

Bloom's Revised Taxonomy

There are six levels of cognitive learning according to the revised version of Bloom's Taxonomy. Each level is conceptually different. The six levels are remembering, understanding, applying, analysing, evaluating, and creating.

Using Bloom's Revised Taxonomy in Assessment

These levels can be helpful in developing learning outcomes because certain verbs are particularly appropriate at each level and not appropriate at other levels (though some verbs are useful at multiple levels). A student might list presidents or proteins or participles to demonstrate that they remember something they learned, but generating a list does not demonstrate (for example) that the student is capable of evaluating the contribution of multiple presidents to American politics or explaining protein folding or distinguishing between active and passive participles.

Remember

Definition: retrieve, recall, or recognize relevant knowledge from long-term memory. Appropriate learning outcome verbs for this level include: *cite, define, describe, identify, label, list, match, name, outline, quote, recall, report, reproduce, retrieve, show, state, tabulate, and tell.*

Understand

Definition: demonstrate comprehension through one or more forms of explanation (e.g., classify a mental illness, compare ritual practices in two different religions). Appropriate learning outcome verbs for this level include: *abstract, arrange, articulate, associate, categorize, clarify, classify, compare, compute, conclude, contrast, defend, diagram, differentiate, discuss, distinguish, estimate, exemplify, explain, extend, extrapolate, generalize, give examples of, illustrate, infer, interpolate, interpret, match, outline, paraphrase, predict, rearrange, reorder, rephrase, represent, restate, summarize, transform, and translate.*

Apply

Definition: use information or a skill in a new situation (e.g., use Newton's second law to solve a problem for which it is appropriate; carry out a multivariate statistical analysis using a data set not previously encountered). Appropriate learning outcome verbs for this level include: *apply, calculate, carry out, classify, complete, compute, demonstrate, dramatize, employ, examine, execute, experiment, generalize, illustrate, implement, infer, interpret, manipulate, modify, operate, organize, outline, predict, solve, transfer, translate, and use.*

Analyse

Definition: break material into its constituent parts and determine how the parts relate to one another and/or to an overall structure or purpose (e.g., analyse the relationship between different flora and fauna in an ecological setting; analyse the relationship between different characters in a play; analyse the relationship between different institutions in a society). Appropriate learning outcome verbs for this level include: *analyse, arrange, break down, categorize, classify, compare, connect, contrast, deconstruct, detect, diagram, differentiate, discriminate, distinguish, divide, explain, identify, integrate, inventory, order, organize, relate, separate, and structure.*

Evaluate

Definition: make judgments based on criteria and standards (e.g., detect inconsistencies or fallacies within a process or product, determine whether a scientist's conclusions follow from observed data, judge which of two methods is the way to solve a given problem, determine the quality of a product based on disciplinary criteria). Appropriate learning outcome verbs for this level include: *appraise, apprise, argue, assess, compare, conclude, consider, contrast, convince, criticize, critique, decide, determine, discriminate, evaluate, grade, judge, justify, measure, rank, rate, recommend, review, score, select, standardize, support, test, and validate.*

Create

Definitions: put elements together to form a new coherent or functional whole; reorganize elements into a new pattern or structure (design a new set for a theater production, write a thesis, develop an alternative hypothesis based on criteria, invent a product, compose a piece of music, write a play). Appropriate learning outcome verbs for this level include: *arrange, assemble, build, collect, combine, compile, compose, constitute, construct, create, design, develop, devise, formulate, generate, hypothesize, integrate, invent, make, manage, modify, organize, perform, plan, prepare, produce, propose, rearrange, reconstruct, reorganize, revise, rewrite, specify, synthesize, and write.*