

# Learner Level of Cognition

## BLOOM'S TAXONOMY

COMPETENCE	SKILLS DEMONSTRATED
<p><b>Knowledge</b> - The remembering of previously learned material. This may involve the recall of a wide range of material, from specific facts to complete theories, but all that is required is the bringing to mind of appropriate information. Knowledge represents the lowest level of learning outcomes in the cognitive domain.</p>	<ul style="list-style-type: none"> <li>• Observation and recall of information</li> <li>• Knowledge of dates, events, places</li> <li>• Knowledge of major ideas</li> <li>• Mastery of subject matter</li> <li>• Question Cues: list, define, tell, describe, identify, show, label, collect, examine, tabulate, quote, and name who, when, where, etc.</li> </ul>
<p><b>Comprehension</b> - The ability to grasp the meaning of material such as translating (words to numbers), explaining or summarizing, and predicting consequences of effects. These learning outcomes go one step beyond the simple remembering of material, and represent the lowest level of understanding.</p>	<ul style="list-style-type: none"> <li>• Understanding information</li> <li>• Grasp meaning</li> <li>• Translate knowledge into new context</li> <li>• Interpret facts, compare, contrast</li> <li>• Order, group, infer causes</li> <li>• Predict consequences</li> <li>• Question Cues: summarize, describe, interpret, contrast, predict, associate, distinguish, estimate, differentiate, discuss, extend</li> </ul>
<p><b>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. Learning outcomes in this area require a higher level of understanding than those under comprehension.</p>	<ul style="list-style-type: none"> <li>• Use information</li> <li>• Use methods, concepts, theories in new situations</li> <li>• Solve problems using required skills or knowledge</li> <li>• Question Cues: apply, demonstrate, calculate, complete, illustrate, show, solve, examine, modify, relate, change, classify, experiment, discover</li> </ul>
<p><b>Analysis</b> - The ability to break down material into component parts so that its organizational structure may be understood. This may include the identification of parts, analysis of the relationship between parts, and recognition of the organizational principles involved. Learning outcomes represent a higher intellectual level than comprehension and application because they require an understanding of both the content and the structural form of the material.</p>	<ul style="list-style-type: none"> <li>• Seeing patterns</li> <li>• Organization of parts</li> <li>• Recognition of hidden meanings</li> <li>• Identification of components</li> <li>• Question Cues: analyze, separate, order, explain, connect, classify, arrange, divide, compare, select, explain, infer</li> </ul>
<p><b>Synthesis</b> - The ability to put parts together to form a new whole. This may involve the production of a unique communication, a plan of operations (research proposal), or a set of abstract relations (scheme for classifying information). Learning outcomes in this area stress creative behaviors, with major emphasis on the formulation of new patterns or structure.</p>	<ul style="list-style-type: none"> <li>• Use old ideas to create new ones</li> <li>• Generalize from given facts</li> <li>• Relate knowledge from several areas</li> <li>• Predict and draw conclusions</li> <li>• Question Cues: combine, integrate, modify, rearrange, substitute, plan, create, design, invent, What if?, compose, formulate, prepare, generalize, rewrite</li> </ul>
<p><b>Evaluation</b> - The ability to judge the value of material for a given purpose. The judgements are to be based on definitive criteria. These may be internal criteria (organization) or external criteria (relevance to the purpose) and the student may determine or be provided the criteria. Learning outcomes in this area are highest in the cognitive hierarchy because they contain elements of all the other categories, plus conscious value judgements based on clearly defined criteria.</p>	<ul style="list-style-type: none"> <li>• Compare and discriminate between ideas</li> <li>• Assess value of theories, presentations</li> <li>• Make choices based on reasoned argument</li> <li>• Verify value of evidence</li> <li>• Recognize subjectivity</li> <li>• Question Cues: assess, decide, rank, grade, test, measure, recommend, convince, select, judge, explain, discriminate, support, conclude, compare</li> </ul>