Bloom's Taxonomy

Creating Effective Learning Objectives and Assessments

Webinar Objectives

At the end of this webinar, participants will be able to

- Select well-written learning objectives from a list of learning objectives

- Select appropriate assignment method for a given learning objective

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Bloom's Taxonomy History

- Created by a committee of educators in 1956 to classify learning objectives.

- Taxonomy divided learning objectives into three domains.

- The **Cognitive Domain** has became the most widely used domain by educators.
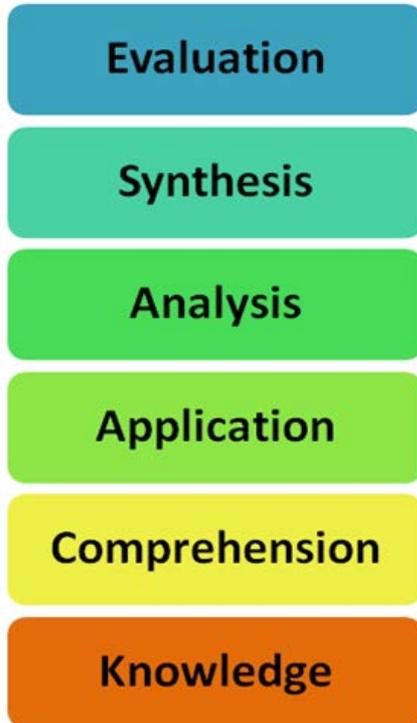
Affective
Emotional

Cognitive
Intellectual

Psychomotor
Physical

Bloom's Taxonomy - Cognitive Domain

Bloom's Taxonomy in 1956

Evaluation
Synthesis
Analysis
Application
Comprehension
Knowledge

Revision in late 1990's

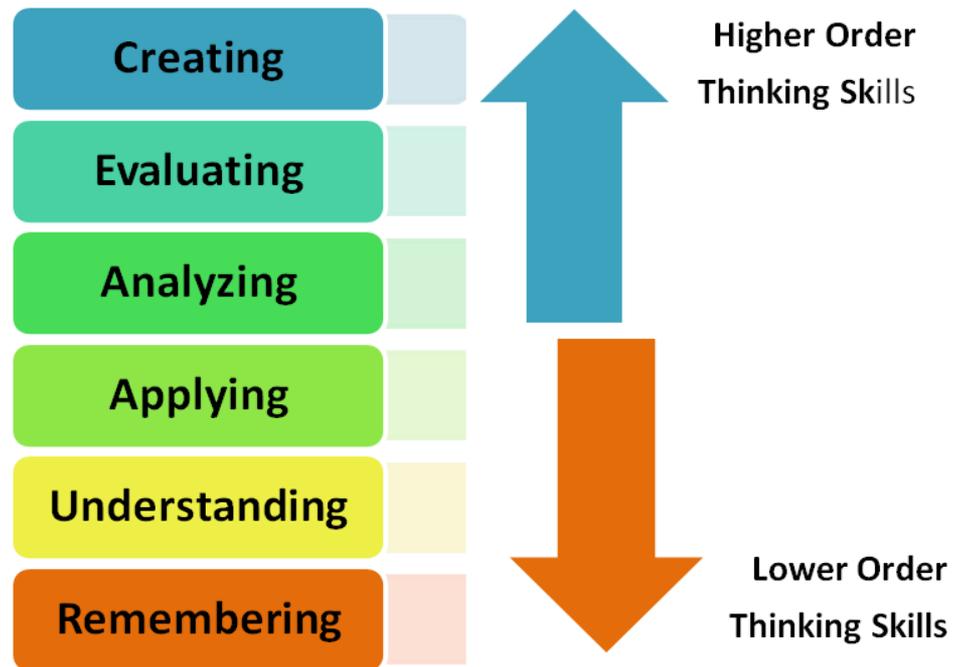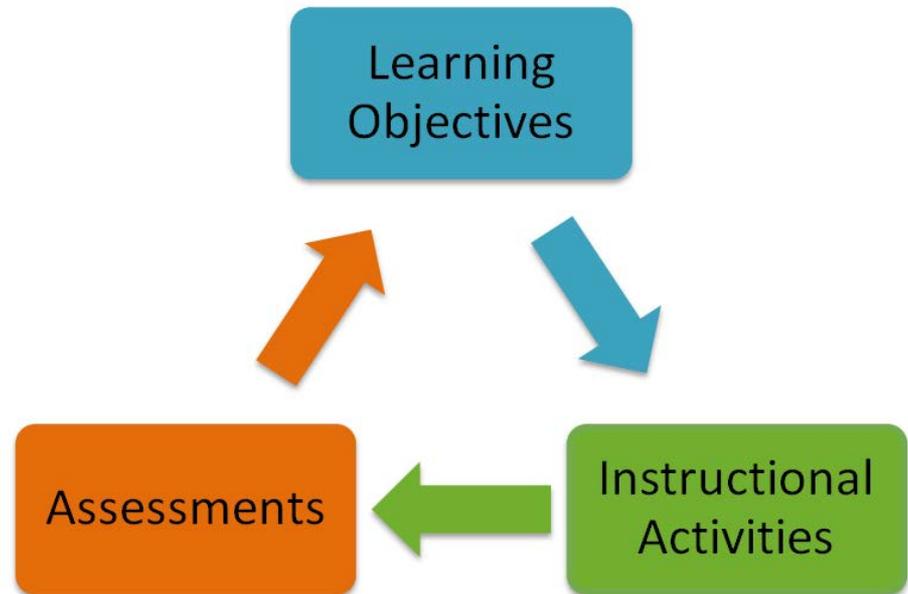| |
|---|
| Creating |
| Evaluating |
| Analyzing |
| Applying |
| Understanding |
| Remembering |

Bloom's Taxonomy - Cognitive Domain

It is hierarchical.

Higher level learning is reliant on knowledge and skills attained at lower levels.

Bloom's Taxonomy Utilized

Learning objectives, instructional activities, and assessments need to be closely aligned.

Assurance of Learning (AoL)

Assurance of Learning (AoL) is systematic collection, review, and use of student assessment information for supporting and improving student learning.

Assurance of Learning (AoL)

AoL process includes:

1 . **Definition of student learning goals and objectives**
2. **Alignment of curricula with the adopted goals**
3. **Identification of instruments and measures to assess learning**
4. Collection, analyzing, and dissemination of assessment information
5. Using assessment information for continuous improvement including documentation that the assessment process is being carried out in a systematic, ongoing basis.

Assurance of Learning (AoL)

Bloom's Taxonomy can be used for

- Definition of student learning goals and objectives

- Alignment of curricula with the adopted goals

- Identification of instruments and measures to assess learning

Bloom's Taxonomy Utilized

Learning Objectives
- State what students **will be able to do** at the end of an instructional unit

Instructional Activities
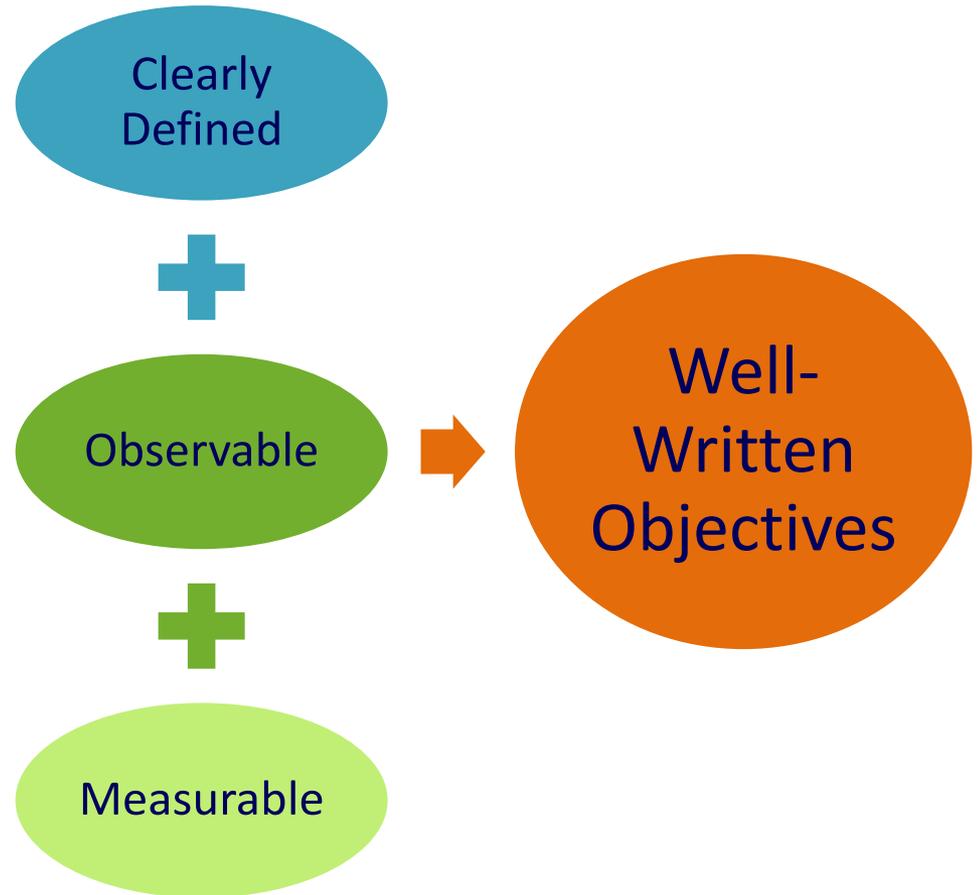- Support achieving the stated learning objectives

Assessments
- Reveal whether students have achieved the stated learning objectives

Learning Objectives

Well-written objectives are the road map for designing, implementing, and assessing instruction.

Clearly Defined

+

Observable

+

Measurable

→ Well-Written Objectives

ABCD's of Learning Objectives

Audience
- WHO?
- Finance students
- Seminar attendants
- Participants

Behavior
- WHAT?
- Calculate
- Present
- Demonstrate
- Create

Condition
- HOW?
- Given "X"
- Using "Y"
- In teams
- Individually

Degree
- HOWMUCH?
- Correctly
- At least 5
- With 100% accuracy

ABCD's of Learning Objectives

Audience
- WHO?
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Behavior
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- Using "Y"
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ABCD's of Learning Objectives

- Use verbs that clearly explain what students **will be able to do after** the unit of instruction

- Avoid words that are vague, "know" "understand" "appreciate" "value" or "believe".

  o How can we observe and measure "knowing" unless students explain, state, create, pick, etc.?

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Bloom's Taxonomy Action Verbs

Creating
- Design Construct Produce Make Generate Assemble Create Develop Formulate Write Compose

Evaluating
- Critique Determine Reflect Argue Defend Evaluate Recommend Hypothesize Justify Prioritize Disprove

Analyzing
- Compare Contrast Organize Select Differentiate Integrate Appraise Distinguish Examine Question

Applying
- Implement Use Utilize Execute Respond Choose Compute Predict Prepare Demonstrate Operate

Understanding
- Interpret Summarize Explain Classify Clarify Identify Comprehend Match Rephrase Restate Discuss

Remembering
- Recognize List Define Spell Recall Memorize Repeat State Name Tell Ask Duplicate

ABCD's of Learning Objectives

Using Bloom's Revised Taxonomy, **Carey Business Faculty** **will be able to develop** **minimum three course specific learning objectives**.

Audience Behavior Condition Degree
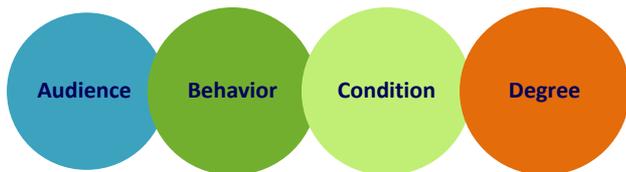
Creating Level

Carey Examples - Good

Students should be able to discuss and appraise alternative views on financial problems as a result of working in co-operation with other class members.

Evaluating Level

Carey Examples - Good

[Students will] apply tools and techniques for bottleneck analysis in a live and/or simulated environment.

Applying Level

Audience Behavior Condition

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Carey Examples – Needs Improvement

You will *understand* personal behaviors and tendencies that impact your leadership style.

Given a business scenario, students will be able to identify and reflect on their personal behaviors and tendencies that impact their leadership styles.

Evaluating Level

Audience   Behavior   Condition

Learning Objectives Activity

A. Help students understand basic principles and concepts used in studying marketplace behavior.

B. Using a company's overall strategy and objectives, students should be able to evaluate the company's investment proposals accurately.

C. Understand the fundamental concepts of marketing and its role in business.
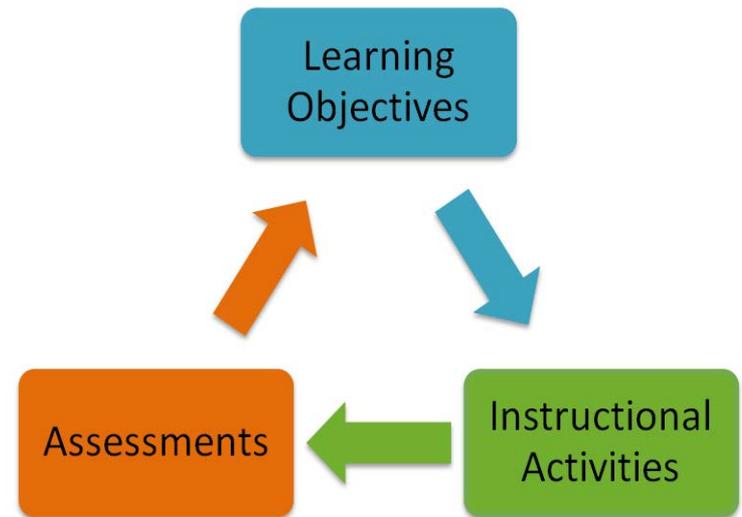
Learning Objectives Activity

A. Help students understand basic principles and concepts used in studying marketplace behavior.

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Assessing Student Learning

With learning objectives, we stated where we want our students to be at the end of the instruction.

Now, how will we know if our students get there?

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Assessing Student Learning

Assessment is the process of collecting information about student learning to enhance teaching and learning.

Assessments need to be aligned with learning objectives.

Assessing Student Learning

Assignments, including exams, can be created based on a variety of cognitive levels, from lower order to higher order thinking.

Creating

Evaluating

Analyzing

Applying

Understanding

Remembering

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Bloom's Taxonomy Assignments

Creating • A student portfolio for proposing an alternative…

Evaluating • A case analysis with recommendations…

Analyzing • An exam question asking to compare…

Applying • A student demonstration on…

Understanding • A think-pair-share activity to discuss…

Remembering • An exam question asking to list…

Bloom's Taxonomy Questions

Creating	• How would you improve...? Can you propose an alternative to...?
Evaluating	• Would you approve...? What would you recommend...?
Analyzing	• What evidence can be found...? How would you compare X...?
Applying	• How would you develop...? How would you apply X to solve...?
Understanding	• How would you summarize...? Can you explain...?
Remembering	• What is...? When did...? Can you recall...?

Assessment Activity

Objective

Students will apply tools and techniques for bottleneck analysis in a live and/or simulated environment.

Assessment

A. House Game Simulation Reflection Paper

B. Multiple Choice Exam

Assessment Activity

Objective

Given a business scenario, students will be able to identify and reflect on their personal behaviors and tendencies that impact their leadership styles.

Assessment

A.   Leadership Analysis Paper

B.   Class Participation

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More Questions

- Please feel free to contact Learning@Carey Team

- Visit our website http://carey.jhu.edu/faculty-research/learning-at-carey/

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Resources

Carnegie Mellon Eberly Center Teaching Excellence and Educational Inovation at
http://www.cmu.edu/teaching/assessment/index.html

Northern Illinois University Faculty Development and Instrucitonal Design Center
http://www.niu.edu/facdev/resources/guide/assessment/formative%20and_summative_assessment.pdf

Bloom's Taxonomy
http://en.wikipedia.org/wiki/Bloom%27s_taxonomy

Revised Bloom's Taxonomy
http://www.celt.iastate.edu/teaching/RevisedBlooms1.html

Bloom's Taxonomy of Learning Domains
http://www.nwlink.com/~donclark/hrd/bloom.html

Forehand, M. (2005). Bloom's taxonomy: Original and revised.. In M. Orey (Ed.), Emerging perspectives on learning, teaching, and technology. Retrieved 1/28/2014, from http://projects.coe.uga.edu/epltt/

Edupress Quick Flip Questions for the Revised Bloom's Taxonomy from Lorin W. Anderson & David R. Krathwohl's A Taxonomy for Learning, Teaching, and Assessing, Abridged edition. Published by Allyn and Bacon, Boston, MA 2001.