

Guidelines for Well-written Student Learning Outcome Statements

1. Outcomes must measure something useful and meaningful. The evidence produced by the outcome measure will be useful in developing and **improving student learning** in the course and program.

2. Outcomes must be consistent with program goals, core curriculum outcomes and university mission.

3. Outcomes must be measurable. Use verbs that specify the trait, ability, behavior, or habit of mind you will assess with the class assignments. Be sure that each outcome is going to be tested at least once.

Example:

- Do not use, “students will understand....;”
- Choose a verb that allows you to measure their understanding. If students understand a concept, they should be able to describe a phenomenon, explain a process, identify key elements, etc. And in many cases they should be able to apply understanding in a variety of ways (listed below). These verbs can link the desired understanding to an assignment that measures what they have learned.

4. Outcomes must be explicitly stated in terms of what students can do. Use **active verbs (below)** to describe what **students** will be able to do when they successfully complete the course activities. Care must be taken to avoid listing what the instructor plans to do, but instructor goals can be converted into student learning outcomes as shown below:

| Faculty Course Objective – faculty planning, program planning | Student Learning Outcome – on the Syllabus |
|------------------------------------------------------------------|----------------------------------------------------------|
| To demonstrate --- to students | Students will be able to describe, explain, review, |
| To introduce student to ----- | Students will recognize, identify, |
| To teach students to understand -- | Students will be able to describe, explain, |

ACTIVE VERBS for LEARNING OUTCOME STATEMENTS – Bloom’s Taxonomy

The action verbs below are considered measurable and suitable for use in the development of student learning outcome statements. Using these action verbs will help assure that the student learning outcome can be measured. The categories presented below proceed from the simplest forms of knowing to the most complex forms. In general, more complex forms of action verbs (higher stages of Bloom’s Taxonomy) should be associated with upper division courses at the undergraduate level, in addition to graduate-level courses. Bloom’s Taxonomy is a hierarchical sequence; and therefore, being able to “analyze” for example (level four) assumes that the learner can already perform at the lower levels (knowledge, comprehension, application) of the Taxonomy.

I. Knowledge

Verbs: define, identify, label, list, name, state, match, recognize, locate, memorize, quote, recall, reproduce, tabulate, tell, copy, discover, duplicate, enumerate, listen, observe, omit, read, recite, record, repeat, retell, visualize

II. Comprehension [or understanding] of new material

| Verb | Appropriate testing/ measurement of learning |
|---------------|-----------------------------------------------------|
| Classify..... | Sort a random list into appropriate groups |
| Describe..... | Write or orally describe a phenomenon or concept |
| Discuss..... | Write or orally discuss a phenomenon or concept |

| | |
|---------------|-----------------------------------------------------------------------------------------------------------------------|
| Explain | Write or orally explain a phenomenon or concept |
| Express | Choose appropriate language or symbols to express a concept (e.g. write a poem or paint a picture evoking sadness) |
| Identify..... | Choose an appropriate answer in a multiple choice test |
| Indicate..... | Choose an appropriate answer in a multiple choice test |
| Locate | Pinpoint a site on a map or label a diagram (e.g., skeleton) |
| Restate | Re-write or explain a concept in their own words |
| Review..... | Present a summary |

Paraphrase, summarize, extend, associate, convert, infer, translate, ask, cite, discover, generalize, give examples, group, observe, order, report, represent, rewrite, show, trace, transform

III. Application of new knowledge or skills

Verb Appropriate testing/ measurement of learning

| | |
|------------------|-------------------------------------------------------------------|
| Apply..... | Use knowledge to accomplish a task |
| Calculate | Use mathematical reasoning to determine a quantity, etc. |
| Dramatize | Use role-playing to illustrate a concept |
| Illustrate | Use drawings to explain, show a process, etc. |
| Practice | Use knowledge to follow established procedures and refine a skill |
| Schedule | Use knowledge to develop a timeline and plan to accomplish a task |
| Use | Employ tools and techniques appropriately |

Modify, change, choose, discover, experiment, sketch, complete, interpret, manipulate, paint, prepare, teach, act, administer, articulate, chart, collect, compute, determine, develop, employ, establish, interview, judge, operate, schedule, simulate, transfer, write

IV. Analyze (part of critical thinking)

Verb Appropriate testing/ measurement of learning

| | |
|------------------------|-----------------------------------------------------------------------------|
| Analyze | Describe parts, organization, functions – such as a process |
| Categorize..... | Place items in appropriate general groups based on similarities |
| Compare | Identify the similarities between 2 or more items, concepts, etc |
| Examine | Methodically scrutinize something to determine facts |
| Experiment, test | Try out something to determine an unknown or whether something is effective |
| Differentiate, | Show how 2 or more items are dissimilar and distinct |
| Plan | Write/describe a procedure to accomplish a goal before beginning it |
| Solve | Use mathematical or scientific reasoning to determine an unknown |

Compare, distinguish, separate, select, connect, discriminate, divide, point out, prioritize, subdivide, divide, survey, advertise, break down, correlate, deduce, devise, diagram, dissect, focus, illustrate, question

V. Evaluation of concepts, alternatives (part of critical thinking)

Verb Appropriate testing/ measurement of learning

| | |
|------------------------|-----------------------------------------------------------------------------------|
| Appraise, assess..... | Describe and judge the value or quality of something based on reasoning |
| Evaluate, judge | |
| Critique..... | Describe the relative merits of something based on criteria |
| Rate, score | Assign a numeric value or ranking that indicates quality |
| Choose, select best... | Use established criteria to identify the optimal alternative from good options |
| Argue | Describe reasons and present evidence for a point of view (written exam question) |
| Estimate | Present a general calculation or anticipated cost or effect of something |

Reframe, criticize, support, decide, recommend, convince, defend, find errors, grade, measure, predict, rank, test, conclude, critique, editorialize, justify, persuade, weigh

VI. Create (part of critical thinking)

Verb Appropriate testing/ **measurement of learning**

Formulate Express [oral, written] in a systematic way a theory or plan

Compose, Design.... Create an artifact (picture, poem, music, etc.) in order to communicate

Arrange, Organize.... Write a detailed plan/ arrangement to manage a problem

Propose..... Present a written plan with rational and arguments for its adoption

Hypothesize, substitute, construct, invent, integrate, produce, role-play, anticipate, adapt, assemble, collaborate, facilitate, imagine, intervene, manage, negotiate, originate, schematize, speculate, validate, structure