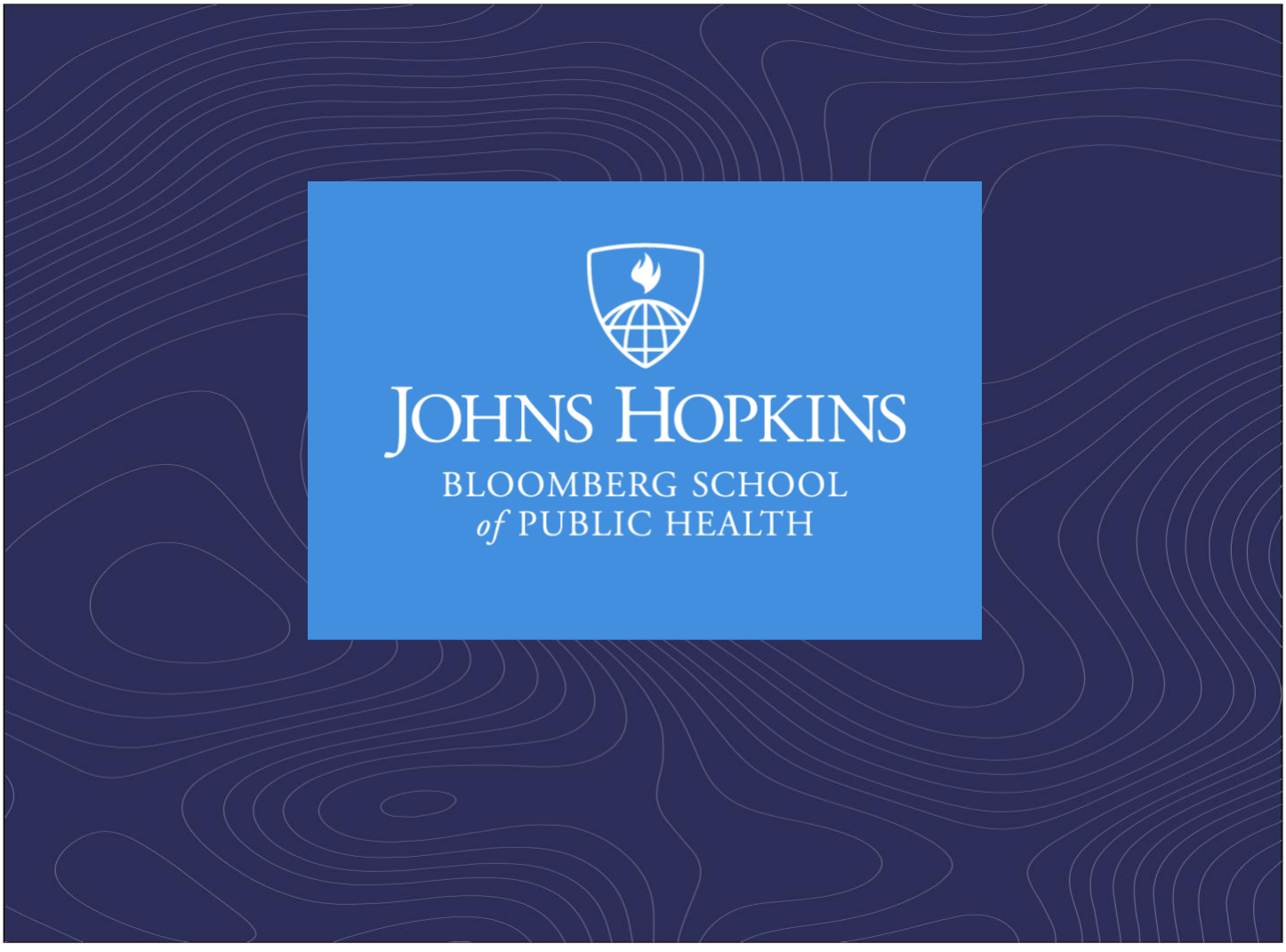
Center for Teaching and Learning

Writing SMART Learning Objectives



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Getting Started

When we create learning objectives, we identify the specific knowledge, skills, or attributes we want students to acquire by the end of a course or learning activity. This helps ensure that the learning experience is focused and purposeful and that students clearly understand what they are expected to achieve. Learning objectives benefit teaching and learning by:

- Communicating course expectations clearly and transparently.
- Encouraging students to reflect on their learning.
- Describing course concepts and program curricula to facilitate effective communication between faculty, students, and other stakeholders.
- Providing evidence for accreditation requirements.
- Creating a foundation for aligning components of a course's design.
- Guiding faculty in equitably assessing students' formative and summative progress.

Course-Level and Activity-Level Objectives

When designing a course, it's essential to distinguish between course-level and activity-level objectives. Course-level objectives define the broader learning goals students should achieve by the end of the course. These objectives guide the course structure and ensure students acquire the necessary knowledge and skills. Activity-level objectives, on the other hand, focus on specific outcomes for individual learning activities. They detail the desired student engagement results with each task and how that engagement will meet the course's broader goals. Both types of objectives must align to ensure a cohesive learning experience.

Well-defined objectives will steer your instructional design and assessment strategies. Before drafting these statements, consider the following questions to inspire objectives that map to course goals.

- What specific knowledge, skills, and attitudes do you want your students to acquire or develop by the end of the course?
- Do you need to consider the alignment of the objectives with any program-level competencies?
- Which authentic (real-world practice or research) tasks will they be able to perform?
- What types of problems will they be able to solve?
- What intellectual abilities (or qualities) will they develop?
- How might learners be able to apply or transfer their mastery beyond the course or discipline?

Components of a SMART Objective Statement

When you write clear and attainable objectives that are ***s***pecific, ***m***easurable, ***a***chievable, ***r***elevant, and ***t***ime-limited, they are called SMART objectives. The SMART approach clarifies any intended outcome by providing structure and defining success. The SMART approach, detailed in the table below, is an effective means to articulately communicate activity-level objectives.

A SMART objective should always have a stem that indicates the audience (who will achieve the results) and action (what the experience will be).

An example stem is: "After listening to, viewing, and studying the materials on this page, you will be able to do the following …"

This stem becomes a SMART learning-activity objective when the following criteria are incorporated into the statement's completion:

SMART criteria	Consider …	Why?
Specific	What will be accomplished?	Specificity guarantees that objectives are clearly defined.
Measurable	How will the objective attainment be measured?	Measurability allows for progress tracking.
Achievable	Is the objective feasible?	Achievability ensures that goals are realistic.
Relevant	Why is the result significant?	Relevancy guarantees alignment with broader objectives or strategies.
Time-limited	What is the time frame for accomplishing the objective?	Time limits establish a deadline for achieving the objective.

Avoiding Common Mistakes

The most common mistakes when writing objective statements are lack of clarity, lack of variety and progression, misalignment of activity-level to course-level objectives, and use of unmeasurable action verbs. This section expands upon each and provides strategies to prevent these missteps.

To help address these challenges, refer to the table below, **Bloom's Taxonomy: Determining Levels of Learning and Objective Examples,** which provides guidance for structuring objectives with clear, measurable verbs that align with progressively higher levels of cognitive development.

Bloom's Taxonomy: Determining Levels of Learning and Objective Examples

Dimension	Explanation	Examples
1. Creating	Putting elements together to construct a novel and coherent whole	Create a research proposal about the efficacy of mindfulness-based interventions for alleviating chronic pain in elderly patients.
2. Evaluating	Making judgments based on standards and criteria	Assess clinical findings, medical history, and diagnostic tests for at-risk geriatric patients.
3. Analyzing	Breaking material into constituent parts and investigating relationships	Correlate a patient's symptoms with the primary diagnosis through evidence-based reasoning.
4. Applying	Using information to carry out a procedure in a novel situation	Apply genetics concepts in predicting potential pregnancy outcomes given a patient's history.
5. Understanding	Constructing meaning from learning activities and materials	Explain the autoimmune mechanism, detailing how the immune system mistakenly attacks healthy cells and tissues.
6. Remembering	Retrieving relevant knowledge from long-term memory	Identify the major bones of the leg, including the femur, tibia, fibula, patella, and tarsals.

Adapted from BSPH CTL (2022), UCOP Human Resources (2017) and OpenAI (2024.)

Lack of Clarity

A challenge of writing learning objectives is ensuring they are clear, specific, and measurable. This involves using precise language with an action verb at the appropriate learning level and focusing on a single aspect (or related aspects) of learning. For example:

Original: **Describe** and **create** a social media plan for your organization.

Revision: **Create** a social media plan for your organization that meets Kern's six-step strategy criteria using the provided template.

Reasoning: It is a best practice to avoid using multiple action verbs in a learning objective statement. *Create* requires a higher level of cognition than *describe* (see *Determining Levels of Learning and Objective Examples* table above).

A well-written objective should be linked to a single action or outcome for a specific task or skill. Avoid combining multiple actions using "and." Having a single action per objective makes it easier to measure the learner's performance. Writing clear learning objectives helps keep the learning focused and achievable. Additionally, make the statement *SMART* by adding specificity.

Lack of Variety and Progression

Ensuring varied, balanced, and progressive learning outcomes is crucial for effective instruction. This involves covering different types of learning, distributing learning levels appropriately, and ensuring the learning level matches the intended outcome.

Consider the following examples of cognitive levels for a mathematics course:

Bloom's level 1, remembering (memorization and recall): **Define** key theorems.

Bloom's level 3, applying (applying knowledge): **Apply** theorems to solve mathematical problems.

Bloom's level 6, creating (meta-cognitive decision-making skills): **Formulate** a proof that validates a given theorem.

Misalignment

Alignment means a clear and logical connection among the activity's aims, what students are expected to learn, and how learning is measured and evaluated. Ensuring alignment between learning outcomes, course objectives, curriculum standards, and learners' needs is crucial for effective education.

Returning to the previous mathematics example, let's look at how the level of learning (action verb) aligns with the assessment strategy:

Define key theorems (could be assessed with multiple-choice or fill-in-the-blank questions).

Apply theorems to solve mathematical problems (best assessed without multiple-choice prompts, but well-written questions could measure students' ability to apply to some extent).

Formulate a proof that validates a given theorem (assessed by asking students to formulate a proof, working alone or collaboratively).

You may want to consult *Bloom's Taxonomy of Cognition* for suggested verbs aligned with the six levels of learning.

Verbs to Avoid

The following action verbs leave room for ambiguity and make assessment difficult—especially regarding specificity and measuring success. Avoid these and other unmeasurable verbs when writing objectives:

- Appreciate
- Be aware of
- Be familiar with
- Become acquainted with
- Compare and contrast
- Comprehend
- Cover
- Discuss (it's challenging to articulate the level of sophistication required)
- Enhance knowledge of
- Gain knowledge of
- Increase awareness of
- Know
- Learn
- Realize
- Study
- Understand (is difficult to assess because it can signify both lower-end cognition and deeper learning)

Using Artificial Intelligence (AI) to Generate Learning Objectives

Generative AI (GenAI) can help create clear and efficient objective statements tailored to a specific program, course, or activity for a particular learner. By utilizing the principles of writing strong objective statements, we can use GenAI tools to produce specific and measurable objectives that align with your course goals. These objectives can be adjusted in difficulty to ensure they are both challenging and attainable. Here are a few best practices to consider:

1. **Provide context,** such as the course purpose, audience, and subject matter.
2. **Review GenAI outputs** to ensure they are accurate, relevant, and suitable for your course and students.
3. **Consider revising the output** by adding detail to your prompt to help the GenAI tool better meet your needs.

Example AI Prompt Template

Using your preferred GenAI tool, try this example AI prompt template asking the GenAI bot to write objectives for a lesson. You can fill the blanks with specific details to tailor the prompt for different topics or audiences.

> You are designing a learning activity for students at the **[___ level]** in a course on [_____]. Write **[#__]** SMART learning objectives for a [_____] that focuses on **[insert specific skills or knowledge domains]** in support of the **[course-level objectives]**. Ensure the objectives clearly state what students should be able to do by the end of the activity. The objectives should be no more than **[_#]** in length. Each objective should use a single verb associated with Bloom's taxonomy action verbs at the level of **[_____].”**

Example Completed Prompt

> You are designing a learning activity for students at the **graduate level** in a course on **epidemiology that is part of a public health program.** Write **3** SMART learning objectives for an **Epidemiological Data Analysis group project for 3–5 students** that focuses on **interpreting statistical data, conducting data analysis using epidemiological software, and critically evaluating study results** in support of **a course-level objective: “Demonstrate the quality and limitations of measurement of key social conditions influencing health and illness of populations.”** Ensure the objectives clearly state what students should be able to do by the end of the activity. The objectives should be no more than **10 words** in length. Each objective should use a single verb associated with Bloom's taxonomy action verbs at the level of **Analysis.**

Cautions: Generative AI tools can produce fabricated information (hallucinations) and reflect biases due to their training data. They generate text based on patterns, not understanding. For more information, see JHU's *Generative AI Tool Guidance*.

SMART Objective Template

Objective rough draft: Write a learning objective that includes the stem indicating the audience (who will achieve the results), action (what is the experience), and a draft of the desired outcome.

1. **Specific**: What will be accomplished?

2. **Measurable**: How will the objective attainment be measured?

3. **Achievable**: Is the objective feasible?

4. **Relevant**: Why is the result significant?

5. **Time-limited**: What is the time frame for accomplishing the objective?

SMART objective: Review your identified criteria and rewrite your rough draft to be a SMART activity-level objective.

SMART Objective Checklist

When finalizing each objective, review and revise it to make certain it includes the following components.

- ☐ Aligns with course, department, and program competencies
- ☐ States who is expected to meet the objective
- ☐ States the activity or experience that leads to the objective
- ☐ Includes a concrete action verb indicating the intended level of cognition
- ☐ Specifies the time frame for meeting the objective
- ☐ Indicates the level of success or mastery

Recommended Resources

Verbs Associated with Bloom's Taxonomy of Cognition

- Provides the verbs associated with each of Bloom's six levels of cognition (remembering, understanding, applying, analyzing, evaluating, and creating) and learning activities and assessments for each cognitive level of learning. (BSPH, 2023)

Writing measurable objectives

- Addresses how to write attainable, measurable objectives (UNMM, 2005)

Get Help

For more information about writing and using course learning objectives, visit *CTL's Teaching Toolkit* or contact CTL and consult with an instructional designer at *ctlhelp@jhu.edu*

References

BSPH Center for Teaching and Learning. (2023). *Verbs associated with Bloom's taxonomy of cognition*. Johns Hopkins Bloomberg School of Public Health

UCOP Human Resources. (2017). *SMART goals: a how to guide*. University of California.

Hill, S. (2017). *Writing objectives.* Johns Hopkins Bloomberg School of Public Health.

OpenAI. (2024). ChatGPT (3.5) [Large language model]. *https://chat.openai.com*