A Roadmap to Online Instructional Development: Well-Designed Goals and Objectives
Make A Difference

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Disclosure

Kadriye O. Lewis, Ed.D

I have nothing to disclose with respect to this presentation.
Session Objectives

Construct

Construct learning objectives in the three domains of learning (cognitive, affective, and psychomotor) for a subject-specific curriculum or a course using Bloom’s Taxonomy.

Identify

Identify the essential elements of goal and objective statements to make online course activities more effective, unified, and coherent.

Write

Write clear and measurable objectives that are consistent with the goals of an online program, curriculum, and other educational activities using the ABCD model and SMART framework.
Quick Knowledge Check!

Lesson 1 of 7

Quick Knowledge Check!

Let's see where you are in goals and objectives?

START QUIZ ➔
Content Overview

• Introduction to goals and objectives
• Role of learning objectives in online course design
• Structure of Bloom’s Taxonomy
• The ABCD model and the SMART framework
• Writing goals and objectives
• Verbs to Avoid When Writing Learning Objectives
• Key Takeaways
Goals define the overall purpose of the training in broad, general terms and do not usually provide guidance on how to achieve them.

Learning objectives are predictive statements describing the specific outcomes that a training session is intended to achieve; they are a benchmark by which to measure progress towards the achievement of larger goals.
Goals vs. Objectives

Program Mission

Goals

Objectives

Attain

Determine

Attain

Determine

GOAL

Objective

Objective

Objective

Objective

GOAL

Objective

Objective

Objective
Goals & Objectives

Success Criteria:
- Program Outcomes
- Learning Outcomes

(Soulsby, 2009)
# Goals vs. Objectives

<table>
<thead>
<tr>
<th>Basis for Comparison</th>
<th>Goal</th>
<th>Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meaning</strong></td>
<td>Long-term purpose that a person strives to achieve</td>
<td>Achievements that can be attained only if attempts are made in a particular direction</td>
</tr>
<tr>
<td><strong>Scope</strong></td>
<td>End result</td>
<td>Means to an end</td>
</tr>
<tr>
<td><strong>Basis</strong></td>
<td>Ideas</td>
<td>Facts</td>
</tr>
<tr>
<td><strong>Action</strong></td>
<td>Generic: general intentions towards the attainment of something</td>
<td>Specific: precise actions for accomplishment of a specific task</td>
</tr>
<tr>
<td><strong>Nature</strong></td>
<td>Abstract</td>
<td>Concrete</td>
</tr>
<tr>
<td><strong>Measurement</strong></td>
<td>Intangible and difficult to measure</td>
<td>Must be measurable and tangible</td>
</tr>
<tr>
<td><strong>Orientation</strong></td>
<td>Teacher-focused</td>
<td>Learner-centered</td>
</tr>
<tr>
<td><strong>Timeframe</strong></td>
<td>Long-term</td>
<td>Short- to medium-term</td>
</tr>
</tbody>
</table>
Why are Learning Objectives Important?

Providing learners with Learning Objectives:

• **Describes** what you value and expect them to be able to do (content selection)
• **Specifies** your desired outcomes that will be measured (instructional strategy)
• **Assesses** the student’s performance as well as the course instruction (evaluation connection)
How do learning objectives link to assessment?

Assessment measures the learning objectives

- **Design** evaluation activities to measure the performance of the learning objectives. If you can’t, modify the learning objectives.
- **Develop** the measurement criteria and methods (what questions best determine learned performance) based on what is stated in the learning objectives.
- **Select** the evaluation tools (tests, surveys, projects or focus groups).
- **Choose** data collection procedures and analyze results. Revise evaluation activities as necessary.
# Questions and Assessment Techniques

## Types of Questions, Instructional Strategies and Assessment Techniques

For use with each level of Bloom's Taxonomy

The following table defines the six levels of Bloom's taxonomy of the cognitive domain with a brief explanation, examples of questions, instructional strategies, and assessment types. These help us maintain consistency to achieve well-defined goals and objectives in teaching and learning.

<table>
<thead>
<tr>
<th>Cognitive Domain</th>
<th>Instructional Strategies</th>
<th>Assessment Types</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>KNOWLEDGE</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remembering</td>
<td>Lecture</td>
<td>Reading and discussion</td>
</tr>
<tr>
<td>previously learned material (facts, terms, definitions, concepts, principles, formulas)</td>
<td>Memorization</td>
<td>Tests and quizzes</td>
</tr>
<tr>
<td>• Remembering</td>
<td>Reading</td>
<td>Reading summaries</td>
</tr>
<tr>
<td>• Memorizing</td>
<td>Web information</td>
<td>Worksheets</td>
</tr>
<tr>
<td>• Recognizing</td>
<td>Audio/Visual</td>
<td>Workshets</td>
</tr>
<tr>
<td>• Recalling identification</td>
<td>Podcast</td>
<td>Jeopardy-like games</td>
</tr>
<tr>
<td>• Recalling information</td>
<td>Video</td>
<td></td>
</tr>
<tr>
<td>• Who, what, when, where, and how?</td>
<td>Demonstration or guided observations</td>
<td></td>
</tr>
<tr>
<td>• How do you define ___?</td>
<td>Examples</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Illustrations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Analogies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Question and answer period</td>
<td></td>
</tr>
<tr>
<td><strong>COMPREHENSION</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understanding the meaning of information and materials.</td>
<td>Readings</td>
<td>Paraphrasing exercises</td>
</tr>
<tr>
<td>• Interpreting / Explaining / Summarizing</td>
<td>Graphic Organizers</td>
<td>Oral presentations</td>
</tr>
<tr>
<td>• Translating from one medium to another</td>
<td>Demonstration</td>
<td>Written presentations</td>
</tr>
<tr>
<td>• Describing in one's own words</td>
<td>Discussion</td>
<td>Web Quests or other research activities</td>
</tr>
<tr>
<td>• Organization and selection of facts and ideas</td>
<td>Questions</td>
<td></td>
</tr>
<tr>
<td>• Retell...</td>
<td>Review</td>
<td></td>
</tr>
<tr>
<td>• How would you summarize ___?</td>
<td>Test / Assessment</td>
<td></td>
</tr>
<tr>
<td>• What is the main idea?</td>
<td>Reports</td>
<td></td>
</tr>
<tr>
<td>• Give an example of ___?</td>
<td>Learner</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Presentations / Multimedia</td>
<td>Writing</td>
</tr>
<tr>
<td></td>
<td>Computer Based Instruction</td>
<td></td>
</tr>
</tbody>
</table>

(Palloff & Pratt, 2009)
Aligning Learning Objectives

- **Learning Objectives** (Predicts Learning)
- **Course Content**
- **Assessment** (Evaluates Learning)
- **Instructional Strategies** (Provides Learning)
How to Write Learning Objectives
Bloom’s Taxonomy of Learning Domains

- Developed by Benjamin Bloom and colleagues at the University of Chicago in 1950’s
- Formulated a classification of “the goals of the educational process”
- Defined 3 Learning Domains
  - Cognitive (Knowledge)
  - Affective (Attitudes, Feelings)
  - Psychomotor (Physical Skills)
    - Dave “Psychomotor Domain”1970
    - Simpson “Psychomotor Domain”1972
    - Harrow “Psychomotor Domain”1972

(Bloom, 1956)
Bloom's Taxonomy Action Verbs

Simple to Complex Levels of Learning

Knowledge
- Write
- List
- Label
- Name

Comprehension
- Explain
- Summarize
- Paraphrase
- Describe

Application
- Use
- Compute
- Solve
- Demonstrate

Analysis
- Categorize
- Compare
- Contrast
- Separate

Synthesis
- Create
- Design
- Hypothesize
- Develop

Evaluation
- Judge
- Recommend
- Critique
- Justify

Source: https://learn.canvas.net/courses/123/pages/defining-your-learning-objectives
Interrelationships Between Bloom’s Cognitive Level

- **Knowledge**: The ability to recall what has been learnt
- **Comprehension**: The ability to show a basic understanding
- **Application**: The ability to apply learning to a new or novel task
- **Analysis**: The ability to break up information logically
- **Synthesis**: The ability to create something new
- **Evaluation**: The ability to evaluate usefulness for a purpose

(Hall & Johnson, 1994)
Bloom’s Taxonomy

1956
- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

2001
- Remember
- Understand
- Apply
- Analyze
- Evaluate
- Create

Bloom’s Original
Revised by Anderson & Krathwohl

Noun to Verb Form
Krathwohl's Taxonomy of Affective Domain 1964
Psychomotor Domain

- Dave “Psychomotor Domain” 1970
- Simpson “Psychomotor Domain” 1972
- Harrow “Psychomotor Domain” 1972
Ravindrakumar H Dave’s Taxonomy of Psychomotor Domain 1970

- Naturalisation
- Articulation
- Precision
- Manipulation
- Imitation
Elizabeth Simpson’s Taxonomy of Psychomotor Domain 1972

Highest Level

- **Origination**: Creating new movement patterns to fit a particular situation
- **Adaptation**: Skills well developed & can be modified to fit special requirements
- **Complex Overt Response**: The skillful performance of complex movements
- **Mechanism**: Learned responses have become habitual
- **Response**: Early stages in learning a complex skill - imitation and trial and error
- **Set**: Readiness to act
- **Perception**: Ability to use sensory cues to guide motor activity

Lowest Level
Anita Harrow's Taxonomy of Psychomotor Domain 1972

- Reflex Movements
- Basic Fundamental Movement
- Perceptual
- Physical Activities
- Skilled Movements
- Non-discursive Communication
The ABCD Method: Writing Objectives
The ABCD Method

<table>
<thead>
<tr>
<th><strong>Audience</strong></th>
<th>Learners for whom the objective is written</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Behavior</strong></td>
<td>The verb that describes what the learners will be able to do</td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td>The circumstances under which the learner will perform the behavior</td>
</tr>
<tr>
<td><strong>Degree</strong></td>
<td>How well the learner performs the behavior (speed, accuracy, quality, quantity)</td>
</tr>
</tbody>
</table>

Heinich et al., 1996
The ABCD Method: Example

<table>
<thead>
<tr>
<th>Audience</th>
<th>Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior</td>
<td>will be able to identify well-balanced, healthy lunches and discuss why each example is or is not healthy</td>
</tr>
<tr>
<td>Condition</td>
<td>Given correct and incorrect examples of balanced meals</td>
</tr>
<tr>
<td>Degree</td>
<td>in 30 words or less</td>
</tr>
</tbody>
</table>

**Objective:** Given correct and incorrect examples of balanced meals, the student will be able to identify well-balanced, healthy lunches and discuss why each example is or is not healthy in 30 words or less.
The SMART Framework

Writing SMART Objectives

Specific  Measurable  Attainable
Timely  Relevant
## Making Learning Objectives “SMART”

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Description Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Specific</strong></td>
<td>Is there a description of a precise behavior and the situation it will be performed in? Is it concrete, detailed, focused and defined?</td>
</tr>
<tr>
<td><strong>Measurable</strong></td>
<td>Can the performance of the objective be observed and measured?</td>
</tr>
<tr>
<td><strong>Achievable</strong></td>
<td>With a reasonable amount of effort and application can the objective be achieved? Are you attempting too much?</td>
</tr>
<tr>
<td><strong>Relevant</strong></td>
<td>Is the objective important or worthwhile to the learner? Is it possible to achieve this objective?</td>
</tr>
<tr>
<td><strong>Time-bound</strong></td>
<td>Is there a time limit, rate number, percentage or frequency clearly stated? When will the objective be accomplished?</td>
</tr>
</tbody>
</table>
## Writing Learning Objectives: Questions to Ask Yourself

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What are you planning to achieve?</td>
<td></td>
</tr>
<tr>
<td>Why are you going to achieve this?</td>
<td></td>
</tr>
<tr>
<td>How do you intend to accomplish this?</td>
<td></td>
</tr>
<tr>
<td>How will completion of the Objective be measured?</td>
<td></td>
</tr>
<tr>
<td>What will the end result be?</td>
<td></td>
</tr>
</tbody>
</table>
Writing Effective Learning Objectives

• To design a powerful course, performance objectives should describe learning outcomes that are:
  – Behavioral
  – Attainable
  – Goal-oriented
  – Measurable
### Verbs to Avoid When Writing Learning Objectives

<table>
<thead>
<tr>
<th>Understand</th>
<th>Be aware of</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appreciate</td>
<td>Be conscious of</td>
</tr>
<tr>
<td>Comprehend</td>
<td>Learn</td>
</tr>
<tr>
<td>Grasp</td>
<td>Perceive</td>
</tr>
<tr>
<td>Know</td>
<td>Value</td>
</tr>
<tr>
<td>See</td>
<td>Get</td>
</tr>
<tr>
<td>Accept</td>
<td>Apprehend</td>
</tr>
<tr>
<td>Have a knowledge of</td>
<td>Be familiar with</td>
</tr>
</tbody>
</table>
Common Errors / Mistakes in Writing Objectives

Vague behavior
• Example: Have a thorough understanding of particle physics.

Gibberish
• Example: Select the appropriate mode for patients who require ventilatory support, including deciding between invasive and non-invasive support, and choosing between the different modes of mechanical ventilation, based on the patients reason for respiratory failure and their other medical co-morbidities.

Instructor behavior
• Example: Train students on how and where to find information.

Objectives vs Activities
• Example: View a video about heart murmur to tell the difference between normal and abnormal heart sounds

Avoid imprecise words
• Effective, Acceptable, Properly, Average
Objectives Builder

Source:

- https://teachonline.asu.edu/objectives-builder
- https://learning-objectives.easygenerator.com/
- https://cdl.ucf.edu/teach/resources/objective-builder-tool/
- https://courses.dcs.wisc.edu/onlinecourse/resources/objectivebuilder/
Key Takeaways

Goals describe the overriding purpose of your program related to the target population.

Objectives are achievements needed to obtain your program goals.

Goals and objectives are inseparable

- Goals provide a framework for objectives
- To reach your goals you need SMART objectives
- Each goal may have one or more SMART objectives
Key Takeaways

Constructing well-written performance objectives requires practice.

Learning objectives should:

- focus on the learner
- contain action verbs that describe observable and measurable behaviors
- be realistic and capable of being accomplished within the education period
- focus on skills that can be applied in practice

Remember to use Bloom’s taxonomy, the ABCD method and/or the S.M.A.R.T. framework for writing your objectives.
Reference


Thank You!

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