Revised Bloom’s Taxonomy

Revised Bloom’s Taxonomy (RBT) employs the use of 25 verbs that create collegial understanding of student behavior and learning outcome.


Bloom’s Revised Taxonomy

- Taxonomy of Cognitive Objectives
- 1950s- developed by Benjamin Bloom
- Means of expressing qualitatively different kinds of thinking
- Been adapted for classroom use as a planning tool
- Continues to be one of the most universally applied models
- Provides a way to organise thinking skills into six levels, from the most basic to the more complex levels of thinking
- 1990s- Lorin Anderson (former student of Bloom) revisited the taxonomy
- As a result, a number of changes were made

(Pohl, 2000, Learning to Think, Thinking to Learn, pp. 7-8)
Original Terms

- Evaluation
- Synthesis
- Analysis
- Application
- Comprehension
- Knowledge

New Terms

- Creating
- Evaluating
- Analysing
- Applying
- Understanding
- Remembering

(Based on Pohl, 2000, Learning to Think, Thinking to Learn, p. 8)


Change in Terms

- The names of six major categories were changed from noun to verb forms.
- As the taxonomy reflects different forms of thinking and thinking is an active process verbs were used rather than nouns.
- The subcategories of the six major categories were also replaced by verbs and some subcategories were reorganised.
- The knowledge category was renamed. Knowledge is an outcome or product of thinking not a form of thinking per se. Consequently, the word knowledge was inappropriate to describe a category of thinking and was replaced with the word remembering instead.
- Comprehension and synthesis were retitled to understanding and creating respectively, in order to better reflect the nature of the thinking defined in each category.

BLOOM’S REVISED TAXONOMY

Creating
Generating new ideas, products, or ways of viewing things
Designing, constructing, planning, producing, inventing.

Evaluating
Justifying a decision or course of action
Checking, hypothesising, critiquing, experimenting, judging

Analysing
Breaking information into parts to explore understandings and relationships
Comparing, organizing, deconstructing, interrogating, finding

Applying
Using information in another familiar situation
Implementing, carrying out, using, executing

Understanding
Explaining ideas or concepts
Interpreting, summarising, paraphrasing, classifying, explaining

Remembering
Recalling information
Recognizing, listing, describing, retrieving, naming, finding

Higher-order thinking

## The Cognitive Dimension Process

### Level 1 - C1

<table>
<thead>
<tr>
<th>Categories &amp; Cognitive Processes</th>
<th>Alternative Names</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remember</td>
<td></td>
<td>Retrieve knowledge from long-term memory</td>
</tr>
<tr>
<td>Recognizing</td>
<td>Identifying</td>
<td>Locating knowledge in long-term memory that is consistent with presented material</td>
</tr>
<tr>
<td>Recalling</td>
<td>Retrieving</td>
<td>Retrieving relevant knowledge from long-term memory</td>
</tr>
</tbody>
</table>

### Level 2 – C2

<table>
<thead>
<tr>
<th>Categories &amp; Cognitive Processes</th>
<th>Alternative Names</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand</td>
<td></td>
<td>Construct meaning from instructional messages, including oral, written, and graphic communication</td>
</tr>
<tr>
<td>Interpreting</td>
<td>Clarifying</td>
<td>Changing from one form of representation to another</td>
</tr>
<tr>
<td>Exemplifying</td>
<td>Illustrating</td>
<td>Finding a specific example or illustration of a concept or principle</td>
</tr>
<tr>
<td>Classifying</td>
<td>Categorizing</td>
<td>Determining that something belongs to a category</td>
</tr>
<tr>
<td>Summarizing</td>
<td>Abstracting</td>
<td>Abstracting a general theme or major point(s)</td>
</tr>
<tr>
<td>Inferring</td>
<td>Concluding</td>
<td>Drawing a logical conclusion from presented information</td>
</tr>
<tr>
<td>Comparing</td>
<td>Contrasting</td>
<td>Detecting correspondences between two ideas, objects, and the like</td>
</tr>
<tr>
<td>Explaining</td>
<td>Constructing</td>
<td>Constructing a cause and effect model of a system</td>
</tr>
</tbody>
</table>

### Level 3 – C3

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<thead>
<tr>
<th>Categories &amp; Cognitive Processes</th>
<th>Alternative Names</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Apply</strong></td>
<td></td>
<td>Applying a procedure to a familiar task</td>
</tr>
<tr>
<td>Executing</td>
<td>Carrying out</td>
<td>Applying a procedure to a familiar task</td>
</tr>
<tr>
<td>Implementing</td>
<td>Using</td>
<td>Applying a procedure to an unfamiliar task</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Analyze</th>
<th></th>
<th>Break material into its constituent parts and determine how the parts relate to one another and to an overall structure or purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Differentiating</td>
<td>Discriminating, Distinguishing, Focusing, Selecting</td>
<td>Distinguishing relevant from irrelevant parts or important from unimportant parts of presented material</td>
</tr>
<tr>
<td>Organizing</td>
<td>Finding coherence, Integrating, Outlining, Parsing, Structuring</td>
<td>Determining how elements fit or function within a structure</td>
</tr>
<tr>
<td>Attributing</td>
<td>Deconstructing</td>
<td>Determine a point of view, bias, values, or intent underlying presented material</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Evaluate</th>
<th></th>
<th>Make judgments based on criteria and standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checking</td>
<td>Coordinating, Detecting, Monitoring, Testing</td>
<td>Detecting inconsistencies or fallacies within a process or product; determining whether a process or product has internal consistency; detecting the effectiveness of a procedure as it is being implemented</td>
</tr>
<tr>
<td>Critiquing</td>
<td>Judging</td>
<td>Detecting inconsistencies between a product and external criteria; determining whether a product has external consistency; detecting the appropriateness of a procedure for a given problem</td>
</tr>
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<th>Categories &amp; Cognitive Processes</th>
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<tbody>
<tr>
<td>Create</td>
<td></td>
<td>Put elements together to form a coherent or functional whole; reorganize elements into a new pattern or structure</td>
</tr>
<tr>
<td>Generating</td>
<td>Hypothesizing</td>
<td>Coming up with alternative hypotheses based on criteria</td>
</tr>
<tr>
<td>Planning</td>
<td>Designing</td>
<td>Devising a procedure for accomplishing some task</td>
</tr>
<tr>
<td>Producing</td>
<td>Constructing</td>
<td>Inventing a product</td>
</tr>
</tbody>
</table>

### The Knowledge Dimension

<table>
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<th>Dimension</th>
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<tr>
<td>Factual Knowledge</td>
<td>The basic elements students must know to be acquainted with a discipline or solve problems in it</td>
</tr>
<tr>
<td>Conceptual Knowledge</td>
<td>The interrelationships among the basic elements within a larger structure that enable them to function together</td>
</tr>
<tr>
<td>Procedural Knowledge</td>
<td>How to do something, methods of inquiry, and criteria for using skills, algorithms, techniques, and methods</td>
</tr>
<tr>
<td>Metacognitive Knowledge</td>
<td>Knowledge of cognition in general as well as awareness and knowledge of one’s own cognition</td>
</tr>
</tbody>
</table>

Potential Activities and Products

**Remembering: Potential Activities and Products**

- Make a list of the main events of the story.
- Make a time line of events.
- Make a facts chart.
- Write a list of any pieces of information you can remember.
- What animals were in the story?
- Make a chart showing…
- Make an acrostic.
- Recite a poem.

**Understanding: Potential Activities and Products**

- Cut out, or draw pictures to show a particular event.
- Illustrate what you think the main idea may have been.
- Make a cartoon strip showing the sequence of events.
- Write and perform a play based on the story.
- Retell the story in your own words.
- Write a summary report of the event.
- Prepare a flow chart to illustrate the sequence of events.
- Make a coloring book.
- 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.
- Write and perform a play based on the story.
- Retell the story in your own words.
- Write a summary report of the event.
- Prepare a flow chart to illustrate the sequence of events.
- 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.
- Write and perform a play based on the story.

**Applying: Potential Activities and Products**

- Construct a model to demonstrate how it works
- Make a diorama to illustrate an event
- Make a scrapbook about the areas of study.
- Make a papier-mache map / clay model to include relevant information about an event.
- Take a collection of photographs to demonstrate a particular point.
- Make up a puzzle or a game about the topic.
- Write a textbook about this topic for others.
- Dress a doll in national costume.
- Make a clay model.
- Paint a mural using the same materials.
- Design a marketing strategy for your product using a known strategy as a model.

**Analyzing: Potential Activities and Products**

- Design a questionnaire to gather information.
- Write a commercial to sell a new product.
- Make a flow chart to show the critical stages.
- Construct a graph to illustrate selected information.
- Make a family tree showing relationships.
- Devise a play about the study area.
- Write a biography of a person studied.
- Prepare a report about the area of study.
- Conduct an investigation to produce information to support a view.
- Review a work of art in terms of form, color and texture.

Evaluating: Potential Activities and Products

• Prepare a list of criteria to judge…
• Conduct a debate about an issue of special interest.
• Make a booklet about five rules you see as important. Convince others.
• Form a panel to discuss views.
• Write a letter to…advising on changes needed.
• Write a half-yearly report.
• Prepare a case to present your view about…

Creating: Potential Activities and Products

• Invent a machine to do a specific task.
• Design a building to house your study.
• Create a new product. Give it a name and plan a marketing campaign.
• Write about your feelings in relation to…
• Write a TV show play, puppet show, role play, song or pantomime about..
• Design a record, book or magazine cover for…
• Sell an idea
• Devise a way to…
• Make up a new language and use it in an example.

Assessment

Questions for Remembering

• What happened after...?
• How many...?
• What is...?
• Who was it that...?
• Can you name ...?
• Find the meaning of...
• Describe what happened after...
• Who spoke to...?
• Which is true or false...?

(Pohl, Learning to Think, Thinking to Learn, p. 12)

Questions for Understanding

• Can you write in your own words?
• How would you explain...?
• Can you write a brief outline...?
• What do you think could have happened next...?
• Who do you think...?
• What was the main idea...?
• Can you clarify...?
• Can you illustrate...?
• Does everyone act in the way that ........ does?

(Pohl, Learning to Think, Thinking to Learn, p. 12)

Questions for Applying

• Do you know of another instance where…?
• Can you group by characteristics such as…?
• Which factors would you change if…?
• What questions would you ask of…?
• From the information given, can you develop a set of instructions about…?

(Pohl, *Learning to Think, Thinking to Learn*, p. 13)

Question for Analysing

• Which events could not have happened?
• If...happened, what might the ending have been?
• How is...similar to...?
• What do you see as other possible outcomes?
• Why did...changes occur?
• Can you explain what must have happened when...?
• What are some or the problems of...?
• Can you distinguish between...?
• What were some of the motives behind..?
• What was the turning point?
• What was the problem with...?

(Pohl, *Learning to Think, Thinking to Learn*, p. 13)

Questions for Evaluating

- Is there a better solution to...?
- Judge the value of... What do you think about...?
- Can you defend your position about...?
- Do you think...is a good or bad thing?
- How would you have handled...?
- What changes to... would you recommend?
- Do you believe...? How would you feel if...?
- How effective are...?
- What are the consequences...?
- What influence will... have on our lives?
- What are the pros and cons of...?
- Why is... of value?
- What are the alternatives?
- Who will gain & who will loose?

(Pohl, Learning to Think, Thinking to Learn, p. 14)

Questions for Creating

- Can you design a... to...?
- Can you see a possible solution to...?
- If you had access to all resources, how would you deal with...?
- Why don't you devise your own way to...?
- What would happen if...?
- How many ways can you...?
- Can you create new and unusual uses for...?
- Can you develop a proposal which would...?

(Pohl, Learning to Think, Thinking to Learn, p. 14)