

Guidelines for writing learning objectives

The purpose of this document is to better assist you as AO faculty in writing performance-based learning objectives. In order to improve quality education learning objectives must be observable, measurable, and focused on the learner. Learning objectives are important in that they clearly communicate the direction of the curricular content, define faculty and learner responsibilities,

and enable the evaluation of the learners and the curriculum. Please follow the provided guidelines in the development of performance-based learning objectives for your presentations, small group discussions, and practical exercises. Please note that the terms learning objectives and learning outcomes are used interchangeably in this document.

Goal of a performance-based learning objective:

Describe the behavior in measurable terms that you, a faculty member, would expect to observe of the learner upon completion of this learning activity.

Do	Don't
Describe the observable action that you would expect to see the learner "doing" upon completion of the learning activity.	Do not describe the instruction that you, the faculty member, will perform in order to teach the learner.
Use measurable terms to describe the actions of the learner.	Do not use unmeasurable terms such as understand, know, be familiar with, comprehend, learn, or appreciate
Describe only one action in each objective.	Combine more than one action using "and."
Write learning objectives that are supported by the content of the learning activity.	Do not write a learning objective based on content that is insufficiently addressed.

Verb selection guide to writing performance-based learning objectives

The following is a quick tool for faculty to use when writing learning objectives that allow the participant to demonstrate the depth to which they can apply their new knowledge. The higher the level, the more rigorous the cognitive demand, so we encourage high level outcomes.

The associated verbs provided below are a partial list and do not constitute an official AO list. They are meant to provide examples for those unfamiliar with either taxonomy.

BLOOM'S

Bloom's Level 1 Knowledge	Bloom's Level 2 Comprehension	Bloom's Level 3 Application
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BRIEF EXAMPLE:

- Recall elements and details of a diagnosis.
- Conduct calculations.
- List typical symptoms.
- Identify scientific concepts/relationships.
- Perform routine procedures.
- Describe treatment options.

BRIEF EXAMPLE:

- Summarize a patient's history.
- Solve routine multiple-step problems.
- Relate the cause and effect of a particular event.
- Identify patterns in behavior.
- Interpret data.

ASSOCIATED VERBS		ASSOCIATED VERBS	
Arrange	Quote	Categorize	Infer
Calculate	Recall	Cause/Effect	Interpret
Define	Recite	Classify	Make Observations
Describe	Recognize	Collect	Modify
Identify	Repeat	Compare	Organize
Label	Report	Construct	Perform
List	Review	Determine	Predict
Match	State	Display	Relate
Measure	Tabulate	Distinguish	Separate
Memorize	Tell	Estimate	Show
Name	Use	Graph	Summarize
		Identify Patterns	

Tips

1. Start with a measurable verb followed by a description of the action that the learner will take.
2. When necessary, for the sake of clarity, a learning objective may also need to specify the conditions in which the action will occur (eg, specific information to clarify clinical focus and/or patient characteristics).
3. Use the top four levels of Bloom’s Taxonomy to aid in the selection of appropriate verbiage.
4. Be careful when using verbs such as *describe*, *explain*, *review*, *discuss*, or *summarize*. They imply that the learner will communicate verbally with someone. These verbs should be used in the context of communicating with the patient, and not used to describe something that a faculty member would do (eg, explain a concept at a live CME activity).

TAXONOMY

Bloom’s Level 4 Analysis	Bloom’s Level 5 Synthesis	Bloom’s Level 6 Evaluation
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BRIEF EXAMPLE:

- Support ideas with details and examples.
- Develop a scientific model for a complex situation.
- Assess by exam.
- Determine a patient’s motivation for treatment and describe how it affects the interpretation of a diagnosis.

BRIEF EXAMPLE:

- Apply new concepts to a current problem or situation.
- Analyze and synthesize information from multiple sources.
- Design resource tools to inform patients and solve practical or abstract problems.
- Critique literature and formulate an opinion.

ASSOCIATED VERBS		ASSOCIATED VERBS	
Apprise	Hypothesize	Analyze	Integrate
Assess	Improve	Apply Concepts	Manage
Cite Evidence	Investigate	Connect	Prove
Construct	Prescribe	Choose	Rate
Coordinate Care	Revise	Confirm	Recommend
Critique	Solve a Problem	Counsel	Select
Develop a Diagnosis	Use Concepts to	Create	Synthesize
Diagnose		Critique	Validate
Differentiate		Design	Verify
Draw Conclusions		Determine	
Explain Concepts		Establish	
Formulate		Evaluate	

Reference

Bloom BS, Krathwohl DR. Taxonomy of educational outcomes: the classification of educational goals, by a committee of college and university examiners. In: *Handbook 1: Cognitive Domain*. New York: Longmans; 1956.

Examples

Poor Wording	Better Wording	Why?
Understand how to modulate pain therapy by addressing psychological and personality issues.	Modulate pain therapy by addressing psychological and personality issues in patients with chronic pain.	<i>The term “understand” is not measurable; and context regarding the patient’s condition is absent.</i>
Explain the benefits of various exercise modalities for an elderly person.	Determine the most appropriate exercise modality for health maintenance in the patient who is elderly.	<i>The learning objective described the instructional method used by the faculty member—the faculty member did the explaining.</i>
Become familiar with common eye problems.	Screen for eye conditions commonly associated with type 2 diabetes.	<i>The objective is unmeasurable, does not describe the action that the learner should be able to take, and does not describe the context regarding the patient’s condition.</i>
Formulate a diagnosis and management plan for each of the above.	Formulate a sequential diagnosis procedure for the patients with medical complications of pregnancy. Develop a management plan for commonly diagnosed medical complications of pregnancy.	<i>Assume this learning objective is the third of four. It refers to previously stated outcomes and combines two separate actions: diagnosis and management. Each objective must stand alone without reference to other outcomes.</i>
List types of abnormal pulmonary functions.	Given the calculated results of tests compared with predicted normal values, determine the presence or absence of abnormal pulmonary function and classify it as to type and severity.	<i>The verb “list” is too low of mental function for adult learners, let alone physicians.</i>