, audiences, and purposes they serve.
- PLO 3. Students will exemplify their ability to apply tools and technologies appropriately in the field of mass communications

# PLOs - Indirect and Direct Measures for Program Assessment

	PLO 1	PLO 2	PLO 3
BUS 204	I		
ENG 211		I	
POL 201	I		
MCO 201	I	I	I
MCO 210	I	I	I
MCO 222		R	
MCO 223			R
MCO 231		R	R
MCO 250	R		
MCO 312	R		
MCO 320		R	
MCO 325	M,A		
MCO 326			R
MCO 329	R		R
MCO 331			R
MCO 335			R
MCO 341		R	
MCO 350		R	
MCO 363		R	R
MCO 415			R
MCO 423		R	
MCO 421		M,A	
MCO 431		R	
MCO 475			R
MCO 481		R	
MCO 485/486		R	M,A
COM 305		R	
COM 300			R

## B.A., Mass Communications

PLOs	Measures
PLO 1	M 1. <i>Case briefings evaluated with a rubric (MCO 325)</i>
	M 2. Survey Question (#1)
PLO 2	M 1. Script evaluated with a rubric (Dimension 1) (MCO 421)
	M 2. Survey Question (#2)
PLO 3	M 1. Capstone internship portfolio evaluated with the internship portfolio grading rubric (MCO 485/486)
	M 2. Survey Question (#3)
	M 1. Embedded Final Exam Questions 4 and 5 (MCO 320)
PLO 4	M 2. Survey Question (#4)

# Step 3 and 4: Assessment Measures and Criteria for Success

- ▶ Assessment measures are the tools used to create usable results.
- ▶ Use of a variety of assessment measures is encouraged, because it allows for more in-depth results. **One direct method is required.**
- ▶ Use direct measures to lead the assessment and supplement with indirect measures.
- ▶ Remember, the unit of analysis for assessing program learning outcomes is the **program**, *not* individual courses, faculty, or students.
- ▶ Criteria for Success: What is expected benchmark and performance target and how was it established?





COED - CURRICULUM AND INSTRUCTION (M... ▾

Courses *A - Assessed, I - Introduced, M - Mastered, R - Reinforced*

Program Student Learning Outcome	EDCI 5000 - Foundation of Education*	EDCI 5010 - Issues in Bilng Edu & Snd L Ac*	EDCI 5020 - Tchg Eng Stru Non Na*	EDCI 5030 - Testing & Assesmt of NNSE*	EDCI 5040 - Content Inst Eng Lang Learners*	EDCI 5050 - Classroom Practice Adult ESL*	EDCI 5110 - Research and Statist*
EdTech Knowledge, Design, and Emerging Technologies Educational technology candidates formulate knowledge of foundations of curriculu ...							✓ A I M R
Music Theory, Research, and Best Practices Music Education candidates will formulate theory, research, and best practices to support developii ...							✓ A I M R
EdTech Analysis of Practitioner Skills Educational technology candidates will analyze practitioner ideas clearly, logically, and persuasively.							✓ A I M R
TESOL Theories and Concepts Students will be able to apply different theories and concepts in the five major areas of TESOL (linguistics, second languag ...		✓ A I M R	✓ A I M R	✓ A I M R	✓ A I M R	✓ A I M R	
Philosophy, Research, and Learning Theory of Curriculum & Instruction Advanced students will be able to apply an in-depth understanding in ...	✓ A I M R						✓ A I M R
Secondary School Instruction Skills Teacher candidates will be able to apply instructional skills to utilize during instruction.							

# Types of Assessment Measures

## DIRECT MEASURES

- ▶ Portfolios (rubric scored)
- ▶ Pre/Post Tests
- ▶ Major Field Tests
- ▶ Artifacts -  
Papers/Essays/Journal  
Writing (rubric scored)
- ▶ Science Projects (rubric  
scored)
- ▶ Capstone Projects (rubric  
scored)
- ▶ Presentations (rubric scored)
- ▶ Problem-Based Activities  
(case studies)

## INDIRECT MEASURES

- ▶ Surveys (e.g.,  
graduating senior)
- ▶ Course evaluations
- ▶ Comparison of peer  
institutions student  
performance
- ▶ Job Placement  
Statistics
- ▶ NSSE
- ▶ Course Evaluations

# Step 5: Collect the data, report results, and analyze the data

- ▶ Assess the extent to which outcomes were achieved.
- ▶ At this stage, put a value on the results of your analysis to determine how well the program achieved or did not achieve its goals (benchmark/target).
- ▶ **Analysis of Results** - what do the results show, what do the results mean to the program, highlight success and where is it seen improvement may be needed. The analysis of results drives the action plan (Step 6)

# Step 6

## Action Plan

- ▶ Step 6 is a most crucial component of the student learning assessment process (interpret and intervene).
- ▶ Actions plans are based on findings reported in the results.
- ▶ Written in present or past - never future (its about language).
- ▶ Try to avoid placing emphasis on change to the assessment mechanics (instrument, sampling).
- ▶ Rather, focus on **changes** made at the program level (curricular, pedagogy, or policy) to improve the student learning or learning experience.
- ▶ **Clearly link to improving student learning or the learning experience and link the outcome.**

# Step 7: Use of Results -Close the Loop!

- ▶ Step 7 is also a most crucial component of the student learning assessment process (intervene and re-assess).
- ▶ Closing the Loop - begin by closing the loop by responding to prior year results, what improvements or modifications were implemented in the current reporting year (the program's prior year action plan).
- ▶ Evidence of improvement/impact - state the impact (evidence) of the implemented improvements based on the current assessment year results (re-assess) - was it successful or non-successful? What about the student learning improvement or learning experience (Written in past tense.)

# Summary - 7 steps of the program learning outcome assessment process.

1. Specify learning outcomes
2. Map outcomes to the curriculum and institutional goals.
3. Select instrument or method of assessment
4. Establish the criteria for success.
5. Collect data, review and analysis of the data
6. Develop Action Plan (Intervene)
7. Re-assess - Close the loop and evidence the improvement (impact)



# Example - General Education Program

Student Learning Outcomes	Means of Assessment and Criteria for Success	Assessment Results	Action Plan
<p>1. Students will be able to understand and use the basic approaches and applications of mathematics and statistics for analysis and problem-solving.</p>	<p>1a. Students enrolled in MAT 126 (College Algebra) will take a comprehensive final exam with students showing proficiency in six objective areas at a 70% benchmark.</p> <p>1b. At least 70% of students completed the Gen Ed Program Assessment Survey will “agree/strongly agree” that their enrollment in the Gen Ed Program improved their ability to identify problems and implement action.</p>	<p>1a. During 2015-2016, 465 students completed the comprehensive final exam. The aggregate results are as follows:</p> <ul style="list-style-type: none"> <li>- Simplify expression with rational exponents: 72.46%</li> <li>- Find function values or outputs: 78.68%</li> <li>- Determine equations of lines: 76.01%</li> <li>- Graph functions using transformations: 69.63%</li> <li>- Solve quadratic equations: 75.86%</li> <li>- Solving applied problems with linear models: 62.92</li> </ul> <p>1b. 76% of respondents agreed or strongly agreed gen ed courses have improved their ability to identify problems and implement action.</p>	<p>1a. Based on analysis of results, the two areas where students are struggling are graphing transformations and solving applied problems. In order to assist students with learning how to work this type of problems, faculty are adding some additional practice problems to the homework assignments covering this material and making sure that every instructor is giving adequate examples in class. In the area of graphing transformations, faculty are including additional examples in class and increase the practice problems. Graphing is an area in which students do struggle and faculty need additional illustrations to help students “see” graphs better.</p>

## Four Column Report

### *Program Student Learning Outcomes*

**Critical Analysis** - Students will be able to demonstrate critical analysis skills through problem-solving activities related to Human Sciences.

#### **Program Student Learning Outcome**

**Status:** Active

**Planned Assessment Cycle:** 2020 - 2021, 2021 - 2022

**Start Date:** 08/17/2020

### *Measurement Tools*

**Direct - Presentation/Performance** - Course Embedded Research presentation on their identification and completion of a research-based project related to their area of study.

#### **Criteria for Success/Performance**

**Target:** 80% of students will score a 3 or higher on a 5-point rubric for their oral presentation.

#### **How was the Criteria/Performance**

**Target established?:** Benchmark is based on accepted trend in field expected by AAFCO accrediting body.

#### **Related Documents:**

[FACS 4500 Oral Presentation Rubric.docx](#)

### *Results*

**Reporting Period:** 2020 - 2021

**Conclusion:** Criteria Met

100% of students received the equivalent of a 3 on a 5-point rubric on the research presentation. (12/17/2020)

**Analysis of Results:** Analysis of the data show the students performed well on providing the correct content in the presentation. However, they had the most difficulty with oral presentation skills, including presentation prep and execution of the presentation.

#### **Related Documents:**

[SACS Final Paper Presentation F20.xlsx](#)

### *Use of Results for Improvement/Action Plan*

**Closing the Loop:** Results from the 2019-2020 academic year revealed that students struggled with the development of their poster presentations, including for matting them in a professional manner as well as articulating the content in a professional manner. Throughout the Fall 2020 semester, the instructor of the course provided intensive remediation on an ongoing basis to students. This included additional class time dedicated to the presentation, recorded lectures for the students to review, peer tutoring, and providing a template for the poster presentation. (12/17/2020)

**Evidence of Improvement/Impact:** This was successful in improving rubric scores among students. However, students still need to work on developing their visual and oral presentation skills.

**Action Plan:** Moving forward, more class time will be dedicated to presentation skills. Additionally, the instructor will continue peer tutoring, and have the students practice their presentations for peer review.



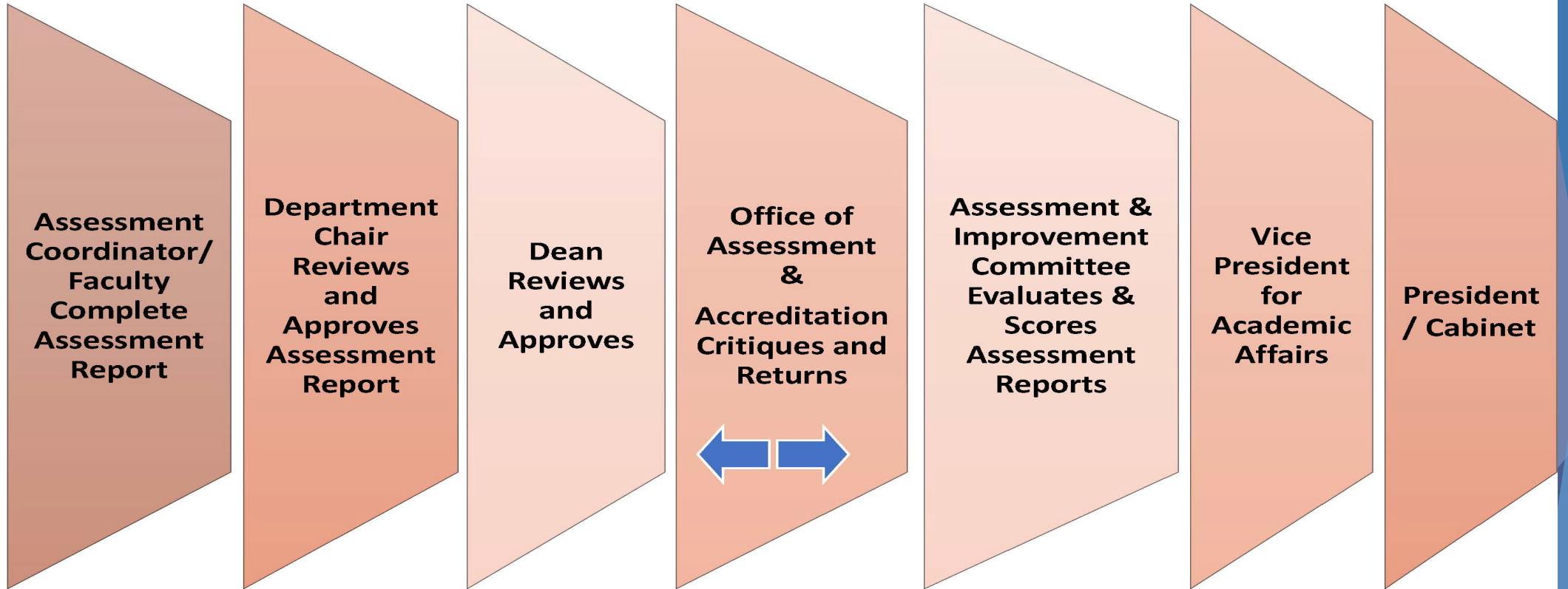
## Four Column Report

<i>Program Student Learning Outcomes</i>	<i>Measurement Tools</i>	<i>Results</i>	<i>Use of Results for Improvement/Action Plan</i>
<p><b>SLO-1</b> - Students will be able to employ critical thinking and analytical reasoning to solve chemical problems through research.</p> <p><b>Program Student Learning Outcome Status:</b> Active</p> <p><b>Planned Assessment Cycle:</b> 2020 - 2021</p> <p><b>Start Date:</b> 08/17/2020</p> <p><b>Archived Date:</b> 05/31/2021</p>	<p><b>Direct - Capstone Assignment</b> - This outcome is assessed with the following tools embedded in: CHEM 4505 &amp; 4506 Senior Projects I and II: Students will complete a final research project addressing a specific research problem. Student's written product submitted in report format. Reports are scored using a 2-part rubrics, and the total scores are used to assess critical thinking and analytical reasoning. The rubric assesses the following categories: - Background/Literature Review - Research Question - Methodology - Results &amp; Discussion - References - Readability Semester Engagement MFT Graduating seniors will complete a Major Field Test. The MFT Performance indicators in Critical Thinking and Reasoning tests a student's ability to reason and think clearly.</p> <p><b>Criteria for Success/Performance Target:</b> 1. 75% of Students will earn a minimum score of 80 points or higher on their senior project final research report. (DOC-13 &amp; DOC-14) The target was determined based on 2018-19 results on the senior project reports from the students following Professional Biochemistry concentration 2. The institutional average on the Critical Thinking and Analytical Reasoning of the ETS Chemistry MFT is expected to be 35. The national average is 45. This criteria was set based on prior year student performance data on Institutional average of Critical Thinking and</p>	<p><b>Reporting Period:</b> 2020 - 2021</p> <p><b>Conclusion:</b> Criteria Partially Met One (1) student graduated from the professional chemistry curriculum in AY 2020-21 1. Student earned a 98/100 on the senior project research proposal and a 94/100 on the senior project final research report, therefore 100% of students met this criteria. 2. The institutional average on the Critical Thinking and Analytical Reasoning was 24 while it was expected to be 35, therefore 0% of students met this criteria (AY_2020-21_DOC-3). The national average data is not yet available. (05/23/2021)</p> <p><b>Analysis of Results:</b> The criteria was met for one of the two direct measures, however statistical analysis where the sample size is only student is not very reliable. More students need to be recruited into the professional chemistry curriculum.</p> <p><b>Related Documents:</b></p> <p><a href="#">AY 2020-21_DOC-1.pdf</a></p> <p><a href="#">AY 2020-21_DOC-2.pdf</a></p> <p><a href="#">AY 2020-21_DOC-3.pdf</a></p>	<p><b>Closing the Loop:</b> Data shows that this year one student graduated under Professional Chemistry Concentration. This student was engaged in research early in the fall semester and completed on-time producing significant results to fulfil criteria 1. Therefore, the program decided to focus on engagement of students in research early in the fall semester, no later than the 4th week of the fall semester of their first senior project course. This change in instructional process has improved the student preparedness and learning in employing critical thinking and analytical reasoning to solve chemical problems through research. (05/25/2021)</p> <p><b>Evidence of Improvement/Impact:</b> Student received 96% on criteria 1. Also 3 more students are actively following the Professional Chemistry Concentration</p> <p><b>Action Plan:</b> To increase students in professional chemistry concentration as well as to increase the number of graduates, the faculty have decided to continue to bring our chemistry alumni or any renowned chemist as a guest speaker during Chemistry Day Celebration (AY_2020-21_DOC-1, AY_2020-21_DOC-2) to motivate our students to follow professional chemistry track. In addition, the Chemistry Club has been revamped and more students have been recruited. Students were also encouraged to pursue summer internships. The new 3 credit hour course, called "Connecting the Dots-Chemistry: Problem-Solving</p>



Accountability

# Accountability



# Accountability



What's Next

The background features abstract, overlapping geometric shapes in various shades of blue, ranging from light to dark. The shapes are primarily triangles and polygons, creating a dynamic, layered effect. The text "What's Next" is centered in a dark blue, sans-serif font.

# Institutional Planning, Assessment, and Reporting Calendar

<https://www.tnstate.edu/assessment/Institutional%20Planning%20Assessment%20Reporting%20Calendar%20REVISED%2010.8.21.pdf>

# Upcoming Training/Development and Due Dates

- ▶ Assessment and Improvement Committee Meeting (October)
- ▶ Quarterly Department Assessment Coordinator Meeting (November 12, 2021)
- ▶ Training - Improving Student Learning and the Learning Experience (Jan-Feb 2022)
- ▶ Quarterly Department Assessment Meeting (March).
- ▶ End of Year Annual Assessment Report due to Department Chairs (May)

# Resources and References

- ▶ TSU Assessment and Accreditation Website  
<https://www.tnstate.edu/assessment/>
- ▶ Annual Cycle for Continuous Improvement Outcomes Assessment Manual.
- ▶ American Educational Research Association (AERA).
- ▶ Erwin, T D. (1991). Assessing student learning and development. San Francisco, CA: Jossey-Bass.
- ▶ Bauer, K. W., & Volkwein, J. F (2000). Responding to Accreditation and Assessment on your Campus: Planning Steps and Strategies.



Questions?