

## Using Bloom's Taxonomy to Create Outcomes

Bloom, et al (1956) proposed that "knowing" is actually composed of three domains (the most commonly used being cognitive) and six successive levels arranged in a hierarchy: Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation. The key is to use Bloom's as a guide for the creation of outcomes, specifically the verbs associated with the various domain levels. Institution / Program outcomes should include every level of learning, whereas course outcomes can use from one to many.

### Bloom's Taxonomy: Cognitive Domain Modification of work by Norman E. Gronlund

Descriptors of Levels of Learning	Illustrative Verbs
<p><b>1. Knowledge</b> - remembering previously learned material. The skill may involve recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of the appropriate information. Knowledge represents the lowest level of learning outcomes in the cognitive domain.</p>	<p><b>Knowledge</b> - enumerate, define, describe, identify, label, list, match, name, outline, recall, recite, recollect, relate, reproduce, select, state</p>
<p><b>2. Comprehension</b> - the ability to grasp meaning of material. This skill may be shown by translating material from one form to another (words or numbers), by interpreting material (explaining or summarizing), and by estimating future trends (predicting consequences or effects).</p>	<p><b>Comprehension</b> - change, construct, convert, decode, defend, define, describe, distinguish, discriminate, estimate, explain, extend, generalize, give example, illustrate, infer, paraphrase, predict, restate, rewrite, solve, summarize</p>
<p><b>3. Application</b> - the ability to use learned material in new and concrete situations. This may include the application of such things as rules, methods, concepts, principles, laws, and theories.</p>	<p><b>Application</b> - apply, change, compute, demonstrate, develop, discover, dramatize, employ, illustrate, interpret, manipulate, modify, operate, organize, predict, prepare, produce, relate, solve, transfer, use</p>
<p><b>4. Analysis</b> - the ability to break down material into its component parts so that its organizational structure may be understood. This skill may include the identification of the parts, analysis of the relationship between parts, and recognition of the organizational principles involved.</p>	<p><b>Analysis</b> - analyze, breakdown, classify, compare, contrast, determine, deduce, diagram, differentiate, distinguish, identify, illustrate, infer, outline, point out, relate, select, separate, subdivide</p>
<p><b>5. Synthesis</b> - the ability to put parts together to form a new whole. This may involve the production of a unique communication (theme or speech), a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information).</p>	<p><b>Synthesis</b> - categorize, combine, compile, compose, conceive, construct, create, design, devise, establish, explain, formulate, generate, invent, make manage, modify, organize, originate, plan, propose, rearrange, reconstruct, relate, reorganize, revise, rewrite, set up, summarize, tell, write</p>
<p><b>6. Evaluation</b> - the ability to judge the value of material (statement, novel, poem, research report) for a given purpose. The judgements are to be based on definite criteria. These may be internal criteria (organization) or external criteria (relevance to the purpose) and the student may determine the criteria or be given them.</p>	<p><b>Evaluate</b> - appraise, ascertain, choose, compare, conclude, contrast, criticize, decide, defend, describe, discriminate, explain, interpret, justify, relate, resolve, summarize, support, validate, write (a review)</p>

**Bloom's Taxonomy: Affective Domain**  
**(Modification based on works of Kibler, et al., and Gronlund)**

Descriptors of the Major Categories in the Affective Domain	Illustrative Verbs
<p><b>1. Receiving</b> – willingness to receive or to attend to particular phenomena or stimuli (classroom activities, textbook, assignment, etc.). Receiving has been divided into three subcategories: awareness, willingness to receive, and controlled or selected attention. From the teaching standpoint, receiving is concerned with getting, holding, and directing the student's attention.</p>	<p><b>1. Receiving</b> – acknowledge, ask, attend, be aware, choose, describe, follow, give, hold, identify, listen, locate, name, receive, reply, select, show alertness, tolerate, use, view, watch</p>
<p><b>2. Responding</b> – refers to active participation on the part of the student. The student is sufficiently motivated not to just be 1.2 Willing to attend, but is actively attending. Responding indicates the desire that a student has become sufficiently involved in or committed to a subject, activity, etc., so as to seek it out and gain satisfaction from working with it or engaging in it.</p>	<p><b>2. Responding</b> – agree (to), answer, ask, assist, communicate, comply, consent, conform, contribute, cooperate, discuss, follow-up, greet, help, indicate, inquire, label, obey, participate, pursue, question, react, read, reply, report, request, respond, seek, select, visit, volunteer, write</p>
<p><b>3. Valuing</b> – the student sees worth or value in the subject, activity, assignment, etc. An important element of behavior characterized by valuing is that it is motivated, not by the desire to comply or obey, but by the individual's commitment to the underlying value guiding the behavior. Learning outcomes in this area are concerned with behavior that is consistent and stable enough to make the value clearly identifiable</p>	<p><b>3. Valuing</b> – accept, adopt, approve, complete, choose, commit, describe, desire, differentiate, display, endorse, exhibit, explain, express, form, initiate, invite, join, justify, prefer, propose, read, report, sanction, select, share, study, work</p>
<p><b>4. Organization</b> – bringing together a complex of values, possible disparate values, resolving conflicts between them, and beginning to build an internally consistent value system. The individual sees how the value relates to those already held or to new ones that are coming to be held. The integration of values is less than harmonious; it is a kind of dynamic equilibrium that is dependent upon salient events at a specific point in time.</p>	<p><b>4. Organization</b> – adapt, adhere, alter, arrange, categorize, classify, combine, compare, complete, defend, explain, establish, formulate, generalize, group, identify, integrate, modify, order, organize, prepare, rank, rate, relate, synthesize, systemize</p>
<p><b>5. Characterization by a Value or Value Complex</b> – internalization of values have a place in the individual's value hierarchy. The values have controlled one's behavior for a sufficiently long period of time to have developed a characteristic "life style." The behavior is pervasive, consistent, and predictable.</p>	<p><b>5. Characterization</b> – act, advocate, behave, characterize, conform, continue, defend, devote, disclose, discriminate, display, encourage, endure, exemplify, function, incorporate, influence, justify, listen, maintain, modify, pattern, practice, preserve, perform, question, revise, retain, support, uphold, use</p>

**Bloom's Taxonomy: Psychomotor Domain**  
**Modification of work by Norman E. Gronlund**

<b>Descriptors of Major Categories in the Psychomotor Domain</b>	<b>Illustrative Verbs for Stating Objectives</b>
<p><b>1. Imitation</b> - early stages in learning a complex skill, overtly, after the individual has indicated a readiness to take a particular type of action. Imitation includes repeating an act that has been demonstrated or explained, and it includes trial and error until an appropriate response is achieved.</p>	<p><b>Imitation</b> - begin, assemble, attempt, carry out, copy, calibrate, construct, dissect, duplicate, follow, mimic, move, practice, proceed, repeat, reproduce, respond, organize, sketch, start, try, volunteer</p>
<p><b>2. Manipulation</b> - individual continues to practice a particular skill or sequence until it becomes habitual and the action can be performed with some confidence and proficiency. The response is more complex than at the previous level, but the learner still isn't "sure of him/herself."</p>	<p><b>Manipulation</b> - (same as imitation), acquire, assemble, complete, conduct, do, execute, improve, maintain, make, manipulate, operate, pace, perform, produce, progress, use</p>
<p><b>3. Precision</b> - skill has been attained. Proficiency is indicated by a quick, smooth, accurate performance, requiring a minimum of energy. The overt response is complex and performed without hesitation.</p>	<p><b>Precision</b> - (same as imitation and manipulation), achieve, accomplish, advance, automatize, exceed, excel, master, reach, refine, succeed, surpass, transcend</p>
<p><b>4. Articulation</b> - involved an even higher level of precision. The skills are so well developed that the individual can modify movement patterns to fit special requirements or to meet a problem situation.</p>	<p><b>Articulation</b> - adapt, alter, change, excel, rearrange, reorganize, revise, surpass, transcend</p>
<p><b>5. Naturalization</b> - response is automatic. The individual begins to experiment, creating new motor acts or ways of manipulating materials out of understandings, abilities, and skills developed. One acts "without thinking."</p>	<p><b>Naturalization</b> - arrange, combine, compose, construct, create, design, refine, originate, transcend</p>