

Developing Learning Objectives

Objectives will clearly and concisely communicate what learner is expected to know and/or do at the conclusion of an activity. Objectives must be included in program brochures so the participants may evaluate the relevance of attending a CME activity.

Being clear on what the learner needs and wants to know is the first step. Objectives developed by planning committees and speakers should relate to the specific needs identified for the activity (see Determining Learner Needs).

The three essential elements of learning objectives are a statement of **who** (the learner), **how** (the action verb), and **what** (the content).

The WHO:

The learning objectives should be centered on the learner and complete a statement such as:

“At the conclusion of this educational activity, the participant should be able to:”

“At the conclusion of the program the physician will be able to:”

“At the completion of this lecture, participants will be able to:”

The HOW:

Careful selection of verbs is a difficulty but essential step in formulating objectives. The following verbs have been found to be effective in formulating educational objectives:

List of Verbs for Formulating Educational Objectives

Those that communicate Knowledge

Information

cite	identify	quote	relate	tabulate
count	indicate	read	repeat	tell
define	label	recite	select	trace
describe	list	recognize	state	write
distinguish	name	reproduce		

Comprehension

associate	describe	explain	illustrate	review
classify	differentiate	express	locate	translate
compare	discuss	extrapolate	predict	
compute	distinguish	interpolate	report	
contrast	estimate	interpret	restate	

Application

apply	employ	locate	relate	sketch
calculate	examine	operate	report	solve
complete	illustrate	order	restate	translate
demonstrate	interpolate	practice	review	use
dramatize	interpret	predict	schedule	utilize

Analysis

analyze	debate	distinguish	inventory
appraise	detect	experiment	question
contract	diagram	infer	separate
criticize	differentiate	inspect	summarize

Synthesis

arrange	construct	formulate	organize	produce
assemble	create	generalize	plan	propose
collect	design	integrate	prepare	specify
compose	detect	manage	prescribe	

Evaluation

appraise	determine	judge	recommend	test
assess	estimate	measure	revise	
choose	evaluate	rank	score	
critique	grade	rate	select	

Those that communicate Skill

adjust	hold	massage	pass	repair
bend	integrate	measure	percuss	use
diagnose	internalize	operate	perform	visualize
empathize	manipulates	palpate	project	

Those that communicate Attitudes

acquire	cooperate	join	praise	support
agree	exemplify	offer	realize	
avoid	help	participate	reflect	

The WHAT

Objectives should be measurable, in terms of time, space, amount, and/or frequency. Consider adding performance standards to your learning objectives, such as

- “in a fifteen-minute time period”
- “with no mistakes”

- “with 90% accuracy”

Define the criteria or conditions under which the learning is to be demonstrated. Wording that describes learning conditions might include:

- “Given a problem of the following type...”
- “Without the use of any reference materials...”

Common mistakes

Avoid using verbs that are difficult to measure objectively. The following verbs are difficult to assess, thus should be used with caution:

know	comprehend	learn	believe
understand	appreciate	familiarize	study

Avoid these words and use action verbs instead. "Understanding" can have a myriad of meanings and it can be difficult to evaluate whether a learner "understands" a concept. However, a learning objective that states that a physician "will be able to cite the risk factors for coronary artery disease" can be evaluated consistently by both the CME planners and the participants as to whether it has been achieved.

Often program announcements give objectives which are just a list of topics. Examples: "1. Principles of laser mechanics; 2. Laser uses in the cardiovascular system; 3. Efficacy of lasers in cardiovascular disease." This focuses on what the instructor will do rather on what the learner will achieve.

Key Articles

1. Carey M, Shub C. An approach to Writing Learning Objectives for CME Activities. Intercom: Official Newsletter of the Society of Medical College Directors of Continuing Medical Education 1992;6:4-5.
2. Mager RF. Preparing instructional objectives. Belmont, California: Fearon Publishers, 1962.
3. Rosof AB. Stating objectives. In: Rosof AB, Felch WC (eds). Continuing medical education: a primer. Westport CT. Praeger; 1992 pp 52-59.