

Course and Program Learning Outcomes Guidelines

Tulsa Community College

The Three Learning Domains

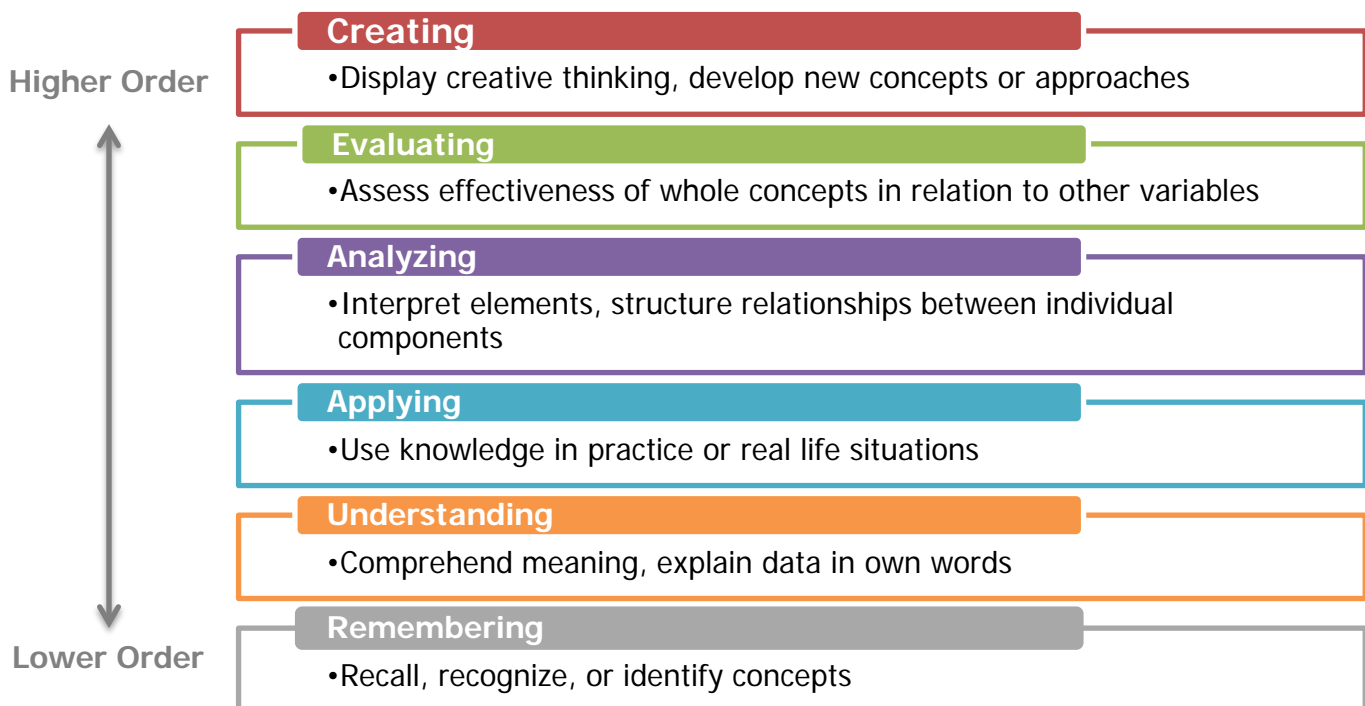
Learning outcomes fall into one of three domains: cognitive, affective, or psychomotor. Will the students be acquiring knowledge and intellectual skills (cognitive); developing values, ethics, or attitudes (affective); or developing physical skills (psychomotor)? The major categories of each domain are described briefly in order, from the simplest ability level to the most complex. Use this list to help select action verbs to express distinct performance expectations for students and to create learning outcomes.

Avoid using verbs that are difficult to measure or observe, such as...

- appreciate
- be aware of
- be familiar with
- become acquainted with
- become proficient in
- comprehend
- demonstrate ability to
- demonstrate understanding
- do
- gain knowledge of
- have an understanding of
- have a knowledge of
- have a working knowledge of
- know
- learn
- practice
- realize
- respect
- study
- understand

1) The Cognitive Domain (mind/brain)

The phrasing of learning outcomes will help guide both instructional activities and assessment; therefore, it is important to identify the emphasis of learning and the relevant verb. The taxonomic levels represent degrees of cognitive difficulty.



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List of verbs for the cognitive domain

Remembering	Understanding	Applying	Analyzing	Evaluating	Creating
choose	arrange	apply	analyze	agree	adapt
define	associate	build	appraise	appraise	build
describe	clarify	change	arrange	assess	change
find	classify	chart	assume	award	combine
identify	conclude	choose	calculate	choose	compile
know	convert	classify	categorize	compare	compose
label	defend	compute	compare	conclude	construct
list	discuss	construct	contrast	confirm	create
locate	distinguish	deliver	correlate	criticize	derive
match	estimate	develop	differentiate	critique	design
memorize	explain	dramatize	discover	decide	develop
name	express	employ	dissect	deduct	discuss
omit	extend	generalize	distinguish	defend	draft
outline	generalize	identify	divide	determine	elaborate
recall	infer	illustrate	examine	diagnose	formulate
recite	interpret	implement	experiment	disprove	imagine
recognize	paraphrase	interview	infer	estimate	improve
relate	predict	manipulate	inspect	evaluate	integrate
reproduce	rephrase	model	inventory	influence	invent
select	restate	modify	motive	interpret	make up
show	rewrite	operate	outline	judge	manage
state	show	order	simplify	justify	modify
tell	summarize	organize	solve	measure	originate
write	translate	plan	survey	perceive	organize
		practice	verify	prioritize	plan
		prepare		prove	predict
		produce		rank	prepare
		relate		rate	propose
		sketch		recommend	reorder
		solve		research	shape
		tabulate		revise	solve
		transcribe		rule on	structure
		use		select	suppose
		utilize		support	synthesize
				weigh	test
				value	theorize
				validate	transform

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2) The Affective Domain (spirit/heart)

This domain includes the manner in which students deal with things emotionally, such as feelings, values, appreciation, enthusiasms, motivations, and attitudes. The five major levels are...



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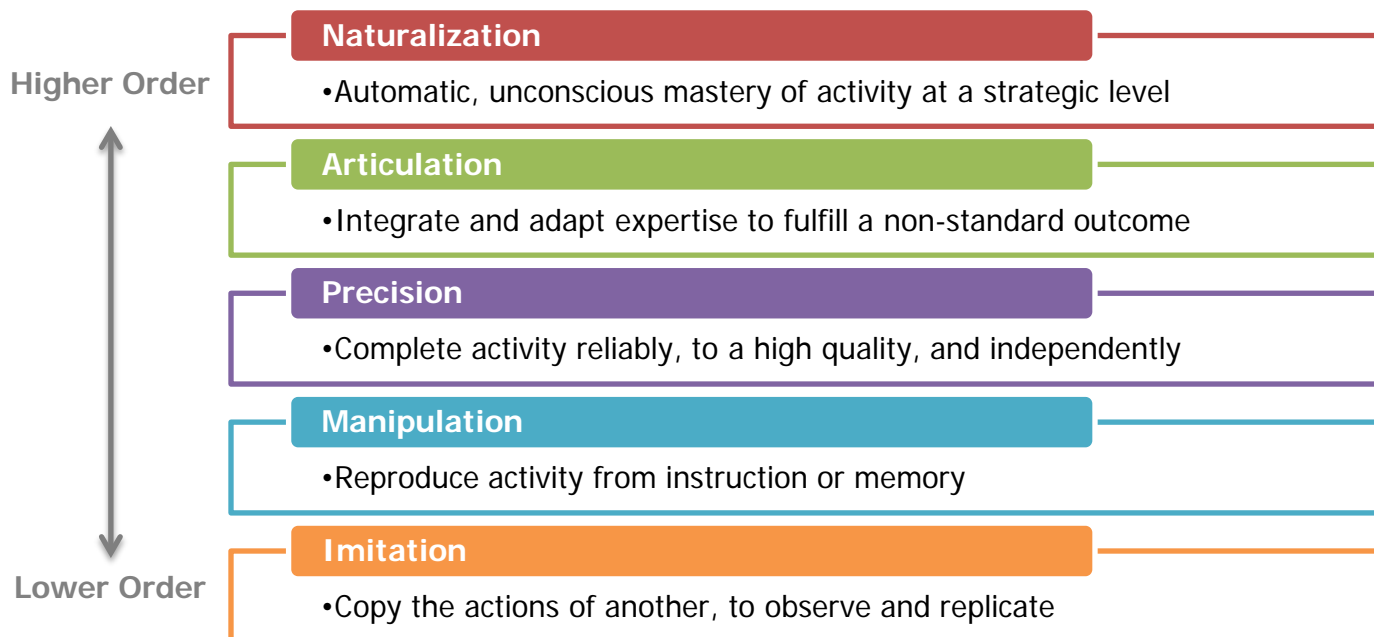
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List of verbs for the affective domain

Receiving	Responding	Valuing	Organizing	Internalizing
acknowledge	answer	accept	adapt	act
ask	ask	adhere to	adhere	advocate
choose	assist	adopt	alter	behave
describe	cite	approve	arrange	characterize
discuss	clarify	argue	categorize	conform
follow	communicate	choose	classify	continue
give	comply	commit	combine	cooperate
identify	conform	complete	compare	defend
read	consent	confront	complete	devote
reply	contribute	contribute	defend	disclose
tolerate	cooperate	criticize	design	discriminate
	discuss	debate	establish	display
	follow-up	describe	explain	encourage
	help	desire	formulate	exemplify
	indicate	differentiate	generalize	function
	inquire	display	group	incorporate
	label	encourage	identify	influence
	pursue	endorse	integrate	justify
	question	evaluate	modify	maintain
	react	exhibit	order	modify
	read	explain	organize	pattern
	reply	express	prepare	perform
	report	form	rank	promote
	request	initiate	rate	propose
	respond	integrate	relate	qualify
	seek	invite	resolve	question
	select	join	revise	retain
	visit	justify	solve	revise
		maintain	synthesize	serve
		monitor	systemize	support
		propose	test	uphold
		refute		
		report		
		select		
		share		
		support		

3) The Psychomotor Domain (body/hands)

The psychomotor domain 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 major levels listed in order are...



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List of verbs of the psychomotor domain

Imitation	Manipulation	Precision	Articulation	Naturalization
adhere	acquire	automatize	adapt	arrange
assemble	assemble	calibrate	alter	combine
attempt	build	complete	change	compose
carry out	complete	control	combine	construct
copy	conduct	demonstrate	coordinate	create
calibrate	execute	perfect	develop	design
construct	implement	refine	formulate	invent
dissect	improve	show	integrate	manage
duplicate	maintain		modify	originate
follow	make		rearrange	refine
mimic	manipulate		reorganize	specify
move	operate		revise	
organize	pace		solve	
practice	perform			
proceed	produce			
re-create	use			
repeat				
replicate				
reproduce				
respond				
organize				
sketch				

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Program Learning Outcomes (PLOs) are statements that describe significant and essential learning students have achieved by the time they earn their credential. Program learning outcome statements are broader and represent higher order learning than course learning outcomes.

The purpose of having well-designed program learning outcomes is to...

- identify core competency areas of the program consistent with the mission/purpose of the program and the institution.
- clarify what students should know, believe, or be able to do after completing a credential.
- reflect student growth and development while engaged in activities or events within the program and at the institution (not the means or the process).
- focus on the result of the learning experiences within the degree program.
- provide a framework for developing assessments to measure student learning at the program level.
- create a framework for assessing overall effectiveness of an educational program.
- assess the relevance of the program to meet the current needs of the constituencies.

Effective program learning outcomes...

- should complete the phrase, "After completing this program, students will be able to..."
- are limited in number: ideally, four to eight statements focusing on the main ideas.
- use a single action verb that is measureable, quantitatively or qualitatively, and focuses on what students will be able to know, feel, or do, rather than on course content or activities.
- are broad in scope.
- are stated concisely.
- do not use filler adverbs, such as effectively, competently, accurately, and well.
- limited to higher order skills.
- bundle multiple related topics into one outcome using one verb.
- are stated such that the outcome can be measured by more than one assessment method.

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Course Learning Outcomes (CLOs) are measurable statements that simply define what faculty members want students to know, feel, and be able to do by the end of a course.

The purpose of having well designed course learning outcomes is to...

- inform students of the standards and expectations for the course.
- serve as an implicit contract between instructor and students as a basis for mutual accountability.
- increase course consistency across different class sections.
- guide the formation of instructional activities and learning opportunities.
- provide a framework for developing assessments of student learning.
- facilitate curriculum development.

Effective course learning outcomes...

- should complete the phrase, "After completing this course, students will be able to..."
- are limited in number: ideally, six to twelve statements focusing on the main ideas.
- use a single action verb that is measurable, quantitatively or qualitatively, and focuses on what students will be able to know, feel, or do, rather than on course content or activities.
- are stated with specificity.
- are stated concisely.
- do not use filler adverbs, such as effectively, competently, accurately, and well.
- include complex or higher order skills as appropriate.
- bundle multiple related topics into one outcome using one verb.
- are stated such that the outcome can be measured by more than one assessment method.
- may specify criteria or standards (accuracy, quality, time constraint, or quantity) under which the behavior occurs.
- may specify conditions (i.e., given "X" or without "Y") under which the behavior occurs.

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Identifying Common Problems

Once the elements of the learning outcomes are understood, identifying statements that fall short becomes evident. You do not need to be an expert in a specific discipline to be able to recognize a well-written outcome statement from a bad one. Below are common errors encountered when writing intended course and program outcome statements.

- The outcome is too vague.
- The outcome statement is too specific.
- The outcome statement incorporates too wide a range of skills and abilities.
- The intended outcome would be too difficult to assess.
- The outcome is not action-oriented or learner-centered.

Here are a few examples of learning outcomes. Review each statement and analyze the structure and appropriateness of the wording.

Before: Students will appreciate music from other cultures.

Comment: *How does one assess appreciation?* The intended learning statement would be too difficult to assess. Avoid using verbs that are difficult to measure or observe.

After: Students will evaluate music from other cultures.

Before: Students will be exposed to two different types of speeches (persuasive and informative)

Comment: *This statement is not learner centered.* This statement is not separating teaching from learning.

After: Students will differentiate between persuasive and informative speeches.

Before: Students will communicate.

Comment: *The outcome is too vague.*

After: Students will produce written, oral, and multimedia communication.

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Student Learning Outcomes Evaluation Checklist

The learning outcomes for this program or course...	Looks good	Needs work
are limited in number	<input type="checkbox"/>	<input type="checkbox"/>
use action verbs that focus on what students will be able to do, rather than on course content or activities	<input type="checkbox"/>	<input type="checkbox"/>
are stated clearly (make sure learning outcomes statements are not too broad)	<input type="checkbox"/>	<input type="checkbox"/>
are stated concisely (assume the outcome is stated at an appropriate level; avoid <i>effectively, etc.</i>)	<input type="checkbox"/>	<input type="checkbox"/>
are measurable, either quantitatively or qualitatively (e.g., avoid <i>know, understand, etc.</i>)	<input type="checkbox"/>	<input type="checkbox"/>
include complex or higher order skills as appropriate	<input type="checkbox"/>	<input type="checkbox"/>
separate distinct sets of skills	<input type="checkbox"/>	<input type="checkbox"/>
bundle multiple related topics	<input type="checkbox"/>	<input type="checkbox"/>
are stated such that each outcome can be measured by more than one assessment method	<input type="checkbox"/>	<input type="checkbox"/>
focus on "main ideas" for the course	<input type="checkbox"/>	<input type="checkbox"/>
are understood by the students	<input type="checkbox"/>	<input type="checkbox"/>
supported by the curriculum	<input type="checkbox"/>	<input type="checkbox"/>

Comments: