**BLOOM’S TAXONOMY**

**Outcome-Based Education (OBE)**

As a student did you ever sit in a class and wonder, “*Why is she talking about this?”*

When we use student learning outcomes for planning lessons, designing assignments, lecturing, facilitating classroom discussions and other activities, this will not happen. Everything we do in the classroom should ultimately lead the student toward the outcomes of the course. Outcome-based education is an educational model in which curriculum and pedagogy and assessment are all focused on student learning. Simply put, OBE emphasizes student learning and success.

Therefore, if you think with that end in mind (the outcome), what will you do today to lead your students? On the following pages are some teaching guides and ideas, based upon Bloom’s Taxonomy.

**What is Bloom’s Taxonomy?**

In 1956, **Benjamin Bloom,** American educational psychologist,led a group of educational psychologists to develop a taxonomy, or classification system, for learning. He proposed that learning fits into one of three psychological domains:

* the **Cognitive** domain – processing information, knowledge and mental skills
* the **Affective** domain – Attitudes and feelings
* the **Psychomotor** domain – manipulative, manual or physical skills

Within each of these domains, he identified different levels of learning.

**Cognitive Domain**

*Learning Outcomes Related to Knowledge*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Knowledge** | **Comprehension** | **Application** | **Analysis** | **Synthesis** | **Evaluation** |
| Cite | Convert | Apply | Analyze | Assemble | Access |
| Label | Define | Chart | Compare | Create | Appraise |
| List | Describe | Compute | Contrast | Construct | Conclude |
| Enumerate | Discuss | Demonstrate | Correlate | Design | Critique |
| Identify | Estimate | Determine | Diagram | Develop | Decide |
| Imitate | Explain | Dramatize | Dissect | Formulate | Defend |
| Match | Generalize | Establish | Differentiate | Generate | Diagnose |
| Name | Identify | Make | Distinguish | Hypothesize | Evaluate |
| Recall | Locate | Prepare | Investigate | Invent | Justify |
| Reproduce | Paraphrase | Project | Limit | Modify | Rank |
| State | Restate | Solve | Outline | Reframe | Recommend |
| Write | Summarize | Use | Separate | Synthesize | Support |

**Psychomotor Domain**

*Learning Outcomes Related to Skills*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Observe** | **Model** | **Recognize Standards** | **Correct** | **Apply** | **Coach** |
| Hear | Attempt | Check | Adapt | Build | Demonstrate |
| Identify | Copy | Detect | Adjust | Compose | Exhibit |
| Observe | Follow | Discriminate | Alter | Construct | Illustrate |
| See | Imitate | Differentiate | Change | Create | Instruct |
| Smell | Mimic | Distinguish | Correct | Design | Teach |
| Taste | Model | Notice | Customize | Originate | Train |
| Touch | Reenact | Perceive | Develop | Produce |  |
| Watch | Repeat | Recognize | Improve |  |  |
|  | Reproduce | Select | Manipulate |  |  |
|  | Show |  | Modify |  |  |
|  |  |  | Revise |  |  |

**Affective Domain**

*Learning Outcomes Related to Attitudes, Behaviors & Values*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Receiving** | **Responding** | **Valuing** | **Organizing** | **Characterizing** |
| Accept | Behave | Accept | Adapt | Authenticate |
| Attend | Comply | Adapt | Adjust | Characterize |
| Describe | Cooperate | Balance | Alter | Defend |
| Explain | Discuss | Choose | Change | Display |
| Locate | Examine | Differentiate | Customize | Embody |
| Observe | Follow | Defend | Develop | Habituate |
| Realize | Model | Influence | Improve | Internalize |
| Receive | Present | Prefer | Manipulate | Produce |
| Recognize | Respond | Recognize | Modify | Represent |
|  | Show | Seek | Practice | Validate |
|  | Studies | Value | Revise | Verify |

![Caption: Terminology changes "The graphic is a representation of the NEW verbage associated with the long familiar Bloom's Taxonomy.   Note the change from Nouns to Verbs [e.g., Application to Applying] to describe the different levels of the taxonomy.  Note that the top two levels are essentially exchanged from the Old to the New version." (Schultz, 2005)  (Evaluation moved from the top to Evaluating in the second from the top, Synthesis moved from second on top to the top as Creating.) Source: http://www.odu.edu/educ/llschult/blooms_taxonomy.htm ]()

Source: <http://www.odu.edu/educ/roverbau/Bloom/blooms_taxonomy.htm>

During the 1990's a group of cognitive psychologists, and other educational experts, lead by Lorin Anderson (a former student of Bloom's), revised the taxonomy to reflect changes in terminology, structure, and emphasis.

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**.



|  |
| --- |
| Church, A. (2009). Bloom's Digital Taxonomy Concept map. http://edorigami.wikispaces.com |

**Bloom’s Cognitive Domain with Instructional Ideas**

|  |  |  |
| --- | --- | --- |
| **Category** | **Verbs** | **Instructional Strategies / Products** |
| **Remember**Recognizing, Recalling | Arrange, Count, Define, Describe, Draw, Duplicate, Identify, Label, List, Match, Name, Order, Point, Quote, Read, Recall, Recite, Recognize, Record, Repeat, Reproduce, Select, State, Write | Analogies, Audio, Charts, Examples,Illustrations, Lecture, Timelines, Video, Visuals Quiz, Definition, Fact, Worksheet, Test, Label, List, Workbook, Reproduction, Vocabulary  |
| **Comprehend**Interpreting, Exemplifying, Classifying, Inferring, Comparing, Explaining | Associate, Classify, Compare, Compute, Contrast, Convert, Describe, Differentiate, Discuss, Distinguish, Explain, Express, Extend, Generalize, Give Examples, Identify, Indicate, Locate, Listing, Matching, Paraphrase, Predict, Recognize, Report, Restate, Review, Rewrite, Select, Sort, Summarize, Tell, Translate  | Discussion, Learner Presentations, Questions and Answers, Reports, Summaries, Recitation, Summary Collection, Explanation, Show and tell, Example, Quiz, List, Label, Outline  |
| **Apply**Executing, Implementing | Add, Apply, Calculate, Change, Choose, Classify, Complete, Compute, Demonstrate, Determine, Develop, Discover, Divide, Dramatize, Employ, Examine, Formulate, Graph, Illustrate, Interpret, Manipulate, Modify, Multiply, Operate, Organize, Perform, Practice, Predict, Prepare, Produce, Relate, Schedule, Shop, Show, Sketch, Solve, Subtract, Translate, Use  | Demonstrations, Exercises, Microteach,Practice, Projects, Role Play, Simulations,Sketches Photograph, Illustration, Sculpture, Presentation, Interview, Performance, Diary, Journal |
| **Analyze**Differentiating, Organizing, Attributing | Analyze, Appraise, Arrange, Breakdown, Calculate, Combine, Compare, Contrast, Criticize, Design, Detect, Determine, Develop, Diagram, Differentiate, Discriminate, Distinguish, Estimate, Examine, Experiment, Extrapolate, Formulate, Identify, Illustrate, Infer, Inspect, Inventory, Outline, Point Out, Question, Relate, Select, Separate, Subdivide, Test, Utilize  | Case Studies, Critical Incidents, Discussion, Problems Graph, Spreadsheet, Checklist, Chart, Outline, Survey, Database, Mobile, Abstract, Report  |
| **Evaluate**Checking, Critiquing | Appraise, Argue, Assess, Attack, Choose, Compare, Conclude, Contrast, Criticize, Critique, Defend, Determine, Estimate, Evaluate, Grade, Interpret, Judge, Justify, Measure, Predict, Rank, Rate, Revise, Score, Select, Support, Test, Value, Weigh  | Appraisals, Case Studies, Critiques, Exercises, Projects, Simulations Debate, Panel, Report, Evaluation, Investigation, Verdict, Conclusion, Persuasive speech |
| **Create**Generating, Planning, Producing | Arrange, Assemble, Categorize, Collect, Combine, Compile, Compose, Construct, Create, Debate, Derive, Design, Devise, Explain, Formulate, Generate, Group, Integrate, Manage, Modify, Order, Organize, Plan, Prepare, Prescribe, Produce, Propose, Rearrange, Reconstruct, Relate, Reorganize, Revise, Rewrite, Specify, Summarize, Synthesize, Tell, Transform  | Case Studies, Constructs, Creative Exercises, Develop Plans, Problems, Projects, Simulations Film, Story, Plan, New game, Newspaper, Media product, Advertisement, Painting, Song |



Source:[*http://www.alline.org/euro/images/bloomwheel.png*](http://www.alline.org/euro/images/bloomwheel.png)

![[Revised_Bloom_taxonomy_circle.GIF]]()

Source*:* [*http://www.cobbk12.org/sites/alt/training/Blooms/circle.GIF*](http://www.cobbk12.org/sites/alt/training/Blooms/circle.GIF)

Adapted from San Joaquin Valley College Student Earning Outcomes Toolkit