Using Bloom’s Taxonomy to Improve Student Learning Outcomes and Assessment

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Workshop Learning Outcomes

• When asked, the learner will list all six levels of Bloom’s revised taxonomy of learning.

• When asked, the learner will write an accurate description of all six levels of Bloom’s revised taxonomy of learning.

• When presented with a well-written learning outcome, the learner will identify the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome.

• When planning a course, the learner will use Bloom’s revised taxonomy to compose complete course learning outcomes and foundational (prerequisite) learning outcomes.
Bloom’s Revised Taxonomy (2002)

- Creating
- Evaluating
- Analyzing
- Applying
- Understanding
- Remembering

Workshop Learning Outcomes (and Levels of Learning)

• When asked, the learner will list all six levels of Bloom’s revised taxonomy of learning. \textit{(Remembering)}
• When asked, the learner will write an accurate description of all six levels of Bloom’s revised taxonomy of learning. \textit{(Understanding)}
• When presented with a well-written learning outcome, the learner will identify the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome. \textit{(Understanding; Analyzing)}
• When planning a course, the learner will use Bloom’s revised taxonomy to compose complete course learning outcomes and foundational (prerequisite) learning outcomes. \textit{(Applying)}
1.0 Remembering - Retrieving relevant knowledge from long-term memory.
   • 1.1 Recognizing
   • 1.2 Recalling

2.0 Understanding - Determining the meaning of instructional messages, including oral, written, and graphic communication.
   • 2.1 Interpreting
   • 2.2 Exemplifying
   • 2.3 Classifying
   • 2.4 Summarizing
   • 2.5 Inferring
   • 2.6 Comparing
   • 2.7 Explaining

3.0 Applying - Carrying out or using a procedure in a given situation.
   • 3.1 Executing
   • 3.2 Implementing
Structure of the Cognitive Process Dimension of the Revised Taxonomy (2 of 2)

- **4.0 Analyzing** - Breaking material in to its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.
  - 4.1 Differentiating
  - 4.2 Organizing
  - 4.3 Attributing

- **5.0 Evaluating** - Making judgments based on criteria and standards.
  - 5.1 Checking
  - 5.2 Critiquing

- **6.0 Creating** - Putting elements together to form a novel, coherent whole or make an original product.
  - 6.1 Generating
  - 6.2 Planning
  - 6.3 Producing
Structure of the Cognitive Process Dimension of the Revised Taxonomy (1 of 2)

- **1.0 Remembering** - Retrieving relevant knowledge from long-term memory.
  - 1.1 Recognizing
  - 1.2 Recalling

- **2.0 Understanding** - Determining the meaning of instructional messages, including oral, written, and graphic communication.
  - 2.1 Interpreting
  - 2.2 Exemplifying
  - 2.3 Classifying
  - 2.4 Summarizing
  - 2.5 Inferring
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- **3.0 Applying** - Carrying out or using a procedure in a given situation.
  - 3.1 Executing
  - 3.2 Implementing

Work quickly with a partner. Share one example of each from your target course or discipline.
Structure of the Cognitive Process Dimension of the Revised Taxonomy (2 of 2)

- **4.0 Analyzing** - Breaking material in to its constituent parts and detecting how the parts relate to one another and to an overall structure or purpose.
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- **6.0 Creating** - Putting elements together to form a novel, coherent whole or make an original product.
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Work quickly with a partner. Share one example of each from your target course or discipline.
Reflection

- With a partner, think of a course assignment that you have used in the past that did NOT follow a hierarchy of learning, but skipped from the bottom of the pyramid to the top
- How did students fare?
- How might you have built in a step to facilitate learning?
How does Bloom’s Taxonomy apply to your program’s structure?

- Do students participate in all cognitive processes in every year in the program?
- Is the program structured so that the student progress up the pyramid of learning levels in every year of the program?
- Does your program build your students’ repertoires from the bottom up so that students’ learning is properly scaffolded?
- Where does your course fall in the learning pyramid? On which aspects of the pyramid does your course focus?
List Three Course Goals

- These are the goals that you set for your students in your course.
- These goals are specific to your course, but they reflect a knowledge of your program’s overall structure and where your course belongs in it: they may prepare for, build on, or relate to other program goals.
Use Bloom’s taxonomy to construct a hierarchy of learning in your course goals

1) Start with a higher-level goal (e.g., Applying X or Y concept).

2) Next, write a related, foundational (pre-requisite) lower-level goal (e.g., Remembering X or Y definition).

3) Then, write an intermediate, bridging goal (e.g., Understanding X or Y concept).
Learning Outcomes: 3 key parts

Robert Mager has laid out the three essential components to a well-crafted learning outcome:

- **Performance:** *What* the learner will be able to do following instruction.
- **Conditions:** The circumstances (*when, where, and with what or whom*) the learner will be able to do the performance.
- **Criteria:** *How well* the learner will be able to do the performance under the specified conditions.

or
Example: Our learning outcomes

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- When asked, the learner will write an accurate description of all six levels of Bloom’s revised taxonomy of learning.

- When presented with a well-written learning outcome, the learner will identify the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome.

- When planning a course, the learner will use Bloom’s revised taxonomy to compose complete course learning outcomes and foundational (prerequisite) learning outcomes.
When asked, the learner will list all six levels of Bloom’s revised taxonomy of learning. (Remembering)

When asked, the learner will write an accurate description of all six levels of Bloom’s revised taxonomy of learning. (Understanding)

When presented with a well-written learning outcome, the learner will identify the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome. (Understanding; Analyzing)

When planning a course, the learner will use Bloom’s revised taxonomy to compose complete course learning outcomes and foundational (prerequisite) learning outcomes (Applying)
Performance

- When asked, the learner will **list** all six **levels of Bloom’s revised taxonomy of learning.** (Remembering)
- When asked, the learner will **write** an accurate **description** of all six **levels of Bloom’s revised taxonomy of learning.** (Understanding)
- When presented with a well-written learning outcome, the learner will **identify** the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome. (Understanding; Analyzing)
- When planning a course, the learner will **use** Bloom’s revised taxonomy to **compose** complete course learning outcomes and foundational (prerequisite) learning outcomes. (Applying)
Criteria

- When asked, the learner will list all six levels of Bloom’s revised taxonomy of learning. (Remembering)
- When asked, the learner write an accurate description of all six levels of Bloom’s revised taxonomy of learning. (Understanding)
- When presented with a well-written learning outcome, the learner will identify the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome. (Understanding; Analyzing) (all possible?)
- When planning a course, the learner will use Bloom’s revised taxonomy to compose complete course learning outcomes and foundational (prerequisite) learning outcomes. (Applying)
Conditions, Performance, Criteria

- When asked, the learner will list all six levels of Bloom’s revised taxonomy of learning. (Remembering)
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- When presented with a well-written learning outcome, the learner will identify the level(s) of Bloom’s revised taxonomy that are contained in the learning outcome. (Understanding; Analyzing) (all possible?)
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Example: transformed learning outcome, ENGL 479

Before: Students will identify the author, editor, illustrator, publisher, and (if possible) reader and purchaser of a children’s book from UVic Special Collections.

After: Using a children’s book from UVic Special Collections as the basis of their investigation, and using sources available in Victoria, students will seek out information, evaluate sources, and write a report identifying as much as possible about its author, editor, illustrator, publisher, reader, and purchaser.
Revise your course goals into complete learning outcomes

Work alone, then share with a new partner.

- Revise your three course goals to be complete learning outcome statements.

| Conditions | Performance | Criteria |
Reflection

- Think of an assignment that has evolved over time.
- How did it evolve and why?
- How did that evolution reflect 1) Bloom’s taxonomy and 2) course learning outcomes.
Thanks!

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