Preparing Learning Objectives

Learning objectives are a tool to assist you in identifying the specific steps that will be taken to address the gap between an identified need and the desired result. Learning objectives also assist learners in understanding the specific result they can expect to achieve as a result of participating in this educational activity. Learning objectives should be written from the perspective of what the learner will apply in the practice setting with the information gained through this educational activity and directly relate to the method of instruction. Learning objectives are the critical linkage between gaps and outcomes. If constructed properly, the learning objective will enable you to prepare outcomes questions that will measure results. Learning objectives should be written to reflect the correct "domain" related to the content. There are 3 potential domains of educational activities.

Cognitive: The cognitive domain involves **knowledge** and the development of intellectual skills. This includes the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. There are six major categories, which are listed in order below, starting from the simplest behavior to the most complex. The categories can be thought of as degrees of difficulties. That is, the first one must be mastered before the next one can take place. Delivery in this domain is typically a lecture/presentation and the evaluation will be subjective and objective test items.
  o *Knowledge*: Recall data or information
  o *Comprehension*: Understand the meaning, translation, interpolation, and interpretation of instructions and problems
  o *Application*: Use a concept in a new situation or unprompted use of an abstraction
  o *Analysis*: Separates material or concepts into component parts so that its organizational structure may be understood
  o *Synthesis*: Builds a structure or pattern from diverse elements
  o *Evaluation*: Make judgments about the value of ideas or materials

Affective: This domain includes the manner in which we deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and **attitudes**. The five major categories are listed from the simplest behavior to the most complex:
  o *Receiving*: Awareness, willingness to hear, selected attention
  o *Responding*: Active participation on the part of the learner
  o *Valuing*: The worth or value a person attaches to a particular object, phenomenon, or behavior
  o *Organization*: Organizes values into priorities by contrasting different values, resolving conflicts between them, and creating a unique value system. The emphasis is on comparing, relating, and synthesizing values.
  o *Value complex*: Has a value system that controls their behavior. Instructional objectives are concerned with general patterns of adjustment (personal, social, emotional)

Psychomotor: The psychomotor domain is **skill** based and includes physical movement, coordination, and use of the motor-skill areas. Development of these skills requires practice and is measured in terms of speed, precision, distance, procedures, or techniques in execution. The delivery is demonstration and proficiency building in nature. The

evaluation will be a performance or skill test. The seven major categories are listed from the simplest behavior to the most complex:

- o *Perception*: The ability to use sensory cues to guide motor activity
- o *Set*: Readiness to act. It includes mental, physical, and emotional sets.
- o *Guided response*: The early stages in learning a complex skill that includes imitation and trial and error.
- o *Mechanism*: Intermediate stage in learning a complex skill
- o *Complex*: The skillful performance of motor acts that involve complex movement patterns.
- o *Adaptation*: Skills are well developed and the individual can modify movement patterns to fit special requirements.
- o *Origination*: Creating new movement patterns to fit a particular situation or specific problem.

Old Learning Objectives:
- o Describe…
- o Learn…
- o Discuss…

New Learning Objectives should be written in terms of what the physician *will apply* to the practice environment. They are written so that there is a change expected and is a link:

- o Between the content and what the learner is presently doing or may do in his current practice
- o From objectives to the content
- o From objectives to measurable outcomes
- o To the selection of faculty with expertise to address them
- o Are specific, measurable and have a link between current and ideal practice

Learning objectives should be written in 3 sections:
- o the content (stated in terms of performance),
- o the condition (the situation in which the learner might encounter the issue), and
- o the standard (against which he or she can determine success).

Examples of a condition, stated in terms of performance and a standard:

DOMAIN	EXAMPLE
Cognitive (Knowledge)	Evaluate treatment options for an adolescent patient with depression so that suicidal ideation is eliminated
Psychomotor (Skill)	Obtain a second rhythm from an attached esophageal ECG lead with minimal electrical interference
Affective (Attitude)	For your patients with bone metastases, counsel on treatment options to improve quality of life

Content stated in terms of performance
The condition
The standard

Behavioral Verbs for Writing Objectives in the Cognitive, Affective and Psychomotor Domains

Verbs for use in stating COGNITIVE OUTCOMES					
Knowledge	*Comprehension*	*Application*	*Analysis*	*Synthesis*	*Evaluation*
Define	Discuss	Compute	Distinguish	Diagnose	Evaluate
List	Describe	Demonstrate	Analyze	Propose	Compare
Recall	Explain	Illustrate	Differentiate	Design	Assess
Name	Identify	Operate	Compare	Manage	Justify
Recognize	Translate	Perform	Contrast	Hypothesize	Judge
State	Restate	Interpret	Categorize	Summarize	Appraise
Repeat	Express	Apply	Appraise	Plan	Rate
Record	Convert	Use	Classify	Formulate	Choose
Label	Estimate	Practice	Outline	Arrange	Decide
		Predict		Organize	

Verbs for use in stating AFFECTIVE OUTCOMES				
Receiving	*Responding*	*Valuing*	*Organization*	*Value Complex*
Sit erect	Answer	Join	Adhere	Act
Reply	Greet	Share	Integrate	Practice
Accept	Read	Complete	Organize	Discriminate
Show	Report	Follow		Influence

Verbs for use in stating PSYCHOMOTOR OUTCOMES						
Perception	*Set*	*Guided Response*	*Mechanism*	*Complex*	*Adaptation*	*Origination*
Identify	React	Display	Display	Display	Adapt	Create
Detect	Respond	Manipulate	Manipulate	Manipulate	Revise	Compose
Differentiate	Start	Work	Work	Work	Change	Arrange
		Perform	Write	Operate		

Avoid using verbs that are difficult to measure objectively. The following verbs are difficult to assess and should not be used as cognitive objectives

Know	Gain knowledge of	Understand	Appreciate	Be aware
Learn	Think critically	Approach	Improve	Grow
Study	Become acquainted with	Become	Realize	Cover
Increase	Expand horizons	Grasp significance	Comprehend	Familiarize