

## What this is

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## Article categories

### Best Practice

How to use technologies and apply innovative instructional methods

### Pedagogy

Hopkins professors share successful strategies for teaching excellence

### Technology

Information about emerging technologies, who is using them, and why you should know

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## About the CER

The Center for Educational Resources partners with faculty, postdocs, and graduate students to extend instructional impact by connecting innovative teaching strategies and instructional technologies

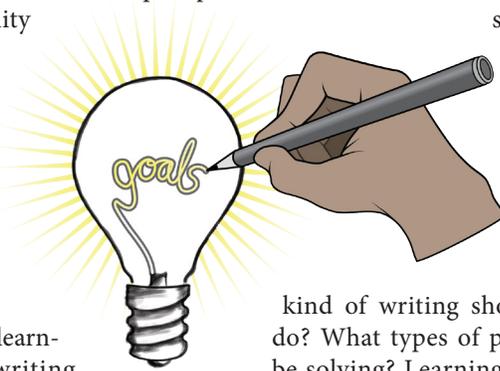


## Writing Effective Learning Objectives

Richard Shingles, Lecturer, Biology Department

### What it is

Effective teaching depends upon effective planning and design. The first step in preparing a high quality course is to clearly define your educational goals, which are your broad, overarching expectations for student learning and performance at the end of your course. The next step is to determine your learning objectives by writing explicit statements that describe what the student(s) will be able to do at the end of each class or course module. This includes the concepts they need to learn, and the skills they need to acquire and be able to apply.



Learning objectives are made up of three parts:

- 1. Behavior** - a description of what the learner will be able to do
- 2. Criterion** - the quality or level of performance that will be considered acceptable
- 3. Conditions** - a description of conditions under which the student will perform the behavior.

### Why does it matter

Instructors should be thinking about what a successful student in their course should be able to do upon completion. Questions to ask are: What concepts should they be able to apply? What kinds of analysis should they be able to conduct? What kind of writing should they be able to do? What types of problems should they be solving? Learning objectives provide a means for clearly describing these things to learners, thus creating an educational experience that will be meaningful.

Clearly defined objectives form the foundation for selecting appropriate content, learning activities and evaluation plans.

Learning objectives allow you to

- plan the sequence for instruction, allocate time to topics, assemble materials and plan class outlines.
- develop a guide to teaching allowing you to plan different instructional methods for presenting different parts of the content. (e.g., small group discussions of a common misconception).
- facilitate evaluating students, evaluating instruction and even evaluating the curriculum.

After completing this class students will be able to **1. write an historical article** **2. in chronological order** **3. when given a random list of events** about the Second World War.

Example learning objective with each of the three parts listed above.

## How to use it

The following lists a few strategies while creating learning objectives:

### I. Use S.M.A.R.T. attributes

Learning objectives should have the following SMART attributes.

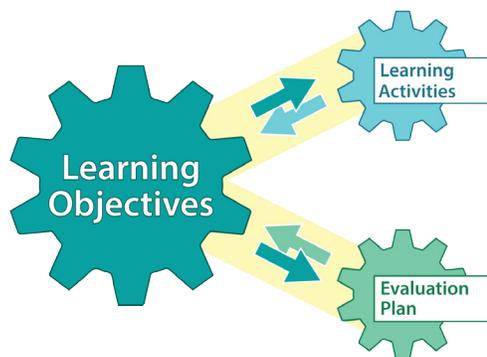
**Specific** - objectives that are clearly stated and consistent with the goals of the curriculum.

**Measurable** - data can be collected to measure student learning.

**Appropriate** - for the level of the learner.

**Realistic** - objectives that are doable.

**Tailored** - to the worthy or important stuff.



Learning objectives serve as the foundation for developing a course.

### II. Use Behavioral Verbs

Another useful tip for learning objectives is to use behavioral verbs that are observable and measurable. Fortunately, Bloom's taxonomy provides a list of such verbs and these are categorized according to the level of achievement at which students should be performing. (See "Bloom's Taxonomy: Action Speaks Louder" in the Innovative Instructor's Best Practice series.) Use concrete verbs to keep your objectives clear and concise.

Here is a selected, but not definitive, list of **verbs to consider** using when constructing learning objectives:

*assemble, construct, create, develop, compare, contrast, appraise, defend, judge, support, distinguish, examine, demonstrate, illustrate, interpret, solve, describe, explain, identify, summarize, cite, define, list, name, recall, state, order, perform, measure, verify, relate*

While the verbs above clearly distinguish the action that should be performed, there are a number of **verbs to avoid** when writing a learning objective. The following verbs are too vague or difficult to measure:

*appreciate, cover, realize, be aware of, familiarize, study, become acquainted with, gain knowledge of, comprehend, know, learn, understand*

### III. Leverage Blooms Taxotomy

Since Blooms Taxonomy establishes a framework for categorizing educational goals, having an understanding of these categories is useful for planning learning activities and ultimately, for writing learning objectives. The list on the right provides examples of learning objectives written at each of the six levels in Bloom's taxonomy.

#### Remembering

The students will **recall** the four major food groups without error.

#### Understanding

The students will **summarize** the main events of a story in grammatically correct English.

#### Applying

The students will **multiply** fractions in class with 90% accuracy.

#### Analyzing

Students will **discriminate** among a list of possible steps to determine which one(s) would lead to increased reliability for a testing a concept.

#### Evaluating

**Evaluate** the appropriateness of the conclusions reached in a research study based on the data presented.

#### Creating

After studying the current economic policies of the United States, student groups will **design** their own fiscal and monetary policies.

## Additional Resources

- Bloom, B., Englehart, M. Furst, E., Hill, W., & Krathwohl, D. (1956). *Taxonomy of educational objectives: The classification of educational goals. Handbook I: Cognitive domain*. New York, Toronto: Longmans, Green.
- Writing learning objectives. <http://sites.uci.edu/medsim/files/2015/03/Writing-learning-objectives.pdf>

## Author's Background

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Richard Shingles is a faculty member in the Biology department and also works with the Center for Educational Resources at Johns Hopkins University. He is the Director of the TA Training Institute and The Summer Teaching Institute on the Homewood campus of JHU. Dr. Shingles also provides pedagogical and technological support to instructional faculty, post-docs and graduate students.