

## Instructional Objectives Workshop Handout

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AALHE First Annual Meeting, Lexington, KY, June 6, 2011

Allen (2004) defines the following:

- **Mission:** a holistic vision of the values and philosophy of the department
- **Goals:** general statements about knowledge, skills, attitudes, and values expected in graduates
- **Outcomes:** clear, concise statements that describe how students can demonstrate their mastery of program goals

Soulsby (2009) distinguishes objectives from outcomes:

- *Objectives* are intended results or consequences of instruction, curricula, programs, or activities.
- *Outcomes* are achieved results or consequences of what was learned, i.e., evidence that learning took place.

<u>Goals</u>	<u>Objectives</u>
<ul style="list-style-type: none"> <li>• Broad, generalized, and long-range statement about what knowledge, skills, values students are expected to achieve</li> <li>• Abstract, intangible</li> <li>• Not measurable</li> </ul>	<ul style="list-style-type: none"> <li>• Specific, measurable, short-term, observable <i>learner</i> behavior</li> <li>• Concrete, tangible</li> <li>• Measurable</li> <li>• Foundation upon which lessons and assessments are built</li> </ul>

I want students to be able to:			
General Goals			Specific Outcomes
Learn Understand Appreciate Value Perform Construct	<i>How do you know?</i>	... <i>because they can →</i>	Analyze Solve Respect Critique Diagnose Evaluate
Source: <a href="http://www.schreyerinstitute.psu.edu">http://www.schreyerinstitute.psu.edu</a>			

### Practice:

Can you identify the goals?

1. State the definition of a complimentary medical intervention or therapy.
2. Provide the health professional with the latest information about over-the-counter anti-histamines and their side effects.
3. Introduce the reader to a new development in the early detection of renal cancer.
4. Be exposed to a new way of organizing paperwork.

(Source: [http://www.ineedce.com/courses/1561/PDF/ed\\_goals\\_objctvs.pdf](http://www.ineedce.com/courses/1561/PDF/ed_goals_objctvs.pdf))

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Domains	
<p><b>Cognitive:</b> thought or knowledge</p> <ul style="list-style-type: none"><li>• Bloom's taxonomy: old and revised</li><li>• Marzano's Dimensions of Learning</li><li>• NC Thinking Skills (hybrid)</li></ul>	<p><b>Affective:</b> attitudes, feelings, appreciations</p> <ul style="list-style-type: none"><li>• Krathwhol taxonomy of affective domain</li></ul> <p><b>Psychomotor:</b> physical skills</p> <ul style="list-style-type: none"><li>• Dave (1967): <i>Psychomotor domain</i></li><li>• Harrow (1972): <i>A taxonomy of the psychomotor domain</i></li><li>• Simpson (1972): <i>The classification of educational objectives in the psychomotor domain</i></li></ul>

### Characteristics of a Learning Objective

These characteristics answer three questions:

- 1) What should the learner be able to do?
- 2) Under what conditions do you want the learner to be able to do it?
- 3) How well must it be done?

#### 1. Specific performance

An objective always states what a learner is expected to be able to do and/or produce to be considered competent.

E.g., to write, to name, to compare and contrast, to analyze, to evaluate.

#### 2. Conditions

An objective describes the important conditions under which the behavior is to occur.

E.g., during a cooperative activity, after reading chapter 1.

#### 3. Criterion, or standard

An objective describes the criteria of acceptable performance; that is, it states how well someone would have to perform to be considered competent.

E.g., correct to the nearest ml, 80% correct, with no grammatical errors.

(Mager, 1997).

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### Writing Student Learning Objectives

#### ABCD model

To write effective learning objectives, use the ABCD model, which includes the following parts:		
Part	Description	Example
<b>A =</b> Audience	<ul style="list-style-type: none"> <li>• Who is your audience?</li> <li>• Who is performing the action?</li> </ul>	Given the symbol representing a particular isotope of an atom or ion, <b>the student will be able to</b> determine the number of electrons, protons and neutrons in that species eight out of ten times.
<b>B =</b> Behavior	<ul style="list-style-type: none"> <li>• What will the student be able to do?</li> <li>• Behaviors always use a verb or action word.</li> <li>• Sometimes you will describe the product or the result of the behavior.</li> </ul>	Given the symbol representing a particular isotope of an atom or ion, the student will be able to <b>determine the number of electrons, protons and neutrons in that species</b> eight out of ten times.
<b>C =</b> Condition	<ul style="list-style-type: none"> <li>• How will the student accomplish the task?</li> <li>• What information is given?</li> <li>• What information is not given?</li> <li>• Give the conditions in which performance will occur.</li> </ul>	<b>Given the symbol representing a particular isotope of an atom or ion</b> , the student will be able to determine the number of electrons, protons and neutrons in that species eight out of ten times..
<b>D =</b> Degree	<ul style="list-style-type: none"> <li>• Describe the minimum criteria for acceptable student performance.                             <ul style="list-style-type: none"> <li>○ How often?</li> <li>○ How well?</li> <li>○ How many?</li> <li>○ How much?</li> </ul> </li> <li>• Define expectations regarding accuracy, quality, and speed.</li> </ul>	Given the symbol representing a particular isotope of an atom or ion, the student will be able to determine the number of electrons, protons and neutrons in that species <b>eight out of ten times.</b>
<a href="http://oct.sfsu.edu/design/outcomes/htmls/writing.html">http://oct.sfsu.edu/design/outcomes/htmls/writing.html</a>		

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<b>Appraisal Checklist: Objectives</b>			
	<b>Appropriately stated</b>	<b>Partly stated</b>	<b>Missing</b>
<p><b>Audience</b> Specifies the learner(s) for whom the objective is intended</p>			
<p><b>Behavior</b> (action verb) Describes the capability expected of the learner following instruction</p> <ul style="list-style-type: none"> <li>• stated as a learner performance</li> <li>• stated as observable behavior</li> <li>• describes a real-world skill (versus mere test performance)</li> </ul>			
<p><b>Conditions</b> (materials and/or environment) Describes the conditions under which the performance is to be demonstrated</p> <ul style="list-style-type: none"> <li>• equipment, tools, aids, or references the learner may or may not use</li> <li>• special environment conditions in which the learner is to perform</li> </ul>			
<p><b>Degree</b> (criterion) States, where applicable, the standard for acceptable performance</p> <ul style="list-style-type: none"> <li>• time limit</li> <li>• range of accuracy</li> <li>• proportion of correct responses required</li> <li>• qualitative standards</li> </ul>			
<p>Heinich, R., Moldenda, M. Russell, J. D., and Smaldino, S. E. (1999). <i>Instructional media and technologies for learning</i> (6<sup>th</sup> Ed.). Upper Saddle River, NJ: Prentice-Hall, Inc.</p>			

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### Types of Learning Outcomes to Consider

Gronlund (1981) listed types of outcomes which delineate major areas in which instructional objectives might be produced. These categories were intended to be suggestive, not exclusive.

#### Knowledge

- terminology
- specific facts
- concepts and principles
- methods and procedures

#### Understanding

- concepts and principles
- methods and procedures
- written material, graphs, maps, and numerical data
- problem situations

#### Application

- factual information
- concepts and principles
- methods and procedures
- problem-solving skills

#### Thinking skills

- critical thinking
- scientific thinking

#### General skills

- laboratory skills
- performance skills
- communications skills
- computational skills
- social skills

#### Attitudes

- social attitudes
- scientific attitudes

#### Interests

- personal interests
- educational interests
- vocational interests

#### Appreciation

- literature, art, and music
- social and scientific achievements

#### Adjustments

- social adjustments
- emotional adjustments

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### Practice 1: Diagnosing Objectives

- 1) Without handouts or notes, participants will be able to name two reasons why objectives are important.
- 2) Prior to spring 2011 semester, participants will be able to apply the ABCD Model to their course objectives and syllabus.
- 3) When given a sample objective, participants will be able to diagnose learning objectives with 100% accuracy without using their handouts.
- 4) Given a sentence written in the past or present tense, the student will be able to rewrite the sentence in future tense with no errors in tense or tense contradiction (i.e., I will see her yesterday).
- 5) Given examples and non-examples of constructivist activities in a college classroom, the student will be able to accurately identify the constructivist examples and explain why each example is or is not a constructivist activity with no mistakes.
- 6) Given a standard balance beam raised to a standard height, the student (attired in standard balance beam usage attire) will be able to walk the entire length of the balance beam (from one end to the other) steadily, without falling off, and within a six-second time span.
- 7) Given two cartoon characters of the student's choice, the student will be able to list five major personality traits of each of the two characters, combine these traits (either by melding traits together, multiplying together complementary traits, or negating opposing traits) into a composite character and develop a short (no more than 20 frames) storyboard for a cartoon that illustrates three to five of the major personality traits of the composite character.
- 8) Given the opportunity to work in a team with several people of different races, the student will choose to demonstrate a positive increase in attitude towards non-discrimination of race, as measures by a checklist utilized/completed by non-team members.

Objective	Audience	Behavior	Condition	Degree
1				
2				
3				
4				
5				
6				
7				
8				

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### Practice 2: Revising/Writing Objectives

Try rewriting the following objectives to include all the elements of a learning objective.

1. The student will be able to name the five stages of mitosis.
2. Upon completion of the course, students will understand the primary structure of a protein.
3. Students will be able to solve mass-volume problems.
4. When you finish studying Chapter 5, you should be able to define the properties of a buffer.

From the following agenda items, write a goal and objectives:

#### Workshop Agenda

- Role of instructional objectives
- Learning domains
- Writing instructional objectives
  - Characteristics of objectives
  - Models for writing objectives

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### Resources:

#### Instructional Objectives:

- <http://www.radiojames.com/ObjectivesBuilder/>

This tool allows an instructor to select a level of student performance (Bloom's level of intellectual performance) via a drop down menu. When a selection is made, information related to the choice is pulled into the interface from an external XML document which includes:

- An overview of the knowledge level selected
  - A List of corresponding verbs that when selected populate a text editor so that the instructor can write objectives directly
  - A set of example objectives to get ideas on how to structure an objective
  - A text editor for writing/printing objectives
- <http://edweb.sdsu.edu/courses/EDTEC540/objectives/ObjectivesHome.html>  
"Understanding Objectives" tutorial
  - <http://ets.tlt.psu.edu/learningdesign/objectives/writingobjectives>
  - <http://itc.utk.edu/~bobannon/objectives.html>
  - <http://oct.sfsu.edu/design/outcomes/htmls/writing.html>
  - <http://www.personal.psu.edu/staff/b/x/bxb11/Objectives/>
  - <http://www2.gsu.edu/~mstmbs/CrsTools/Magerobj.html#Qualities>
  - <http://www.krummefamily.org/guides/bloom.html>
  - [http://www.aewd.nysed.gov/bpss/schools/Writing\\_Performance\\_Objectives.htm](http://www.aewd.nysed.gov/bpss/schools/Writing_Performance_Objectives.htm)
  - <http://web.bsu.edu/IRAA/AA/WB/chapter2.htm>
  - <http://oct.sfsu.edu/design/outcomes/htmls/writing.html>

#### Taxonomies:

- <http://www.learningandteaching.info/learning/bloomtax.htm#Cognitive> :
- [http://www.polyu.edu.hk/assessment/arc/links/reference\\_f\\_solo.htm](http://www.polyu.edu.hk/assessment/arc/links/reference_f_solo.htm)
- <http://www.learningandteaching.info/learning/solo.htm>

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