

COGNITIVE learning is demonstrated by knowledge recall and the intellectual skills: comprehending information, organizing ideas, analyzing and synthesizing data, applying knowledge, choosing among alternatives in problem-solving and evaluating ideas or actions.

Level	Illustrative Verbs	Definition	Examples
Knowledge	Arrange, define, describe, duplicate, identify, label, list, match, memorize, name, order, outline, recognize, relate, recall, repeat, reproduce, select, state	Remembering previously learned information	Memory of specific facts, terminology, rules, sequences, procedures, classification, categories, criteria, methodology, principles, theories, and structure
Comprehension	Classify, convert, defend, describe, discuss, distinguish, estimate, explain, express, extend, generalize, give examples, identify, indicate, infer, locate, paraphrase, predict, recognize, rewrite, report, restate, review, select, summarize, translate	Grasping the meaning of information	Stating problem in own words, translating a formula, understanding a flow chart, translating words and phrases from a foreign language
Application	Apply, change, choose, compute, demonstrate, discover, dramatize, employ, illustrate, interpret, manipulate, modify, operate, practice, predict, prepare, produce, relate, schedule, show, sketch, solve, use, write	Applying knowledge to actual situations	Taking principles learned and applying them to a problem especially in another area
Analysis	Analyze, appraise, break down, calculate, categorize, compare, contrast, criticize, diagram, differentiate, discriminate, distinguish, examine, experiment, identify, illustrate, infer, model, outline, point out, question, related, select, separate, subdivide, test	Breaking down objects or ideas into simpler parts and seeing how the parts relate and are organized	Discussing how concepts differ, detecting logical fallacies in a student's explanation
Synthesis	Arrange, assemble, categorize, collect, combine, comply, compose, construct, create, design, develop, devise, design, explain, formulate, generate, integrate, manage, modify, organize, plan, prepare, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, set up, summarize, synthesize, tell, write	Rearranging component ideas into a new whole	Writing a comprehensive report on a problem-solving exercise, planning a program or panel discussion, writing a comprehensive term paper
Evaluation	Appraise, argue, assess, attach, choose, compare, conclude, contrast, defend, describe, discriminate, estimate, evaluate, explain, judge, justify, interpret, relate, predict, rate, select, summarize, support, value	Making judgments based on internal evidence or external criteria	Evaluating alternative solutions to a problem, detecting inconsistencies in a speech

Grolund, N. E. (1981). *Measurement and evaluation in teaching, 4th ed.* New York, Macmillan Publishing.

McBeath, R. J. (Ed.). (1992). *Instructing and evaluating in higher education: A guidebook for planning learning outcomes.* Englewood Cliffs, NJ: Educational Technology.

AFFECTIVE learning is demonstrated by behaviors indicating attitudes of awareness, interest, attention, concern, and responsibility, ability to listen and respond in interactions with others, and ability to demonstrate those attitudinal characteristics or values which are appropriate to the test situation and the field of study.

Level	Illustrative Verbs	Definition	Examples
Receiving	Asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits erect, replies, uses	Willingness to receive or attend	Listening to discussions on controversial issues with an open mind, respecting the rights of others
Responding	Answers, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes	Actively participating indicating positive response or acceptance of an idea or policy	Completing homework assignments, participating in team problem-solving activities
Valuing	Completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works	Expressing a belief or attitudes about the value or worth of something	Accepting ideas or participating in activities
Organization	Adheres, alters, arranges, combines, compares, completes, defends, explains, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes	Organizing various values into an integrated system	Recognizing own abilities, limitations, and values and developing realistic aspirations
Characterization by value or value complex	Acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies	The value system becomes a way of life	A person's lifestyle influences reactions to many different kinds of situations

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PSYCHOMOTOR learning is demonstrated by physical skills: coordination, dexterity, manipulation, grace, strength, speed, actions which demonstrate the fine motors skills such as use of precision instruments or tools, or actions which evidence gross motor skills such as the use of the body in performance.

Level	Illustrative Verbs	Definition	Examples
Perception	Chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects, separates	Using sense organs to obtain cues needed to guide motor activities	Listening to the sounds made by instruments before tuning them, recognizing sounds that indicate malfunctioning equipment
Set	Begins, displays, explains, moves, proceeds, reacts, responds, shows, starts, volunteers	Being ready to perform a particular action: mental, physical, or emotional	Knowing how to use a computer mouse, having instrument ready to play and watching conductor to being performance, showing eagerness to assemble components to complete a task
Guided responses	Assembles, builds, calibrates, constructs, dismantles, displays, dissects, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches	Performing under guidance of a model: imitation or trial and error	Using a tool after observing an expert demonstrate its use, experimenting in various ways to measure a substance
Mechanism	Same as list for guided response	Being able to perform a task habitually with some degree of confidence or proficiency	Demonstrating the ability to correctly execute a maneuver consistently
Complex or overt response	Same as list for guided response	Performing a task with a high degree of proficiency and skill	Dismantling and re-assembling various components quickly and with no errors
Adaptation	Adapts, alters, changes, rearranges, reorganizes, revises, varies	Using previously learning skills to perform new but related tasks	Using skills developed using one type of equipment to operate advanced equipment
Origination	Arranges, combines, composes, constructs, creates, designs, originates	Creating new performances after having developed skills	Designing a more efficient way to perform a task

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