

## Briefing: Bloom's (Revised) Taxonomy

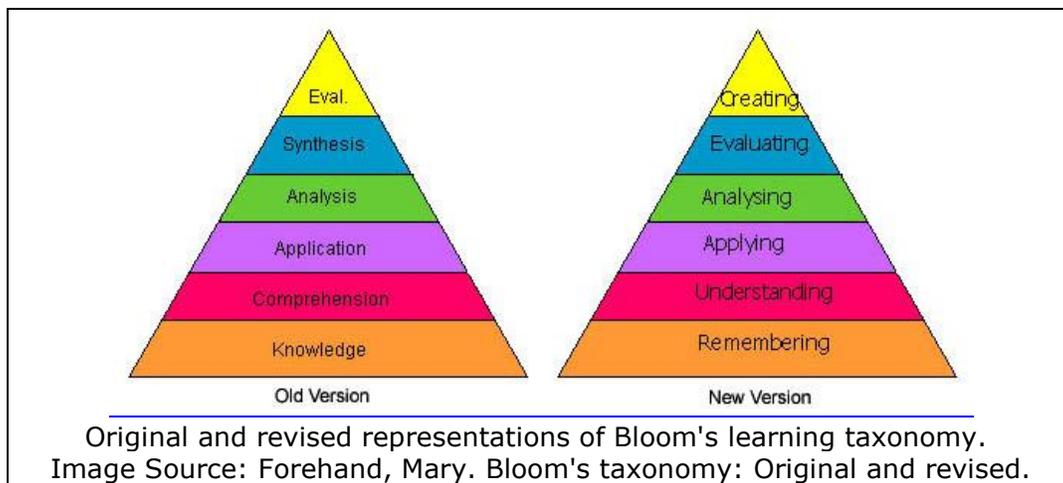
### General Concepts

Benjamin Bloom's taxonomy of learning—first published in 1956 and today the widely-cited foundation for defining what our students learn at the assignment, course, program, and degree levels—is a hierarchical classification of types of learning. Presented as a pyramid, it implies that student abilities increase in complexity and maturity the higher up on the spectrum they go.

In the original version, Bloom identified **Knowledge** as the basic ability to recall facts, **Comprehension** as the ability to understand relationships among facts, and **Application** as the ability to use factual information in varied contexts. These three constitute the "lower levels" of learning or skill. The higher levels, requiring more complex thinking processes, include **Analysis**, or the ability to determine how parts relate to one another and to an overall purpose; **Synthesis**, or the ability to combine varied information into a new, coherent whole; and **Evaluation**, or the ability to make and defend judgments.

More recently, revisions have been suggested to the original taxonomy, as illustrated with the "new version" below. Although smaller changes to wording and at the lower levels are mainly for clarification, substantive changes are applied to the pyramid's top. Evaluating is now the second-most complex activity, and **Creating is at the top**. This recognizes the inherent complexity in forming something novel.

Before we can **understand** a concept we have to **remember** it  
Before we can **apply** the concept we must **understand** it  
Before we **analyze** it we must be able to **apply** it  
Before we can **evaluate** its impact we must have **analyzed** it  
Before we can **create** we must have **remembered, understood, applied, analysed, and evaluated**.  
--From *Educational Orgami*



For both the original and revised Bloom's taxonomies, learning can be further classified in three types: Cognitive, mental skills and processes; Affective, attitudes and feelings; and Psychomotor, physical skills.

## Application

As faculty, we often think in terms of final *products*—understanding illustrated through a research paper, performance on a test, or completion of a project. This focus on the "end" can create a communication gap when with external audiences: those outside of our field, department, or university. If we say, "a student is successful in my class when she shows me her conceptual understanding through a major term paper," we are obscuring the complex knowledge and skill sets inherent in development of that product.

Thinking in terms of skills—what we want our students to be able *to do*—when they leave our classes is a more effective way of communicating because doing so helps us reveal the complex processes inherent in what we require. Describing our courses in terms of skill outcomes is more concrete and aids in communication both internally (e.g., helping faculty see how performance levels should build through course sequences) and externally (e.g., helping students understand our expectations). This is not to disregard the central nature of knowledge in the teaching-learning exchange. Think in terms of how you, as the instructor, see that knowledge expressed—how do you know the student has learned the concept? Typically, this is through observable behaviors, using the knowledge to accomplish a task.

*Learning is not attained by chance,  
it must be sought for with ardor and attended to with diligence.  
Abigail Adams*

## For More Information

Churches, Andrew. (2009) Bloom's taxonomy: introduction, Educational orgami. Retrieved 4 November 2009, from <http://edorigami.wikispaces.com/Bloom%27s+-+Introduction>

Forehand, M. (2005). Bloom's taxonomy: Original and revised. In M. Orey (Ed.), *Emerging perspectives on learning, teaching, and technology*. Retrieved 3 November 2009, from <http://projects.coe.uga.edu/epltt/>

Krathwohl, D. R. (2002). A revision of bloom's taxonomy: An overview. *Theory into Practice*, 41 (4), 212-218.

Wilson, Leslie Owen. (2006) Beyond Bloom-A new version of the cognitive taxonomy. Retrieved 3 November 2009, from <http://www.uwsp.edu/education/lwilson/curric/newtaxonomy.htm>

**Revised Blooms Taxonomy – Verbs, Materials/situations that require this level of thinking, Potential activities and products**

	<b>REMEMBERING</b>	<b>UNDERSTANDING</b>	<b>APPLYING</b>	<b>ANALYSING</b>	<b>EVALUATING</b>	<b>CREATING</b>
<b>VERBS</b>	Tell, List, Describe, Relate, Locate, Write, Find, State, Name, Identify, Label, Recall, Define, Recognise, Match, Reproduce, Memorise, Draw, Select, Write, Recite	Explain, Interpret, Outline, Discuss, Distinguish, Predict, Restate, Translate, Compare, Describe, Relate, Generalise, Summarise, Put into your own words, Paraphrase, Convert, Demonstrate, Visualise, Find out more information about	Solve, Show, Use, Illustrate, Construct Complete, Examine Classify, Choose Interpret, Make Put together, Change, Apply, Produce, Translate, Calculate, Manipulate, Modify, put into practice	Analyse, Distinguish, Examine, Compare Contrast, Investigate Categorise, Identify Explain, Separate Advertise, Take apart Differentiate, Subdivide, deduce,	Judge, Select, Choose, Decide, Justify, Debate, Verify, Argue, Recommend, Assess, Discuss, Rate, Prioritise, Determine, Critique, Evaluate, Criticise, Weigh, Value, estimate, defend	Create, Invent, Compose, Predict Plan, Construct Design, Imagine Propose, Devise Formulate, Combine, Hypothesize, Originate, Add to, Forecast,
<b>MATERIALS SITUATIONS</b>	Events, people, newspapers, magazine articles, definitions, videos, dramas, textbooks, films, television programs, recordings, media presentations	Speech, stories, drama, cartoons, diagrams, graphs, summaries, outlines, analogies, posters, bulletin boards.	Diagrams, sculptures, illustrations, dramatisations, forecasts, problems, puzzles, organisations, classifications, rules, systems, routines.	Surveys, questionnaires, arguments, models, displays, demonstrations, diagrams, systems, conclusions, reports, graphed information	Recommendations, self-evaluations, group discussions, debates, court trials, standards, editorials, values.	Experiments, games, songs, reports, poems, speculations, creations, art, inventions, drama, rules.
<b>POTENTIAL ACTIVITIES &amp; PRODUCTS</b>	Make a list of the main events . Make a timeline of events. Make a facts chart. Write a list of any pieces of information you can remember. List all the ...in the story. Make a chart showing.. Make an acrostic. Recite a poem	Cut out or draw pictures to show a particular event. Illustrate what you think the main idea was. Make a cartoon strip showing the sequence of events. Retell the story in your own words. Paint a picture of some aspect you like. Write a summary report of an event. Prepare a flow chart to illustrate the sequence of events. Make a colouring book.	Construct a model to demonstrate how it will work. Make a diorama to illustrate an important event. Make a scrapbook about the areas of study. Make a papier-mache map to include relevant information about an event. Take a collection of photographs to demonstrate a particular point. Make up a puzzle game showing the ideas from an area of study. Make a clay model of an item in the area. Design a market strategy for your product. Dress a doll in costume. Paint a mural. Write a textbook outline.	Design a questionnaire to gather information. Write a commercial to sell a new product. Conduct an investigation to produce information to support a point of view. Construct a graph to illustrate selected information. Make a jigsaw puzzle. Make a family tree showing relationships. Put on a play about t he study area. Write a biography of the study person. Prepare a report. Arrange a party and record as a procedure. Review apiece of art including form, colour and texture	Prepare a list of criteria to judge a .....show? Remember to indicate priorities and ratings. Conduct a debate about a special issue. Make a booklet about 5 rules you see as important to convince others. Form a panel to discuss views. Write a letter to .... advising on changes needed at ... Write a half yearly report. Present your point of view.	Invent a machine to do a specific task. Design a building to house your study. Create a new product, give it a name and then devise a marketing strategy. Write about your feeling sin relation to ... Design a record, book or magazine cover. Sell an idea. Devise a way to ... Compose a rhythm or put new words to an old song.

Adapted from Dalton.J & Smith.D (1986). *Extending Children's Special Abilities – Strategies for Primary Classrooms*.

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