Bloom’s Taxonomy in a Nutshell

Introduction

“Bloom’s taxonomy” refers to the work of Dr. Benjamin Bloom, an educational psychologist whose theories regarding the “cognitive domain” originated in the mid-20th century. The cognitive domain (generally thought of as least complex to most complex or lower-order thinking skills to higher-order thinking skills) involves the knowledge and development of intellectual skills. Such skills include the recall or recognition of specific facts, procedural patterns, and concepts. There are six major categories of skills within the cognitive domain, as shown in the graphic below, starting from the simplest behavior at the narrow point of the pyramid and progressing to the most complex as you read upward. The lowest-order skill must be mastered before the next one can be achieved. Typically, a written learning objective that involves an intellectual skill will fall into one of the following six hierarchical categories in the cognitive domain: knowledge, comprehension, application, analysis, synthesis, and evaluation. Higher-order cognitive skills require greater degrees of critical thinking in order to master a learning objective. Today, some theorists (Anderson & Krathwohl, 2001) place analysis, synthesis, and evaluation on an equal par, as these skills tend to be integrated in the most cognitively demanding tasks.

Definitions

Knowledge: Recalling information.
Comprehension: Interpreting information in your own words.
Application: Using knowledge to generalize in a new situation.
Analysis: Breaking down knowledge into parts and showing relationships among parts.
Synthesis: Bringing together parts of knowledge to form a whole and then extending it to new situations.
Evaluation: Making judgments on the basis of a given set of criteria.

**Observable Verbs for Writing Cognitive Domain Learning Objects**

<table>
<thead>
<tr>
<th>Skill Category</th>
<th>Description</th>
<th>Observable Verbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>knowledge</td>
<td>recalling information</td>
<td>arrange, define, duplicate, label, list, match, memorize, name, order, recognize, relate, repeat, reproduce</td>
</tr>
<tr>
<td>comprehension</td>
<td>interpreting information in your own words</td>
<td>classify, describe, discuss, explain, express, identify, indicate, locate, recognize, report, restate, review, select, sort, tell, translate</td>
</tr>
<tr>
<td>application</td>
<td>using knowledge to generalize in a new situation</td>
<td>choose, demonstrate, dramatize, employ, illustrate, interpret, operate, prepare, practice, schedule, sketch, solve, use</td>
</tr>
<tr>
<td>analysis</td>
<td>breaking down knowledge into parts and showing relationships among parts</td>
<td>appraise, calculate, categorize, compare, contrast, criticize, diagram, differentiate, discriminate, distinguish, examine, experiment, inventory, question, test</td>
</tr>
<tr>
<td>synthesis</td>
<td>bringing together parts of knowledge to form a whole and then extending it to new situations</td>
<td>arrange, assemble, collect, compose, construct, create, design, formulate, manage, organize, plan, prepare, pose, set up, write</td>
</tr>
<tr>
<td>evaluation</td>
<td>making judgments</td>
<td>appraise, judge</td>
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<tr>
<td>on the basis of a given set of criteria</td>
<td>argue, assess, attack, choose, compare, defend, estimate</td>
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**References**