

## Cognitive Domain

The cognitive domain focuses on ways an individual acquires and uses knowledge, categorized by simple recall of material through more complex and abstract behaviors.

Category	Example Verbs	Definition	Example Objective
Remember	identify, label, retrieve, recall, recognize, select, state, find	Retrieve knowledge from long-term memory	Student will be able to state a definition of equilibrium.
Understand	arrange, categorize, chart, classify, conclude, diagram, distinguish, draw, give example, illustrate, interpret, summarize	Construct meaning from instructional messages	Students will be able to provide an example that illustrates Newton's first law of motion.
Apply	calculate, compute, construct, demonstrate, execute, implement, manipulate, solve	Carry out or use a procedure in a given situation	Students will be able to calculate currents and voltages in DC resistive circuits using Kirchoff's current and voltage laws.
Analyze	compare, contrast, differentiate, discriminate, distinguish, evaluate, formulate, generate	Break material down into its parts and determine how parts relate to one another and the whole	Students will be able to compare Rankine cycles with and without superheat to determine its effect on thermal efficiency.
Evaluate	appraise, argue, assess, conclude, critique, decide, explain, judge, justify, monitor, test	Make judgments based on criteria or standards	Students will be able to apply a selection matrix to choose among competing conceptual designs.
Create	design, construct, build, develop, discriminate, discover, recommend, synthesize, validate	Put elements together to form a new coherent whole	Students will be able to design a toothbrush that help children do a better job brushing their teeth, using a set of provided design standards and criteria.

Definitions from Anderson, L. W. & Krathwohl, D. R. (2001). *A Taxonomy for Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives*. Longman: New York.

## Affective Domain

The affective domain involves students' interests, values, and attitudes moving from low levels of awareness towards internalization. The affective domain may include students understanding of ethics, global awareness, or leadership

Category	Example Verbs	Definition	Example
Receiving	asks, chooses, describes, follows, identifies, locates, names, selects, replies	Awareness and willingness to listen	Student will listen to a discussion of ethics pertaining to a recent engineering failure.
Responding	answers, assists, complies, conforms, discusses, presents, recites, reports, writes	Actively attends by participating in some manner	Student will show an interest in ethical issues by participating in class discussions.
Valuing	completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies	Expresses worth or value attached to an event, object, or behavior	Student will show concern for the safety of others when developing a new design.
Organization	adheres, combines, compares, completes, defends, explains, generalizes, integrates, modifies, orders, organizes, prepares, relates, synthesizes	Bringing together different values, resolving conflicts and beginning the building of an internally consistent value system	Given a hypothetical case study, students will be able to defend or argue the actions of a company by comparing them to expected behaviors listed in a professional code of ethics.
Characterization	acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies	Creation of value system that becomes a lifestyle	Individual will show a commitment to a professional code of ethics during daily work.

Definitions and verbs from Krathwohl, D. R., Bloom, B. S. & Masia, B. B. (1964) *Taxonomy of Educational Objectives: Handbook II*. New York: David McKay.

## Psychomotor Domain

The psychomotor domain is concerned with physical skills, or the ability of an individual to use and coordinate the body and its movements.

Category	Example Verbs	Definition
Perception	chooses, describes, detects, differentiates, distinguishes, identifies, isolates, relates, selects.	Awareness of objects, qualities or relations
Set	begins, displays, explains, moves, proceeds, reacts, shows, states, volunteers	Readiness for a particular kind of action or experience, including mental, physical, or emotional.
Guided response	copies, traces, follows, react, reproduce, responds	Overt behavioral action under guidance of another individual
Mechanism	assembles, calibrates, constructs, dismantles, displays, fastens, fixes, grinds, heats, manipulates, measures, mends, mixes, organizes, sketches	Habitually performing an act with proficiency and confidence
Complex or overt response	[same words for Mechanism but more quickly or accurately]	Performing task with high proficiency and skill, with minimum energy and time
Adaptation	adapts, alters, changes, rearranges, reorganizes, revises, varies	Well developed skills in which individual modifies movement patterns to fit requirements
Origination	arranges, builds, combines, composes, constructs, creates, designs, initiate, makes, originates	Creates new movement patterns to fit a particular situation

Definitions and verbs from Simpson, E. J. (1965-66). *The Classification of Educational Objectives: Psychomotor Domain*. Urbana, IL: University of Illinois.