Domains of Learning

Cognitive, Affective, and Psychomotor

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.

Category	*Example and Key Words*
Knowledge: Recall data or information.	**Example activities:** Multiple-choice test, recount facts or statistics, recall a process, rules, definitions; quote law or procedure. **Key Words:** arrange, define, describe, identify, know, label, list, match, memorize, name, outline, recall, recognize, relate, reproduce, select, state.
Comprehension: Understand the meaning, translation, interpolation, and interpretation of instructions and problems. State a problem in one's own words.	**Example activities:** Explain or interpret meaning from a given scenario or statement, suggest treatment, reaction, or solution to given problem, create examples or metaphors. **Key Words:** classify, comprehend, convert, critique, defend, discuss, distinguish, estimate, explain, extend, generalize, give examples, illustrate, infer, interpret, paraphrase, predict, reference, reiterate, report, reword, rewrite, review, summarize, theorize, translate.
Application: Use a concept in a new situation or unprompted use of an abstraction. Applies what was learned in the classroom into novel situations in the work place.	**Example activities:** Put a theory into practical effect, demonstrate, solve a problem, manage an activity **Key Words:** apply, change, compute, conduct, construct, demonstrate, discover, execute, implement, manage, manipulate, modify, operate, perform, predict, prepare, produce, react, relate, respond, role-play, show, solve, use.
Analysis: Separates material or concepts into component parts so that its organizational structure and internal relationships may be understood. Distinguishes between facts and inferences.	**Example activities:** Identify constituent parts and functions of a process or concept, or deconstruct a methodology or process, making qualitative assessment of elements, relationships, values, and effects; measure requirements or needs. **Key Words:** analyze, break down, catalogue, compare, contrast, deconstruct, diagram, differentiate, discriminate, distinguish, divide, examine, experiment, extrapolate, graph, identify, illustrate, infer, measure, outline, plot, quantify, relate, select, separate, test, value.
Synthesis: Builds a structure or pattern from diverse elements. Put parts together to form a whole, with emphasis on creating a new meaning or structure. Creative thinking.	**Example activities:** Develop plans or procedures, design solutions, integrate methods, resources, ideas, parts; create teams or new approaches, write protocols or contingencies. **Key Words:** assemble, build, categorize, combine, compile, compose, create, devise, design, develop, establish, explain, formulate, generate, integrate, modify, organize, plan, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, summarize, tell, write.
Evaluation: Make judgments about the value of ideas or materials in relation to outputs, efficacy and viability. Critical thinking.	**Example activities:** Review strategic options or plans in terms of efficacy, return on investment, practicality; assess sustainability; perform SWOT analysis in relation to alternatives; calculate the effects of a plan or strategy; perform a detailed and costed risk analysis with recommendations and justifications **Key Words:** appraise, argue, assess, compare, conclude, contrast, criticize, critique, defend, describe, direct, discriminate, evaluate, explain, interpret, investigate, justify, present a case for, project-manage, relate, report on, review, summarize, support.

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:

Category	Example and Key Words
Receiving Phenomena: Awareness, willingness to hear, selected attention.	**Example activities**: Listen to teacher or trainer, take interest in session or learning experience, take notes, turn up, make time for learning experience, participate passively **Key Words**: acknowledge, ask, attend, be open to, choose, concentrate, describe, discuss, do, feel, follow, focus, gives, hear, hold, identify, listen, locate, name, point to, read, select, sits erect, reply, retain, take part, use.
Responding to Phenomena: Active participation on the part of the learners. Learning outcomes may emphasize compliance in responding, willingness to respond, or satisfaction in responding (motivation).	**Example activities**: Active participation in group discussions and activities, interest in outcomes, enthusiasm for action, give a presentation, questions new ideals, concepts, models, etc. in order to fully understand them, suggest interpretation. **Key Words**: answers, assists, aids, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes.
Valuing: The worth or value a person attaches to a particular object, phenomenon, or behavior. Ranges from simple acceptance to the more complex state of commitment. Clues to internalized values are expressed in the learner's behavior and are often identifiable.	**Example activities**: Decide worth and relevance of ideas, experiences; accept or commit to particular stance or action. **Key Words**: argue, challenge, complete, confront, criticize, debate, demonstrate, differentiate, explain, follow, form, initiate, invite, join, justify, persuade, propose, read, refute, report, select, share, study, work.
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.	**Example activities**: Qualify and quantify personal views, state personal position and reasons, state beliefs; recognize the need for balance between freedom and responsible behavior; accept responsibility for one's behavior; prioritizes time effectively to meet needs. **Key Words**: adhere, alter, arrange, build, combine, compare, complete, contrast, defend, develop, explain, formulate, generalize, identify, integrate, modify, order, organize, prepare, prioritize, reconcile, relate, synthesize.
Internalizing values (characterization): Has a value system that controls their behavior. The behavior is pervasive, consistent, predictable, and most importantly, characteristic of the learner. Instructional objectives are concerned with the student's general patterns of adjustment (personal, social, emotional).	**Example activities**: Show self-reliance when working independently; behave consistently with personal value set; cooperate in group activities; use an objective approach in problem solving; revise judgments and change behavior in light of new evidence. **Key Words**: act, discriminate, display, influence, listen, modify, perform, practice, propose, qualify, question, revise, serve, solve, verify.

Psychomotor

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 seven major categories are listed from the simplest behavior to the most complex:

Category	*Example and Key Words*
Perception: The ability to use sensory cues to guide motor activity. This ranges from sensory stimulation, through cue selection, to translation.	**Example activities**: Detect non-verbal communication cues; estimate cause and effect of movements, actions, physical changes. **Key Words**: choose, describe, detect, differentiate, distinguish, identify, isolate, relate, select.
Set: Readiness to act. It includes mental, physical, and emotional sets. These three sets are dispositions that predetermine a person's response to different situations.	**Examples**: Know and act upon a sequence of steps in a process. Recognize one's abilities and limitations. Show desire to learn a new process (motivation). *NOTE: This subdivision of Psychomotor is closely related with the "Responding to phenomena" subdivision of the Affective domain.* **Key Words**: begin, display, explain, move, proceed, react, show, state, volunteer.
Guided Response: The early stages in learning a complex skill that includes imitation and trial and error. Adequacy of performance is achieved by practicing.	**Example activities**: Perform a mathematical equation as demonstrated; follow instructions to build a model; respond to hand-signals of instructor while learning a skill; watch teacher or trainer and repeat action, process, or activity **Key Words**: adhere, copy, trace, follow, react, replicate, repeat, reproduce, respond
Mechanism: This is the intermediate stage in learning a complex skill. Learned responses have become habitual and the movements can be performed with some confidence and proficiency.	**Example activities**: Perform a task or activity with expertise and to high quality without assistance or instruction; able to demonstrate an activity to other learners. **Key Words**: assemble, calibrate, complete, construct, control, demonstrate, dismantle, display, fasten, fix, grind, heat, manipulate, measure, mend, mix, organize, perfect, show, sketch.
Complex Overt Response: The skillful performance of motor acts that involve complex movement patterns. Proficiency is indicated by a quick, accurate, and highly coordinated performance, requiring a minimum of energy. Includes performing without hesitation and automatic performance.	**Example activities**: Maneuver a car into a tight parallel parking spot; operate a computer quickly and accurately; display competence while playing the piano. **Key Words**: assemble, calibrate, complete, construct, control, demonstrate, dismantle, display, fasten, fix, grind, heat, manipulate, measure, mend, mix, organize, perfect, show, sketch. *NOTE: The Key Words are the same as Mechanism, but will have adverbs or adjectives that indicate that the performance is quicker, better, more accurate, etc.*
Adaptation: Skills are well developed and the individual can modify movement patterns to fit special requirements.	**Example activities**: Relate and combine associated activities to develop methods to meet varying, novel requirements; respond effectively to unexpected experiences; modify instruction to meet the needs of the learners; perform a task with a machine that it was not originally intended to do. **Key Words**: adapt, alter, change, combine, construct, coordinate, develop, formulate, integrate, master, modify, rearrange, reorganize, revise, solve, vary.
Origination: Creating new movement patterns to fit a particular situation or specific problem. Learning outcomes emphasize creativity based upon highly developed skills.	**Examples activities**: Construct a new theory; develops a new and comprehensive training programming; creates a new gymnastic routine. **Key Words**: arrange, build, combine, compose, construct, create, design, initiate, make, originate.

Appendix: Objective Verbs

Cognitive Domain

analyze	argue	arrange	assemble	build	catalogue	change
classify	combine	compare	compose	construct	convert	critique
design	develop	devise	diagram	differentiate	direct	discover
distinguish	divide	establish	evaluate	examine	experiment	explain
formulate	generalize	generate	graph	implement	infer	integrate
manipulate	measure	name	operate	organize	outline	paraphrase
perform	plot	prepare	present a case for	project-manage	propose	quantify
react	rearrange	recall	reference	reiterate	relate	report
reproduce	respond	revise	rewrite	role-play	select	separate
solve	state	test	theorize	translate	value	write

Affective Domain

act	adhere	aid	alter	answer	arrange	ask
assist	choose	compare	complete	comply	conform	defend
demonstrate	describe	differentiate	discriminate	discuss	display	erect
explain	follow	form	formulate	generalize	give	greet
help	hold	identify	influence	initiate	integrate	invite
join	justify	label	listen	locate	modify	name
order	organize	perform	point to	practice	prepare	present
propose	qualify	question	read	recite	relate	reply
report	revise	select	serve	share	sit	solve
study	synthesize	tell	use	work	write	

Psychomotor Domain

adapt	adhere	adjust	alter	arrange	assemble	begin
bend	build	calibrate	catch	change	choose	combine
complete	compose	construct	control	coordinate	copy	craft
create	demonstrate	describe	design	detect	develop	differentiate
dismantle	display	drive	endure	exceed	execute	explain
explore	fasten	feel	fix	follow	formulate	get set
grasp	grind	handle	hear	heat	identify	imitate
implement	improve	increase	initiate	integrate	invent	isolate
juggle	maintain	make	manage	manipulate	master	measure
mend	mimic	mix	modify	move	notice	observe
operate	organize	originate	perfect	perform	practice	prepare
proceed	project-manage	reach	react	rearrange	recognize	re-create
re-design	reenact	relate	relax	reorganize	repeat	replicate
reproduce	respond	revise	select	shape	shorten	show
sketch	solve	specify	stand	state	stretch	teach
throw	touch	trace	trouble-shoot	try	vary	volunteer
walk	write					

Information retrieved from the following web sites:

http://www.coastal.edu/cetl/IDP%20presentation%20materials/three%20domains.pdf

http://www.nwlink.com/~donclark/hrd/bloom.html

1. Bloom B. S. (1956). *Taxonomy of Educational Objectives, Handbook I: The Cognitive Domain.* New York: David McKay Co Inc.

2. Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1973). *Taxonomy of Educational Objectives, the Classification of Educational Goals. Handbook II: Affective Domain.* New York: David McKay Co., Inc.

3. Simpson E. J. (1972). *The Classification of Educational Objectives in the Psychomotor Domain.* Washington, DC: Gryphon House.

4. Dave, R. H. (1975). *Developing and Writing Behavioural Objectives.* (R J Armstrong, ed.) Educational Innovators Press.

5. Harrow, Anita (1972) *A taxonomy of psychomotor domain: a guide for developing behavioral objectives.* New York: David McKay.

http://en.wikiversity.org/wiki/Introduction_to_the_Psychomotor_Behaviors

http://www.businessballs.com/bloomstaxonomyoflearningdomains.htm