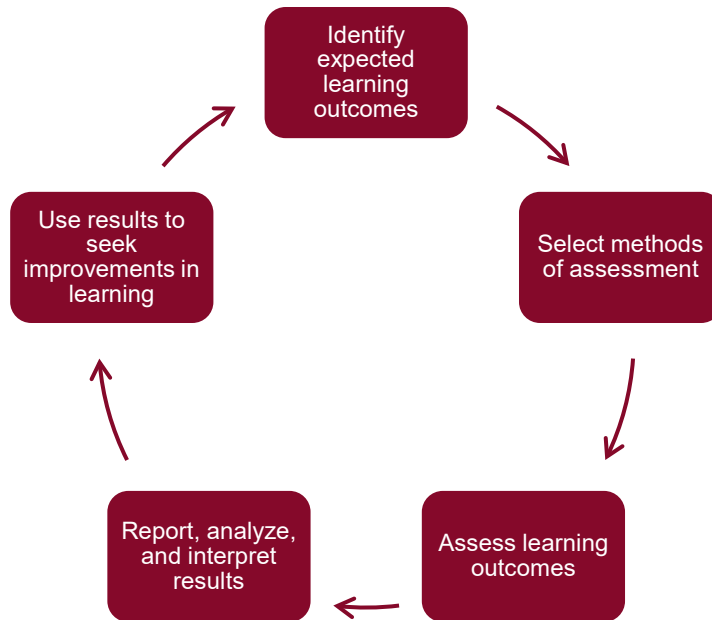ACADEMIC ASSESSMENT
& ACCREDITATION
TEXAS WOMAN'S UNIVERSITY

Assessment Measures

Terms and Best Practices

Introduction to Assessment Measures

This resource is intended to help you select assessment measures for the purposes of academic assessment. Academic assessment at TWU follows the cycle of assessment (depicted below) to seek continuous improvement in student learning outcomes.

Assessment Cycle

Each program's Academic Assessment Plan identifies expected outcomes, assessment measures, and criteria and goals for student performance. The following information provides common terminology and best practices for selecting assessment measures and identifying criteria and goals for assessments.

Quick Tips for Assessment Measures

☐ Consider the type of assessment measure that will work best for what you plan to assess

☐ Use multiple assessment measures for each SLO, combining different types to get a full picture of student learning

☐ Review the alignment between your assessment measure and your SLO

☐ Review the alignment between your SLO and the learning opportunities students are provided in their program courses

☐ Select a criterion for success and a goal that represents the level of performance necessary for students to be successful after graduating from the program

Types of Assessment Measures

There are many different types of assessment methods. Understanding these types will help you select the type of measure most appropriate to what you plan to assess. Consider the following definitions and examples.

Direct assessment measures

Allow students to produce evidence of learning. Learning can be directly observed by others. *Example: Exam*

Indirect assessment measures

Allow students to share perceptions of their learning. Learning can only be indirectly observed by others. *Example: Student self-evaluation*

Standardized measures

Published instruments developed by a third-party external to the institution and administered under standardized conditions. *Example: Licensing exam*

Local, non-standardized measures

Assessment instruments developed locally by the institution and not administered under standardized conditions. *Example: Capstone portfolio*

Embedded assessment measures

Assessment measures embedded within or collected from course assignments or requirements. *Example: Essay turned in for a course assignment*

Non-embedded/add-on assessment measures

Assessment measures administered or collected outside of a course. *Example: A comprehensive exam completed outside of required courses*

Formative assessment

Assessment conducted while learning is still in progress and while assessment results can still be used to seek improvements in student learning. *Example: Paper completed during a doctoral student's first semester*

Summative assessment

Assessment conducted at the end of a course or program when all learning is expected to have already occurred. *Example: Capstone portfolio*

Examples of Common Assessment Measures

There are a variety of direct and indirect assessment measures that can be included in an assessment plan. Selection may vary based on the learning outcome being assessed, the student population being assessed, the academic discipline, or a variety of other factors. Some common examples* are listed below for your reference.

Direct Assessment	Indirect Assessment
Exam questions Comprehensive exam Certification/Licensure exam Essay Paper Case study Laboratory Portfolio Presentation Performance Clinical skills assessment Internship evaluation	Student survey Graduation exit survey Alumni survey Student self-evaluation Student reflection Student attendance/participation figures Number of student presentations/publications Institutional data

Although examples are categorized here as either direct or indirect, there may be times in which an assessment that is listed in one category above may function as the opposite category. For example, if our SLO is assessing students' attitudes about something, a survey asking them questions about their attitudes or beliefs might be considered a direct assessment. Similarly, a student reflection could be considered a direct assessment if the associated SLO focuses on student reflection. Consider how the instrument is set up and what SLO it is being used to assess when determining whether an assessment measure is direct or indirect.

Best Practices for Selecting and Using Assessment Measures

Using Multiple Assessment Measures

Best practices recommend using more than one assessment measure to collect evidence of student learning. Using multiple measures allows you to gain a fuller picture of student learning.

Combining methods of various types allows you to collect different types of information about student learning. Consider the following examples.

- **Combining a formative assessment with a summative.** For example, you might use the same rubric to evaluate student papers completed during the first year of a master's program and then again during students' final semester. This will allow you to compare student learning at a developmental and at a final stage.
- **Combining a direct measure with an indirect measure.** For example, combine a comprehensive exam with a graduation exit survey. This will allow you to both test students' learning and ask them to reflect on their own learning.
- **Combining a locally-developed assessment measure with a standardized, externally-developed assessment measure.** For example, combine a state-

administered licensure exam with a clinical skills assessment developed by program faculty. This will allow you to collect evidence that you can use to compare students' performance with the performance of students from other institutions while also collecting evidence of student learning that is specific to the skills emphasized in TWU's program.

Note that TWU's Academic Institutional Improvement Assessment Plans (AIIAPs) require two assessment measures for each SLO, with at least one of those measures being a direct measure.
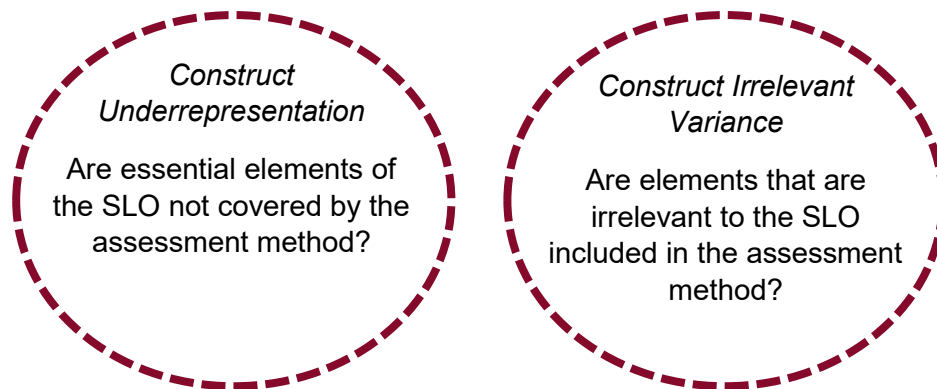
Alignment and Placement of Assessment Measures

The term *alignment* describes the extent to which an assessment measure actually measures the learning described in a student learning outcome statement (Maki, 2010). As a further extension, alignment can also look at the "linking of intended student learning outcomes with the processes and practices needed to foster those outcomes" (Hutchings, 2016, p. 5).

Having a well-aligned assessment plan signifies that –

- the assessment method captures the learning described in the SLO and
- students have an opportunity in their program courses to develop the learning described in the SLO

Looking at Alignment between Assessment Method and SLO

The degree to which an assessment method is aligned with a student learning outcome could also be thought about in terms of *validity*. Validity refers to "the extent to which a method prompts students to represent the dimensions of learning desired" (Maki, 2010, p. 163). While there are different types of validity and different methods for evaluating validity, a simple way of considering the alignment between your assessment method and the learning outcome you intend to assess is to evaluate the presence of two common threats to validity.

Construct Underrepresentation

Are essential elements of the SLO not covered by the assessment method?

Construct Irrelevant Variance

Are elements that are irrelevant to the SLO included in the assessment method?

(The Center for Assessment and Research Studies, n.d.)

If essential elements of the SLO *are not* covered by the assessment method or if irrelevant elements *are* included, your assessment method and SLO may be misaligned.

To address *construct underrepresentation*, consider adding items to the assessment measure that address the underrepresented constructs. To address *construct irrelevant variance*,

consider either removing items from the assessment measure that do not align with the SLO or limit the portion of the measure you use for program assessment to only the relevant items.

Looking at Alignment between Program Courses and SLO

Looking at the alignment between the program courses and the student learning outcome involves asking ourselves whether students have had an opportunity to be exposed to and practice the learning represented by the SLO throughout their time in the program. Reviewing a *curriculum map* is a helpful practice for faculty looking at alignment between SLOs and courses.

A *curriculum map* is a visual tool for demonstrating the relationship between program learning outcomes and program courses and experiences. It can be used to indicate where SLOs are introduced, reinforced, mastered, and/or assessed. A basic example of a curriculum map is provided below.

	SLO #1	SLO #2	SLO #3
PHYS 2113	Introduced		
PHYS 2313	Reinforced		
MATH 2413		Introduced	
PHYS 3323	Reinforced		Introduced
PHYS 3333	Reinforced		Reinforced
PHYS 3343	Mastered, Assessed		Reinforced
MATH 3323		Reinforced	
MATH 3423		Mastered, Assessed	
PHYS 3623			Reinforced
PHYS 4323			Reinforced
PHYS 4043			Reinforced
PHYS 4353	Assessed	Assessed	Mastered, Assessed

Example Curriculum Map

By analyzing your program's curriculum map, you should be able to note whether students are being assessed on an SLO that has not, in fact, been covered sufficiently in the program courses. If you observe that an SLO has not been adequately reinforced across the curriculum, consider adding content related to that SLO to one or more additional courses. Alternatively, you may want to consider revising the SLO to focus on a learning outcome that is more representative of what students are learning in their courses. Finally, review the curriculum map for the placement of program assessments. Do they occur at points in time or within contexts where students can be reasonably expected to demonstrate their learning?

For more information about curriculum maps, see the separate resource *A Basic Guide to Curriculum Mapping*.

Consider the following examples that help illustrate questions of alignment.

Example 1:

Scenario: The History program uses a rubric to score final papers in HIST 4543. The course instructor sends the assessment coordinator the overall rubric scores for all the papers collected in the spring term. However, the HIST 4543 paper is only used as an assessment for one of the program's SLOs focused on use of evidence. Use of evidence is addressed in only two out of five rubric criteria.

Concerns with Alignment: The other criteria are irrelevant to the use of evidence SLO. Using the overall rubric score as an assessment of the SLO focused on use of evidence will not be as useful for interpretation as would be using the specific rubric ratings for the two criteria that address use of evidence.

Alternative Approach: The assessment coordinator may want to ask the course instructor for scores specifically on the two relevant rubric criteria rather than just the overall scores.

Example 2:

Scenario: A public health program uses an internship evaluation, conducted as part of the students' internship requirement, as an assessment measure for all three of its student learning outcomes. SLO 3 is stated as "Students will be able to critically evaluate ethical issues encountered in public health practice and research." The internship evaluation asks for internship supervisors to rate students' evaluation of ethical issues on a scale of 1-5.

Concerns with Alignment: Several supervisors note that they did not have an opportunity to observe students' abilities with evaluating ethical issues during the internship. After receiving feedback from the internship supervisors, program faculty review the program's curriculum map and confirm that ethical issues are covered in three required courses; however, they are not emphasized in the internship experience.

Alternative Approach: Program faculty decide to remove the internship evaluation as an assessment measure for SLO 3 because the internship experience does not explicitly provide students with an opportunity to evaluate ethical issues. Instead, they will assess SLO 3 as part of the course PHLT 4033 Legal and Ethical Issues in Public Health by asking students to complete a case study of a public health practice or research scenario that deals with an ethical issue common to the discipline.

Setting Criteria and Goals

Once you have selected an assessment method, it is time to identify the **criterion** and **goal** by which you will evaluate your assessment results.

Individual-Level Target: The **Criterion for Success** identifies the minimally acceptable level of individual student performance that you are targeting.

The Criterion for Success represents the scoring level at which students will be considered to have achieved the learning outcome.

Group-Level Target: The **Goal** identifies the percentage of all students in the program that will attain the criterion for success.

The Goal represents a level of achievement for graduating students that the program finds to be appropriate for students.

Examples of Criteria and Goals

TWU's academic program Assessment Plan provides space to enter both the Criterion for Success and the Goal. An example of how this appears in the assessment plan form appears below.

Assessment Measure (AM)	Direct or Indirect Measure?	Assessment Method	Target Indicators	
			Criterion for Success	*Realistic Program Goal*
AM 1: Essay in CJ 4003	Direct	Students in CJ 4003 will write an essay applying theories of crime to analyze a topic of their choice related to law and society in the United States. The essay will be scored by the course instructor on a five-point rubric where 1 = Unsatisfactory and 5 = Exceptional.	A score of 3 or higher on a five-point scale	85%
AM 2: Exam in CJ 3323	Direct	Students in CJ 3323 will take an exam that includes a section of 20 multiple-choice questions assessing knowledge of major theories of crime. Scores will be reported for the Theory section out of a total of 20 possible points.	15 out of 20 points	70%

Example of Section IV, Assessment Plan Form

A helpful way for thinking about how the Criterion for Success and the Goal relate to each other is to translate these items into a statement that combines both elements. Consider the following example statements.

Goal   *Criterion*

85% of students will score a rating of "3" or higher on a five-point rubric scale where 1 = Unsatisfactory and 5 = Exceptional.

Goal   *Criterion*

70% of students will receive a score of 15 out of 20 points on the Theory exam section.

Setting a goal provides a benchmark or standard that allows the program to judge student performance and track or compare that performance over time (Suskie, 2018). Student performance relative to the goal will inform the decisions you make about how to use the results of the assessment. When the goal is not achieved, it may be necessary to make a change to the learning environment to seek improvements in student learning. When the goal is achieved, the program can be reasonably confident that the program is producing the desired student learning outcomes.

Guidelines for Setting Criteria and Goals
For standardized, externally-developed assessments, it may be possible to refer to standards set by an external body or by external performance. For example, the national average or the score required by your state for students to qualify for licensure. This is called "norm-referencing" (Maki, 2010).
Externally-developed and normed rubrics may provide another reference for setting criteria and goals. The VALUE rubrics developed by the Association of American Colleges and Universities, for example, adopt a common scoring scale. Professional or disciplinary associations may also offer common rubrics and recommendations for student performance expectations.
For locally developed assessments, you will need to determine your own criteria and goals.
The level at which you choose to set the goal may vary depending on the learning outcome. It may be more reasonable to justify lower goals for SLOs considered *aspirational* than for SLOs considered *essential* to students' preparation (Suskie, 2018).
In general, when setting goals you should consider the level of performance necessary for students to be successful after graduating from the program.

References

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