



TEXAS A&M UNIVERSITY

COMMERCE

Department of Institutional Effectiveness and Research

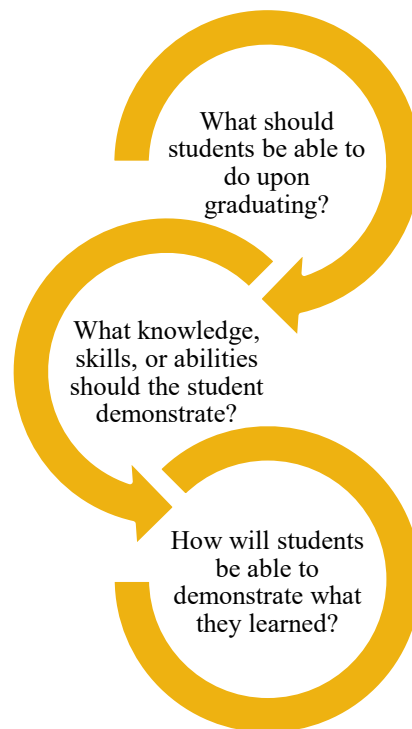
Writing Student Learning Outcomes for Academic Program Assessment

The examples and tools included in this resource are intended to serve only as a reference and guide, not as an exclusive representation of all possible examples, tools, or best practices.

Introduction to Student Learning Outcomes

What is a student learning outcome? The Texas Higher Education Coordinating Board (2015) defines the term student learning outcomes as “what students are able to demonstrate in terms of the knowledge, skills, and attitude upon complete of a program” (para. 1). It is with this definition in mind that student learning outcomes are developed, assessed, and improved upon.

How to begin developing student learning outcomes. As a start, brainstorming among the departmental faculty members, with like-minded colleagues, and with knowledgeable professionals in the field can generate answers to the below questions:



How do we know if our student learning outcomes are comprehensive? Because student learning outcomes should be appropriate to and comprehensive of the program’s academic discipline, consult resources such as the following to gauge the relevance of the program’s learning outcomes:

- Program mission/goals
- Program curriculum and course syllabi
- Industry or disciplinary standards
- Licensure or certification criteria
- Accreditation standards

Strong Student Learning Outcomes

A strong student learning outcome is a S.M.A.R.T. student learning outcome

Specific	Measurable	Attainable	Relevant	Timely
<ul style="list-style-type: none"> Focused on a specific category of student learning Answers: Who will know what and why? 	<ul style="list-style-type: none"> Produces from assessments actionable data that can be collected to measure student learning 	<ul style="list-style-type: none"> Is realistic Neither out of reach nor below standard performance 	<ul style="list-style-type: none"> Answers: Will it drive the student forward? Does it align with the mission? Does it matter? 	<ul style="list-style-type: none"> Establishes a timeframe Describes activities that serve as benchmarks towards achievements

Weaker Outcomes	Strong Outcomes
Outcome verbs are vague (e.g., understand, comprehend, demonstrate an understanding of) and do not really get at the intended outcome	Outcome verbs are sharp, clear, and specific (e.g., write, calculate, describe, analyze) and make it clear what students should know and be able to do at the end of the program
Multiple verbs per learning outcome	One verb per learning outcome
Wordy, packing in multiple ideas	Brief and to the point
Focus only on lower levels of thought	Demonstrate varying levels of thought (Bloom's Taxonomy)
Not easy to observe/demonstrate/measure	Readily observable/demonstrable/measurable
Refer to general education skills	Refer to knowledge or skills specific to the discipline

How are student learning outcomes structured?

There are a variety of formats and guides to structuring a student learning outcome. The below formula and the ABCDs of SLOs are two practical examples of what to include when writing a student learning outcome.

Using a formula to assist in structuring the writing of a student learning outcome:

Graduating students will be able to [action verb] + [clear description of measurable learning to be observed].

**action verb can include those listed in the *Revised Bloom's Taxonomy of Action Verbs* table included in this resource (Page 7)

Elements of an SLO – Considering the ABCDs

Audience

Who is expected to learn?

Behavior

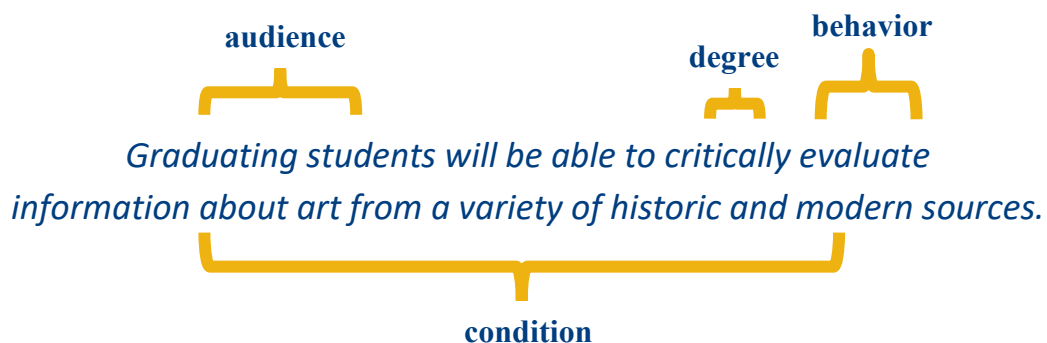
What do you expect students to know/be able to do?

Condition

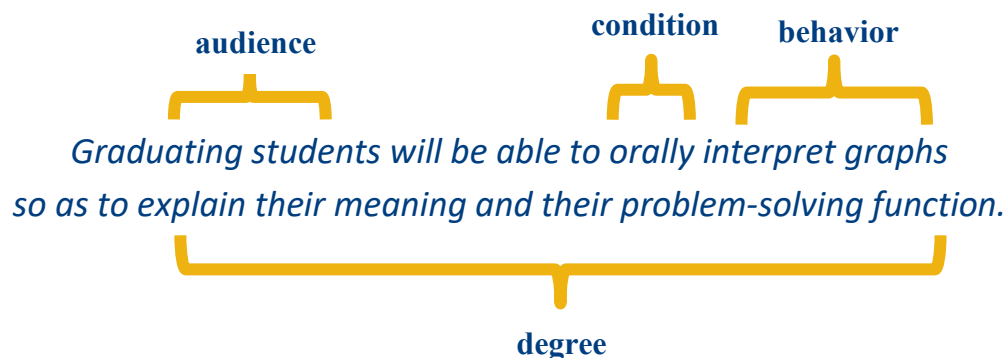
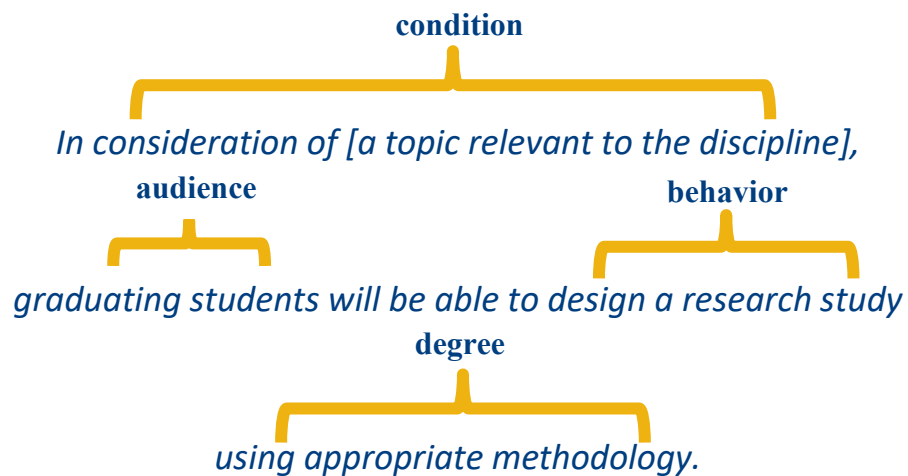
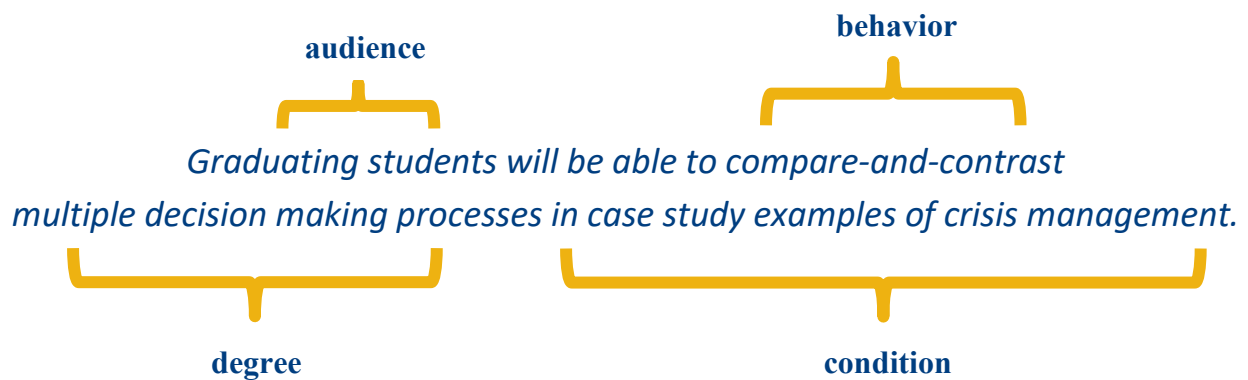
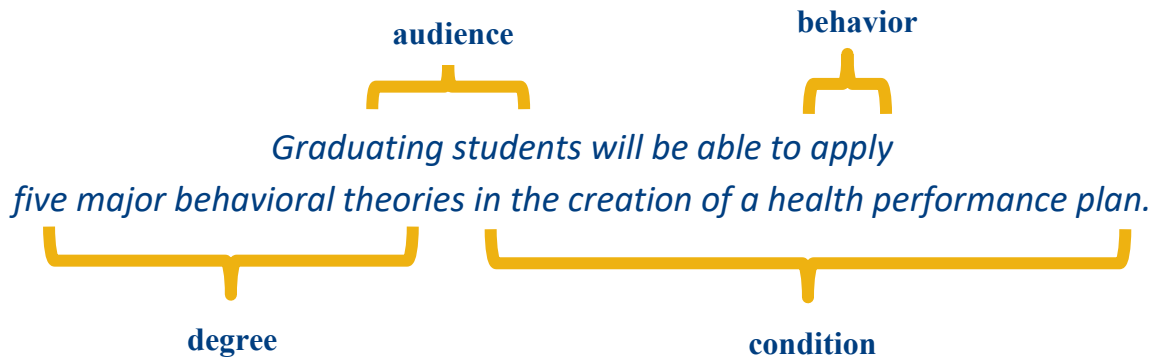
Under what conditions or circumstances will the knowledge, skills or abilities be demonstrated?

Degree

How well will the behavior need to be performed and to what level?



Examples of using the ABCDs to write student learning outcomes



How can Revised Bloom's Taxonomy help in creating the student learning outcome? "The taxonomy is useful in two important ways. First, use of the taxonomy encourages instructors to think of learning objectives in behavioral terms to consider what the learner can do as a result of the instruction. A learning objective written using action verbs will indicate the best method of assessing the skills and knowledge taught. Second, considering learning goals in light of Bloom's taxonomy highlights the need for including learning objectives that require higher levels of cognitive skills that lead to deeper learning and transfer of knowledge and skills to a greater variety of tasks and contexts." (Adams, 2015, p.153)

What type of language should be used to create student learning outcomes? Verbs from Revised Bloom's Taxonomy are a useful tool in creating student learning outcomes.

What type of language should be avoided when creating student learning outcomes? Be sure to avoid language that is not observable. A quick test to determine if language is observable is to ask: "Can this verb or phrase be easily measured? What would meeting this learning outcome look like?" Remember, student learning outcomes are what students are able to demonstrate in terms of knowledge, skills, and attitude upon completion of a program.

Keep in mind: Verbs such as these can be ***too vague*** for meaningful assessment:

Understand

Appreciate

Learn/Think about

Become familiar with

Gain an awareness of

REVISED BLOOM'S TAXONOMY OF ACTION VERBS

LEVEL	DEFINITION	SAMPLE VERBS					SAMPLE BEHAVIORS
REMEMBER	retrieve, recall, or recognize relevant knowledge from long-term memory	Cite	Label	Outline	Reproduce	State	The student will define the 6 levels of Bloom's taxonomy of the cognitive domain.
		Define	List	Quote	Retrieve	Tabulate	
		Describe	Match	Recall	Select	Tell	
		Identify	Name	Report	Show		
UNDERSTAND	demonstrate comprehension through one or more forms of explanation	Arrange	Compare	Distinguish	Illustrate	Represent	The student will explain the purpose of Bloom's taxonomy of the cognitive domain.
		Articulate	Compute	Estimate	Interpret	Restate	
		Associate	Conclude	Explain	Match	Summarize	
		Categorize	Contrast	Extrapolate	Outline	Translate	
		Clarify	Defend	Generalize	Paraphrase		
		Classify	Discuss	Give examples	Rephrase		
APPLY	use information or a skill in a new situation	Apply	Complete	Examine	Interpret	Predict	The student will classify action verbs according to their Bloom's taxonomy cognitive domain.
		Calculate	Compute	Execute	Manipulate	Solve	
		Carry out	Demonstrate	Generalize	Modify	Translate	
		Classify	Employ	Implement	Organize	Use	
ANALYZE	break material into its constituent parts and determine how the parts relate to one another and/or to an overall structure or purpose	Analyze	Compare	Diagram	Explain	Organize	The student will compare and contrast the cognitive and affective domains.
		Arrange	Connect	Differentiate	Identify	Relate	
		Break down	Contrast	Discriminate	Integrate	Separate	
		Categorize	Deconstruct	Distinguish	Inventory	Structure	
		Classify	Detect	Divide	Order		
EVALUATE	make judgments based on criteria and standards	Appraise	Consider	Discriminate	Persuade	Support	The student will evaluate the design of an assignment for its identified Bloom's taxonomy cognitive domain.
		Argue	Contrast	Evaluate	Rate	Test	
		Assess	Critique	Judge	Recommend	Validate	
		Compare	Decide	Justify	Review		
		Conclude	Determine	Measure	Select		
CREATE	put elements together to form a new coherent or functional whole; reorganize elements into a new pattern or structure.	Adapt	Compose	Devise	Make	Reconstruct	The student will design an assignment that reflects demonstrations of learning appropriate to a specific Bloom's taxonomy cognitive domain.
		Arrange	Constitute	Formulate	Perform	Revise	
		Assemble	Construct	Generate	Plan	Write	
		Build	Create	Hypothesize	Prepare		
		Combine	Design	Integrate	Produce		
		Compile	Develop	Invent	Propose		

Reference: <https://www.coloradocollege.edu/other/assessment/how-to-assess-learning/learning-outcomes/blooms-revised-taxonomy.html>

Examples of language used to develop student learning outcomes

Example 1

The below demonstrates weak language that is too general and difficult to measure:

will appreciate the benefits of exercise science

The below language is neither weak nor strong:

will appreciate exercise as a stress reduction tool

The below highlights language used to develop strong, specific and measurable student learning outcomes:

will explain how the science of exercise affects stress

Example 2

The below demonstrates weak language that is too general and difficult to measure:

will understand the scientific method

The below language is neither weak nor strong:

will apply the scientific method in problem solving

The below highlights language used to develop strong, specific and measurable student learning outcomes:

will design a grounded research study using the scientific method

Example 3

The below demonstrates weak language that is too general and difficult to measure:

will become familiar with correct grammar and literary devices

The below language is neither weak nor strong:

will demonstrate the use of correct grammar and various literary devices

The below highlights language used to develop strong, specific and measurable student learning outcomes:

will use correct grammar and various literary devices in creating an essay

Helpful Tips for Student Learning Outcomes

Do a program's student learning outcomes always remain the same? A program's student learning outcomes are not set in stone – they can evolve and change over time.

When might an SLO change?

After continuously meeting the outcome over multiple assessment cycles	When changing the direction of the program mission or curriculum	When introducing or incorporating a new element within the discipline or type of outcome	In response to an update or revision to disciplinary or professional standards
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To whom should a program's student learning outcomes be communicated? A variety of audiences should be aware of or would benefit from being familiar with a program's student learning outcomes.

Who should be aware of your SLOs?

Dean	Program Coordinator	Academic Advisors	External Stakeholders
Department Head	Program Faculty	Students	Potential Employers

References

Huitt, W. (2004). *Bloom et al.'s taxonomy of the cognitive domain*. Educational Psychology Interactive. Valdosta, GA: Valdosta State University. Retrieved from <http://www.edpsycinteractive.org/topics/cognition/bloom.html>

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