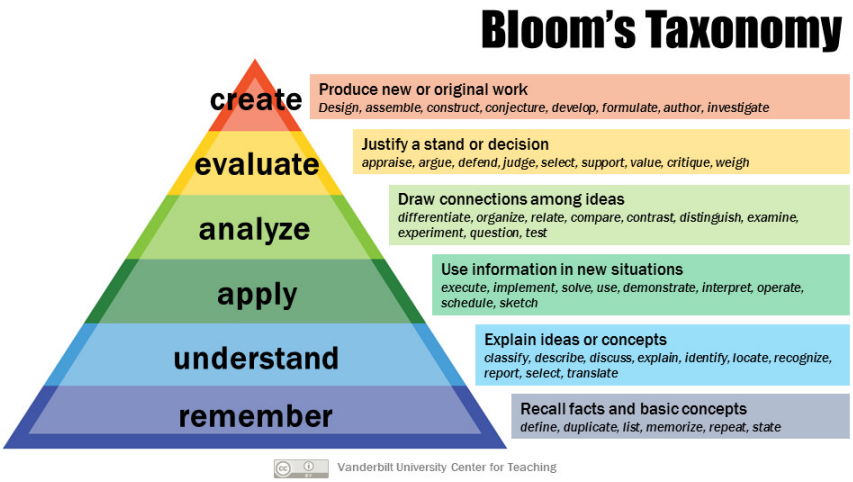
Writing Useful Learning Objectives
Center for Teaching and Learning
Hobart and William Smith Colleges

Learning objectives in syllabi help us communicate our expectations to students by describing what we expect students to know and to do at the semester's end; learning objectives also

- Help us to align teaching methods and evaluations,
- Divide complex content and skills into pieces students can grasp,
- Enable colleagues to understand our course design and intentions,
- Demonstrate to students and colleagues how a course aligns with department/major goals.[1]

One easily adaptable framework for writing learning objectives is Bloom's Taxonomy of Educational Objectives (1956). This guide focuses on Bloom's cognitive domain for categorizing thinking and learning demands, but versions for affective domain (beliefs and attitudes)[2] can be important when course objectives address areas such as diversity, equity, and inclusion or academic honesty, while some disciplines use Bloom's psychomotor domain.

When using Bloom's Taxonomy[3] to design courses, write lessons, or identify learning objectives, the focus should be on what we want students to be able to do *after* the lesson is completed.



[1] Learning "objectives" can be created for all instruction levels, from course segments to graduation requirements, and may be variously be called "outcomes," "objectives," or "goals" (for a terminology discussion, see https://bokcenter.harvard.edu/learning-goals-and-learning-objectives); this guide can be adapted for any level.
[2] Norwestern's site: https://www.northwestern.edu/searle/assessment-of-student-learning/assessment-process/developing-objectives.html; in STEM: https://serc.carleton.edu/NAGTWorkshops/affective/intro.html.
[3] Graphic taken from Armstrong, Patricia (2021). "Bloom's Taxonomy." Vanderbilt University Center for Teaching. Accessed May 27, 2021. https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/.

The cognitive domain taxonomy exists on a continuum from lower to higher, simple to the complex, and concrete to the more abstract:

Higher Order Objectives

- Create
- Evaluate
- Analyze
- Apply

Lower Order Objectives

- Understand
- Remember

Ideally, every lesson should address both lower order and higher order objectives; while there are times at which understanding and remembering are essential (science concepts, foreign languages, dates, specific terms, etc.), we should always be engaging college-level students in higher order thinking.

*What Makes an Effective Learning Objective**?***
Effective cognitive domain learning objectives must be:

- **Learning-focused:** describe what students will know or be able to do (not just what information the course covers),
- **Observable**: describes visible behavior,
- **Specific:**[4] describes activities or knowledge that students can gain from your course, and
- **Appropriate to course level:** reflects the role of a course within program/major

Note the differences between the following three versions of a learning objective:

Students will be able to

- **Poor [too vague]:** Understand mainstream and heterodox economic theories.
- **Better [lower-level skill]:** Identify mainstream and heterodox economic theories.
- **Best [higher-order skill, more specific]:** Evaluate which specific mainstream and heterodox economic theories help us best understand the volatility of cryptocurrencies.

Writing Basic Learning Objectives: Approach 1
The most basic approach to writing learning objectives is to start with a verb and write the objective so that the following clause could be placed before it: "Students will be able to…" This phrase is a useful way to remind yourself that the objective refers to what a student will be able to do *after* the lesson (or course) is over.

[4]Even specific verbs may need disciplinary definitions or direct instruction: for instance, in "students will be able to state and support a claim," what counts as "support" in your discipline? What kind of evidence matters?

Example Learning Objectives (organized from lower to high-level)

Students will be able to:
Remember • Describe how the heart pumps blood to other parts of the circulatory system • Identify specific processes and anatomy in the circulatory system
Understand • Explain why the Peloponnesian War was an important example of shifting power in Ancient Greece • Identify important characteristics of Roman politics and religion
Apply • Create sketches of inanimate objects that are accurate in both form and lighting • Design a wooden sculpture that complements the landscape and serves a purpose
Analyze • Compare and contrast the ways in which mainstream and heterodox economic theory help us to understand the volatility of cryptocurrency • Distinguish Bitcoin from other cryptocurrencies in terms of its potential as a "real currency"
Evaluate • Consider and assess the impact of living in New Zealand on a student's own national identity • Prioritize the elements of the New Zealand educational system that contribute to its success
Create • Author and record a podcast that uses psychological concepts to examine a student's emotional experience in college • Make a dance that combines ballet and modern movements with contemporary swing dancing.

Writing Performance-Based Learning Objectives: Approach 2

When writing learning objectives for a lesson or activity, it is often helpful to be explicit about what the students will be able to do when put in a particular circumstance or situation. We can think about this as how students "perform" with that circumstance.

If we add specific criteria (in italics) to some of the examples above, we have the following:

- Apply: *If provided a pencil and a sketchbook in an outdoor setting*, students will be able to create sketches of inanimate objects that are accurate in both form and lighting.
- Analyze: *When engaging in a classroom debate at the end of the semester*, students will be able to distinguish Bitcoin from other cryptocurrencies in terms of its potential as a "real currency."
- Evaluate: *Asked to engage in a storytelling event during their first semester returning to campus*, students who traveled to New Zealand will be able to consider and assess the impact that living in New Zealand had on their own national identity.

- Create: *For public exhibition at the end of the semester, s*tudents will be able to create paired propaganda posters advertising opposing sides of a climate issue.

Performance-based learning objectives also can be an effective way to show students how course objectives link to teaching and learning methods, and to align (see below) objectives, instructional methods, and evaluations, too:

- Apply: At midterm and endterm, students will assemble portfolios of selected still-life sketches that are accurate in both form and lighting.

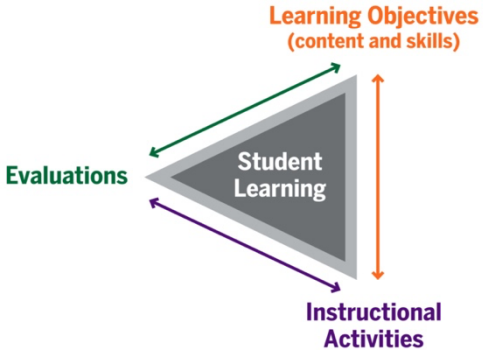
- Evaluate: Students will be able to effectively critique mainstream and heterodox economic theories, and will demonstrate the effectiveness of their critiques in a variety of forms, including but not limited to short papers, exams, and in-class discussions (informal) and debates (formal).

- Evaluate: Students will be able articulate specific, demonstrated improvements in their own writing throughout the semester via revisions and self-assessments of assigned work, and at the end of the semester via collected revisions and reflective self-assessment o their final portfolio.

Final Questions for Writing Learning Objectives

A set of course objectives should include as many levels of Bloom's Taxonomy as appropriate. This doesn't mean you need to include each and every level, but you should always ask yourself three questions.

1. Does the design and schedule of my course require students to engage in higher order thinking throughout the course?
2. Are there higher order objectives that I'm already asking students to address, but have yet to identify?
3. Do my planned instructional activites and evaluations of student learning align with my learning objectives? (*Note the discussion of alignment in CoAA's revised course proposal form.*)



The table below offers an expanded verbs list using Bloom's framework, and is adapted from a book on reflective planning, teaching, and evaluation (Eby, 1996). Additional, longer lists of verbs can be easily accessed online (type "Bloom's verbs" and the domain: cognitive, affective, psychomotor).

Examples of Objectives	Appropriate Action Verbs
Remember Recall facts and basic concepts	Define, duplicate, list, memorize, repeat, state, name, match, pick, choose, select, spell, say, show, circle, underline.
Understand Explain ideas or concepts	Classify, describe, discuss, explain, identify, locate, recognize, report, select, translate, demonstrate, calculate, write, review, paraphrase, summarize
Apply Use information in new situations	Execute, implement, solve, use, demonstrate, interpret, operate, schedule, sketch, change, adapt, employ, construct, compute, calculate, modify, prepare, solve.
Analyze Draw connections among ideas	Differentiate, organize, relate, compare, contrast, distinguish, examine, experiment, question, test, classify, categorize, dissect, question, outline, chart, survey.
Evaluate Justify a stand or decision	Appraise, argue, defend, judge, select, support, value, critique, weigh, editorialize, grade, rank, prioritize, give opinion.
Create Produce new or original work	Design, assemble, construct, conjecture, develop, formulate, author, investigate, combine, build, arrange, concoct, invent, imagine, generate, produce.