

Bloom’s Taxonomy: A Caveat

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Bloom’s Taxonomy, as revised by Anderson and Krathwohl (2001) is a popular resource when it comes to selecting appropriate verbs. Some argue that the triangular representation of Bloom’s provides a false hierarchical vision of learning, one that does not reflect how learning happens. Author Doug Lemov (2017) comments on the framework by noting that its segmented nature gives rise to misconceptions about how teaching and learning occur in practice.

Author Dylan William has conceptualized and personalized Bloom’s, to break the hierarchical nature of the framework.



In his revised version above, Dylan Wiliam suggests that knowledge is the foundation upon which the other skills are built.

William’s suggestion is similar to what Anderson and Krathwohl (2001) suggested in their revised taxonomy, which focused on a two-dimensional arrangement, including the knowledge dimension, and the cognitive processes dimension. The table below is from their book, *A Taxonomy for Learning, Teaching, and Assessing: A revision of Bloom’s Taxonomy of Educational Objectives*. Suggestions for appropriate verbs have been separately added.

The Knowledge Dimension	The Cognitive Process Dimension					
	Remember	Understand	Apply	Analyze	Evaluate	Create
Factual Knowledge						
Conceptual Knowledge						
Procedural Knowledge			X			
Metacognitive Knowledge						

Example: *The Student will apply the reduce-reuse-recycle approach to conservation* (example from Anderson and Krathwohl, 2001, p.32). The appropriate cell has been marked with an "X" in the table above.

Definitions for the major types of the knowledge dimension are provided below, as found in Anderson and Krathwohl (2001, p.29).

Type of Knowledge	Definition	Examples
Factual	The basic elements students must know to be acquainted with a discipline or solve problems in it	Technical vocabulary, musical symbols
Conceptual	The interrelationships among the basic elements within a larger structure that enable them to function together	Pythagorean theorem, law of supply and demand
Procedural	How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods	Scientific method, interviewing techniques, whole number division algorithm
Metacognitive	Knowledge of cognition in general as well as awareness and knowledge of one's own cognition	Knowledge of personal subject specific strengths and weaknesses

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