

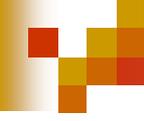
Creating GER Student Learning Outcomes

GER Tutorial 1



After taking this tutorial, you will be able to:

- Identify the GER category your course belongs to
- Find the GER category objectives appropriate to your course
- Create student learning outcomes designed to enable students in your GER course to attain the GER objectives



Each of these GER categories has its own objectives

- Natural Sciences
- Mathematical Sciences
- Science, Technology & Society
- Physical Education
- Writing and Speaking
- Humanities
- Social Sciences
- Visual and Performing Arts

What are GER objectives?

GER objectives are broad statements of the goals for each of the GER categories. Courses in the category are expected to help students meet all the goals.

An example:

Each course in the **natural sciences** category of the General Education Requirements will provide instruction and guidance that help students to:

- use the methods and processes of science in testing hypotheses, solving problems, and making decisions; and
- articulate, make inferences from, and apply to solving problems, scientific concepts, principles, laws, and theories.

GER Objectives: Example

Each course in the **visual and performing arts** category of the General Education Requirements will provide instruction and guidance that help students to:

- deepen their understanding of aesthetic, cultural, and historical dimensions of artistic traditions; and
- strengthen their ability to interpret and make critical judgments through the analysis of structure, form, and style of specific works; and
- Strengthen their ability to create, recreate, or evaluate art based upon techniques and standards appropriate to the genre.



One of the advantages of having objectives for each category of the General Education Requirements is that it promotes greater consistency across all courses in each category. Students and their advisors and other faculty will know that there are certain basic educational goals that define all GER courses in a category. **Thus, faculty are asked to design their GER courses so that all the category objectives are addressed through student learning outcomes.** It is not necessary that each objective have equal emphasis in the course. But each should be represented in a student learning outcome.

Finding the GER Objectives for Your GER Course

- If you want to know what category your course belongs to:

http://www.ncsu.edu/provost/academic_programs/ger/thelist/list9899.htm

- If you want to find the GER category objectives for your course:

http://www.ncsu.edu/provost/academic_programs/ger



Now that you have found the GER category objectives for your course, the next step is to create student learning outcomes that enable students in your course to meet the GER objectives.



What are GER Student Learning Outcomes?

Outcomes statements are descriptions of what students are expected to learn to do in a course.

Whereas objectives are general to all courses in a GER category, outcomes are specific to all sections of a course.

GER student learning outcomes translate the general GER objectives into ways of doing specific to a course. They describe what students are expected to learn to do that will enable them to meet each of the GER objectives.

Ex: GER Objective and Outcome from Natural Sciences

General to all natural science courses

Objective: to articulate, make inferences from, and apply to solving problems, scientific concepts, principles, laws, and theories.

Specific to all sections of CH 100

Outcome: in Chemistry 100, students will be able to *describe* a basic chemical principle, to *apply* that principle to a specific chemical process, and to *state* what the chemical process tells the students about the principle.



Ex: GER Objective and Outcome from Visual and Performing Arts

General to all VPA courses

Objective: to strengthen their ability to interpret and make critical judgments about the arts through the analysis of structure, form, and style of specific works in the fine and applied arts.

Specific to all sections of COM 103

Outcome: in Introduction to Theatre students should be able to *analyze* a theatrical performance according to the major analytical elements of the theatrical arts.

Creating GER Outcomes

- **Step 1:** Determine the way(s) of doing (what students are expected to learn how to do) stated or implied in the objective.

Step 1

Because outcomes are descriptions of what students are expected to do in a course, the first step in creating outcomes asks you to look at the objectives and identify the way(s) of doing implied in each objective.

Go back to the examples of objectives and outcomes from natural sciences and visual and performing arts and notice how the ways of doing in the outcomes (*describe, apply, state, analyze*) are drawn from general ways of doing derived from the objectives.

Bloom's Taxonomy

<http://killeenroos.com/adm/Blooms.htm>

One of the best sources of ways of doing related to learning is Bloom's Taxonomy. It is a set of learning categories with lists of ways of doing associated with each category. On the next several slides, notice the verbs used to describe active ways of learning, what students can do to demonstrate learning. These verbs provide a good source for identifying the ways of doing implied in GER objectives.

Bloom's Taxonomy, Part I: Categories with Active Verbs

- 1. Knowledge:** Defined as the remembering (recalling) of appropriate, previously learned information.
defines; describes; enumerates; identifies; labels; lists; matches; names; reads; records; reproduces; selects; states; views.
- 2. Comprehension:** Grasping (understanding) the meaning of informational materials.
classifies; cites; converts; describes; discusses; estimates; explains; generalizes; gives examples; makes sense out of; paraphrases; restates (in own words); summarizes; traces; understands.

Bloom's Taxonomy, Part 2: Categories with Active Verbs

- 3. Application:** The use of previously learned information in new and concrete situations to solve problems that have single or best answers.
administers; applies; collects; computes; constructs; develops; discovers; establishes; implements; instructs; participates; predicts; prepares; produces; provides; solves; teaches; transfers; uses.
- 4. Analysis:** The breaking down of information into its component parts, examining the parts, and identifying motives or causes, making inferences, and/or finding evidence to support generalizations.
analyzes; breaks down; compares and contrasts; correlates; categorizes; diagrams; differentiates; discriminates; distinguishes; infers; outlines; separates; subdivides.

Bloom's Taxonomy, Part 3: Categories with Active Verbs

5. Synthesis: Creatively or divergently applying prior knowledge and skills to produce a new or original whole.

adapts; anticipates; combines; compares; compiles; composes; contrasts; creates; designs; devises; facilitates; formulates; generates; incorporates; integrates; models; modifies; negotiates; plans; rearranges; reconstructs; reframes; reinforces; reorganizes; revises.

6. Evaluation: Judging the value of material based on appropriate criteria, resulting a response without real right or wrong answers.

appraises; concludes; critiques; decides; defends; evaluates; interprets; judges; justifies; prioritizes; supports.

Step 1 Example: Social Sciences

Objective: understand at least one of the following: human behavior, mental processes, organizational processes, or institutional processes.

Even though the objective is vague, the teacher decides that “understand” belongs to the “comprehension” category of Bloom’s Taxonomy and is best represented by explain.

SOC 202: Principles of Sociology

This objective is asking students to be able to *explain* human behavior in social contexts.



Creating an Outcome for your Course: Step 1

Following the pattern on the previous slide, choose one of the GER objectives for your course and, using Bloom's Taxonomy, identify the way(s) of doing implied in the objective. The way(s) of doing that you identify will become the basis for the student learning outcome related to that objective.

Creating GER Outcomes

- **Step 1:** Determine the way(s) of doing (what students are expected to learn how to do) stated or implied in the objective (see Bloom's taxonomy).
- **Step 2:** Identify how the way(s) of doing can be translated meaningfully to your course.



Step 2

Next, you translate the way of doing implied in the objective into a way of doing that is specific to your course. That is, you spell out what you expect students to be able to do in your course that would enable them to achieve the general way of doing described in the GER objective.

Step 2 Ex: Social Sciences

Objective: understand at least one of the following: human behavior, mental processes, organizational processes, or institutional processes.

The teacher defines the objective specifically for this sociology course. This means defining what it is students should be able to explain.

SOC 202: Principles of Sociology

In this course I expect students to learn to *use* certain key concepts from the course to *explain* the relationship between individual human behavior and social context.



Creating an Outcome for Your Course: Step 2

Following the example on the previous slide, write a statement that takes the general way of doing implied in the objective and translates it into a way of doing specific to your course.

What do you expect students to be able to do in your course that will enable them to attain the GER objective?

Creating GER Outcomes

- **Step 1:** Determine the way(s) of doing (what students are expected to learn how to do) stated or implied in the objective (see Bloom's taxonomy).
- **Step 2:** Identify how the way(s) of doing can be translated meaningfully to your course.
- **Step 3:** Write an outcome using verbs associated with the way(s) of doing, starting with, "Students should be able to"



Step 3

Now you are in a position to write the formal outcome. This is the form in which it is to be presented in the documentation attached to the Course Action Form and on your course syllabus.

Step 3 Ex: Social Sciences

Objective: understand at least one of the following: human behavior, mental processes, organizational processes, or institutional processes.

The teacher writes the outcome so that students know what they are expected to learn to do for this course.

SOC 202: Principles of Sociology

Outcome: Students should be able to *use* certain key concepts learned in the course to *explain* the complex relationship between the individual and society, presenting an understanding of human behavior and the



Creating GER Outcomes

Follow the three steps described here for all the objectives listed in the GER category your course belongs to. When you have finished, use the rubric on the next slide to help you evaluate and revise your student learning outcomes.

Rubric for Evaluating Outcomes

- Are ALL the GER objectives represented in the outcomes?
- Does each outcome clearly relate to an objective?
- Does each outcome provide a detailed and specific statement of what students are expected to do in the course?
- Does each outcome use a strong action verb to describe a way of doing specific to the course?
- Does each outcome represent what students should be learning in this particular course?
- Are the GER outcomes applicable across all course sections?



Next: GER Tutorial 2

After creating student learning outcomes for all the GER category objectives, the next step is to identify means of evaluating those outcomes. To learn how to do that, go back and click on GER Tutorial 2.