

MINI-MANUAL FOR WRITING LEARNING OBJECTIVES

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Learning Objectives: What Are They?

Learning objectives or behavioral objectives are defined by the course director in order to establish the expectations of what students or participants should be able to accomplish once the learning activity (i.e. lecture, discussion, lab session, conference, rounds activity, etc.) has taken place.

Bloom et al, in 1956, defined three domains of learning:

- cognitive (thinking)
- affective (attitudes)
- psychomotor (skills acquisition)

Six levels of cognitive learning have been defined:

- knowledge (facts, recall of material)
- comprehension (understanding meaning)
- application (use of learned material in a new environment)
- analysis (deconstruction of learned material into individual parts)
- synthesis (reconstruction of material in new ways)
- evaluation (judgment or value of material)

Mastering the lower cognitive levels is prerequisite to achieving the higher levels. Students in more advanced stages of learning should be expected to achieve objectives on the higher levels. Affective objectives should reflect the development of specific attitudes. An example might be the attributes of professionalism. An important affective objective for any topic or lesson plan is that the student or participant will realize or consider that the subject is worth studying or knowing. Psychomotor objectives are those that emphasize acquisition of physical/manual skills. These may be important for medical students or house officers and could relate to technical skills such as blood drawing or listening to heart sounds.

Learning Objectives: Why Are They Important?

Formulating objectives in behavioral terms allows the teacher to organize a curriculum for the learning activity. Based on those objectives, a curricular plan can be designed to achieve those goals. Objectives also serve to drive the evaluation process and the consideration of whether a given curriculum has accomplished its task. Evaluation formats can specifically test or assess whether the specific objectives have been met.

Learning Objectives: How do you Write Them?

Learning objectives must be written in behavioral terms defining a specific outcome. A beginning phrase is followed by action verbs that can assess a behavioral change. An example of such a phrase is:

"At the end of the lecture/lesson/class/activity/month on rotation/residency training program/CME activity, the student/course participant will be able to _____."

The verbs and actions that complete the phrase should reflect the behavioral change that the learning objective seeks to accomplish. The following is a list of verbs that may be used to express an objective within the defined domains:

Knowledge			
cite count define describe draw identify indicate label	list match name point quote read recall recite	recognize record relate repeat select sequence state summarize	tabulate tell trace update write
Comprehension			
assess associate classify compare compute conclude contrast demonstrate	describe differentiate discuss distinguish estimate explain express extrapolate	generalize give examples infer interpolate interpret locate paraphrase predict	report restate review rewrite translate
Application			
apply calculate change choose complete compute demonstrate develop dramatize	employ examine illustrate interpolate interpret locate match modify operate	order practice predict prescribe relate report restate review schedule	select show sketch solve translate treat use utilize
Analysis			
analyze appraise contract contrast criticize debate	deduce detect diagram differentiate discriminate distinguish	experiment infer inspect inventory measure outline	question research select separate subdivide summarize
Synthesis			
arrange assemble categorize collect combine compile compose	construct create design detect devise diagnose document	explain formulate generalize generate integrate manage organize	plan prepare prescribe produce propose specify validate
Evaluation			
appraise argue assess choose compare conclude criticize	critique decide determine estimate evaluate grade judge	justify measure prioritize prove rank rate recommend	revise score select support test

The following are verbs that convey attitudes:

acquire consider empathize	exemplify modify plan	realize reflect relate	revise transfer value
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The following verbs may be used to impart skills:

auscultate demonstrate diagnose diagram hold	integrate internalize listen manipulate massage	measure operate palpate pass percuss	perform project record use visualize write
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Verbs that should be avoided as they do not assess a behavioral change:

appreciate believe have faith know learn understand
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