The Revised Bloom’s Taxonomy: An Overview
Bloom’s Taxonomy as a Framework

A taxonomy of educational objectives “could do much to bring order out of chaos in the field of education. It could furnish the conceptual framework around which our descriptions of educational programs and experiences could be oriented. It could furnish a framework for the development of educational theories and research. It could furnish the scheme needed for training our teachers and for orienting them to the varied possibilities of education” (Bloom, 1949)
Who were the taxonomists?

- Post World War II
- Students received course credit by passing the examinations (credit-by-examination)
- Quite obviously, the exams had to be based on course objectives (validity) and of sufficient length to be reliable.
- University Examiners
- Responsible for designing or helping to design end-of-course examinations
“Although the objectives ... may be specified in an almost unlimited number of ways, the student behaviors involved in these objectives can be represented by a relatively small number of classes. Therefore, the taxonomy is designed to be a classification of the student behaviors which represent the intended outcomes of the educational process” (p. 18).
Looking Through a New Lens
The Original Bloom’s Taxonomy
Bloom's as a learning process

- Bloom's in its various forms represents the process of learning. It essentially represents how we learn.
  - 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, analyzed, and evaluated.
Without the Lens

The student will recall the names of the parts of a flower.
With the Lens

The student will recall the names of the parts of a flower.

This is a knowledge objective.
The Revision

- Began in November 1996
- Led by David Krathwohl
- Involved cognitive psychologists, curriculum theorists, teacher educators, and measurement and assessment specialists.
- Group met twice a year for four years.
- Two books – soft cover for teachers and other “practitioners” and hard cover for academicians.
Low to High

Higher Order Thinking Skills

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

Lower Order Thinking Skills
In education, objectives are statements of what we want students to learn as a result of the instruction we provide. Standards are simply mandated objectives.
The Common Format of Objectives

Subject       Verb          Object
S              V              O
The SUBJECT is the Learner or the Student.

Quite often, the subject is implicit or understood.
Cognitive Processes

- **Remember**
  
  *Objective:* to find out about or recall facts
  
  *Skills:* list, match, recall, recognize
  
  *Example:* The Three Little Pigs
  
  What were the houses made of?

- **Recognizing**
  - Recalling
Cognitive Processes

- Understand

  *Objective:* To understand well enough to explain
  
  *Skills:* restate, describe, explain, paraphrase
  
  *Example:* The Three Little Pigs
  
  Why didn’t the brick house blow down?

- Interpreting
- Exemplifying
- Classifying
- Summarizing
- Inferring
- Comparing
- Explaining
Cognitive Processes (continued)

- **Application**

  *Objective*: to show an understanding by using the knowledge in a new situation

  *Skills*: organize, group, summarize, code

  *Example*: The Three Little Pigs

  What else could the pigs have used to get rid of the wolf?

- **Executing**

- **Implementing**
Cognitive Processes (continued)

- **Analyze**
  
  *Objective:* To see the parts
  
  *Skills:* combine, take apart, dissect, pattern
  
  *Example:* The Three Pigs
  
  In what way is The Three Little Pigs like Little Red Riding Hood?

- **Differentiating**
- **Organizing**
- **Attributing**
Cognitive Processes (continued)

- Evaluate
  
  **Objective:** to accept or reject the knowledge based on a standard
  
  **Skills:** judge, interpret, justify, criticize
  
  **Example:** The Three Little Pigs
  
  Did the three little pigs make the right decision?

- Checking
- Critiquing
Cognitive Processes (continued)

- **Create**
  
  *Objective:* To use the knowledge to create something unique

  *Skills:* translate, extend, alter, modify

  *Example:* The Three Little Pigs

  Tell your own version of this story.

- **Generating**
- **Planning**
- **Producing**
Benefits

- Increase curriculum alignment
- Improve validity of assessments
- Improve quality of instruction
  - BEGIN WITH THE END IN MIND
  - Test what you teach and teach what you test
Curriculum Alignment

Assessments

Objectives

Instructional Activities/Materials
How to Write Objectives

- Remember: SVO – The student will...
- And the behavior you want to see
  - It must be measurable!
Is this a Measurable Objective?

“The student will know the fifty capitals of the United States.”

No, it is not measurable. We can’t reach into a student’s brain to see what they know. We need to make them DO something with it. The student will LIST, IDENTIFY, MAP...these words are measurable.
Is this a Measurable Objective?

“The student will understand the concept of postmodernism.”
<table>
<thead>
<tr>
<th>Critical Thinking Activity [arranged lowest to highest]</th>
<th>Relevant Sample Verbs</th>
<th>Sample Assignments</th>
<th>Sample Sources or Activities</th>
</tr>
</thead>
</table>
| **1. Remembering**
Retrieving, recognizing, and recalling relevant knowledge from long-term memory, eg. find out, learn terms, facts, methods, procedures, concepts | Acquire, Define, Distinguish, Draw, Find, Label, List, Match, Read, Record | 1. Define each of these terms: encomienda, conquistador, gaucho 2. What was the *Amistad*? | Written records, films, videos, models, events, media, diagrams, books. |
| **2. Understanding**
Constructing meaning from oral, written, and graphic messages through interpreting, exemplifying, classifying, summarizing, inferring, comparing, and explaining. Understand uses and implications of terms, facts, methods, procedures, concepts | Compare, Demonstrate, Differentiate, Fill in, Find, Group, Outline, Predict, Represent, Trace | 1. Compare an invertebrate with a vertebrate. 2. Use a set of symbols and graphics to draw the water cycle. | Trends, consequences, tables, cartoons |
<table>
<thead>
<tr>
<th>Critical Thinking Activity [arranged lowest to highest]</th>
<th>Relevant Sample Verbs</th>
<th>Sample Assignments</th>
<th>Sample Sources or Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>3. Applying</strong></td>
<td>Convert, Demonstrate, Differentiate between, Discover, Discuss, Examine, Experiment, Prepare, Produce, Record</td>
<td>1. Convert the following into a real-world problem: velocity = dist./time. 2. Experiment with batteries and bulbs to create circuits.</td>
<td>Collection of items, diary, photographs, sculpture, illustration</td>
</tr>
<tr>
<td>Carrying out or using a procedure through executing, or implementing. Make use of, apply practice theory, solve problems, use information in new situations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>4. Analyzing</strong></td>
<td>Classify, Determine, Discriminate, Form generalizations, Put into categories, Illustrate, Select, Survey, Take apart, Transform</td>
<td>1. Illustrate examples of two earthquake types. 2. Dissect a crayfish and examine the body parts.</td>
<td>Graph, survey, diagram, chart, questionnaire, report</td>
</tr>
<tr>
<td>Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing. Take concepts apart, break them down, analyze structure, recognize assumptions and poor logic, evaluate relevancy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critical Thinking Activity [arranged lowest to highest]</td>
<td>Relevant Sample Verbs</td>
<td>Sample Assignments</td>
<td>Sample Sources or Activities</td>
</tr>
<tr>
<td>---------------------------------------------------------</td>
<td>-----------------------</td>
<td>--------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>5. Evaluating Making judgments based on criteria and standards through checking and critiquing. Set standards, judge using standards, evidence, rubrics, accept or reject on basis of criteria</td>
<td>Argue, Award, Critique, Defend, Interpret, Judge, Measure, Select, Test, Verify</td>
<td>1. Defend or negate the statement: &quot;Nature takes care of itself.&quot; 2. Judge the value of requiring students to take earth science.</td>
<td>Letters, group with discussion panel, court trial, survey, self-evaluation, value, allusions</td>
</tr>
<tr>
<td>6. Creating Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing. Put things together; bring together various parts; write theme, present speech, plan experiment, put information together in a new &amp; creative way</td>
<td>Synthesize, Arrange, Blend, Create, Deduce, Devise, Organize, Plan, Present, Rearrange, Rewrite</td>
<td>1. Create a demonstration to show various chemical properties. 2. Devise a method to teach others about magnetism.</td>
<td>Article, radio show, video, puppet show, inventions, poetry, short story</td>
</tr>
</tbody>
</table>
## Let’s give it a try!

<table>
<thead>
<tr>
<th>VERBS</th>
<th>REMEMBERING</th>
<th>UNDERSTANDING</th>
<th>APPLYING</th>
<th>ANALYSING</th>
<th>EVALUATING</th>
<th>CREATING</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tell, List, Describe, Relate, Locate, Write, Find, State, Name, Identify, Label, Recall, Define, Recognise, Match, Reproduce, Memorise, Draw, Select, Write, Recite</td>
<td>Tell, List, Describe, Relate, Locate, Write, Find, State, Name, Identify, Label, Recall, Define, Recognise, Match, Reproduce, Memorise, Draw, Select, Write, Recite</td>
<td>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</td>
<td>Solve, Show, Use, Illustrate, Construct</td>
<td>Analyse, Distinguish, Examine, Compare Complete, Examine Classify, Choose Interpret, Make Put together, Change, Apply, Produce, Translate, Calculate, Manipulate, Modify, put into practice</td>
<td>Judge, Select, Choose, Decide, Justify, Debate, Verify, Argue, Recommend, Assess, Discuss, Rate, Prioritise, Determine, Critique, Evaluate, Criticise, Weigh, Value, estimate, defend</td>
<td>Create, Invent, Compose, Predict Plan, Construct Design, Imagine Propose, Devise Formulate, Combine, Hypothesise, Originate, Add to, Forecast,</td>
</tr>
<tr>
<td>Events, people, newspapers, magazine articles, definitions, videos, dramas, textbooks, films, television programs, recordings, media presentations</td>
<td>Events, people, newspapers, magazine articles, definitions, videos, dramas, textbooks, films, television programs, recordings, media presentations</td>
<td>Speech, stories, drama, cartoons, diagrams, graphs, summaries, outlines, analogies, posters, bulletin boards.</td>
<td>Diagrams, sculptures, illustrations, dramatisations, forecasts, problems, puzzles, organisations, classifications, rules, systems, routines.</td>
<td>Surveys, questionnaires, arguments, models, displays, demonstrations, diagrams, systems, conclusions, reports, graphed information</td>
<td>Recommendations, self-evaluations, group discussions, debates, court trials, standards, editorials, values.</td>
<td>Experiments, games, songs, reports, poems, speculations, creations, art, inventions, drama, rules.</td>
</tr>
<tr>
<td>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 ... show a particular event. Construct a model to demonstrate how it will work. Construct 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.</td>
<td>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 ... show a particular event. Construct a model to demonstrate how it will work. Construct 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.</td>
<td>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 the study area. Write a biography of the study person. Prepare a report. Arrange a party and record as a procedure. Review a piece of art including form, colour and texture</td>
<td>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 the study area. Write a biography of the study person. Prepare a report. Arrange a party and record as a procedure. Review a piece of art including form, colour and texture</td>
<td>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.</td>
<td>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.</td>
<td>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.</td>
</tr>
</tbody>
</table>