

## Bloom's Taxonomy Revised: A Taxonomy for Learning, Teaching, and Assessing

Benjamin Bloom and colleagues (1956) created the original taxonomy of the cognitive domain for categorizing level of abstraction of questions that commonly occur in educational settings. That work has been revised to help teachers understand and implement a standards-based curriculum (Anderson & Krathwohl, 2001). For the instructional designer, the taxonomy provides a comprehensive set of classifications for learner cognitive processes that are included in instructional objectives. Classifying instructional objectives using this taxonomy helps to determine the levels of learning included in an instructional unit or lesson.

CATEGORIES    COGNITIVE PROCESS

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**Remember**    **Retrieve relevant knowledge from long-term memory**

RECOGNIZING (identifying)  
RECALLING (retrieving)

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**Understand**    **Construct meaning from instructional messages, including oral, written, and graphic communication**

INTERPRETING (clarifying, paraphrasing, representing, translating)  
EXEMPLIFYING (illustrating, instantiating)  
CLASSIFYING (categorizing, subsuming)  
SUMMARIZING (abstracting, generalizing)  
INFERRING (concluding, extrapolating, interpolating, predicting)  
COMPARING (contrasting, mapping, matching)  
EXPLAINING (constructing models)

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**Apply**    **Carry out or use a procedure in a given situation**

EXECUTING (carrying out)  
IMPLEMENTING (using)

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**Analyze**    **Break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose**

DIFFERENTIATING (discriminating, distinguishing, focusing, selecting)  
ORGANIZING (finding coherence, intergrating, outlining, parsing, structuring)  
ATTRIBUTING (deconstructing)

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**Evaluate**    **Make judgments based on criteria and standards**

CHECKING (coordinating, detecting, monitoring, testing)  
CRITIQUING (judging)

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**Create**    **Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure**

GENERATING (hypothesizing)  
PLANNING (designing)  
PRODUCING (constructing)

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### References

- Anderson, L.W. & Krathwohl, D.R. (Eds.) (2001). *A taxonomy for Learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. New York: Addison Wesley Longman.
- Bloom, B.S. (Ed.), Engelhart, M.D., Furst, E.J., Hill, W.H., & Krathwohl, D.R. (1956). *Taxonomy of educational objectives: Handbook I: Cognitive domain*. New York: David McKay.

<b>Bloom's Taxonomy of Educational Objectives in the Cognitive Domain</b>		
<b>LEVEL</b>	<b>QUESTION WORD</b>	<b>LEARNING STRATEGIES</b>
KNOWLEDGE (rote memory, recall of specifics)	define, describe, enumerate, identify, label, list	Rehearsal strategies: Highlight key vocabulary from text or lecture notes, generate flash cards, devise mnemonic devices.
COMPREHENSION (basic understanding, putting an idea into your own words)	discuss, explain, restates, traces	Explain a concept to a classmate; associate material with prior knowledge; summarize key concepts from lecture notes and compare to a "model."
APPLICATION (applying a general principle to a new and concrete situation)	illustrate, classify, compute, predict, relate, solve, utilize	Generate original examples; design and complete classification systems; solve and analyze new problems; predict test questions.
ANALYSIS (breaking the information into component parts in order to examine it and develop divergent conclusions)	contrast, generalize, illustrate, diagram, differentiate, outline	Generate comparison and contrast lists and use these to predict test questions; identify themes or trends from text or case studies; organize material in more than one way.
SYNTHESIS (creatively or divergently applying prior knowledge and skills to produce a new or original whole)	categorize, contrast, design, formulate, generate, design a model, reconstruct	Predict test questions and outline the answers; locate evidence to support a thesis; generate a thesis to support certain evidence.
EVALUATION (judging the value of material based on informed personal values/opinions resulting in an end product without a distinct right or wrong answer)	appraise, conclude, justify, criticize, defend, support	List supporting evidence; listing refuting evidence, generate concept maps, debate; find weaknesses in other arguments.