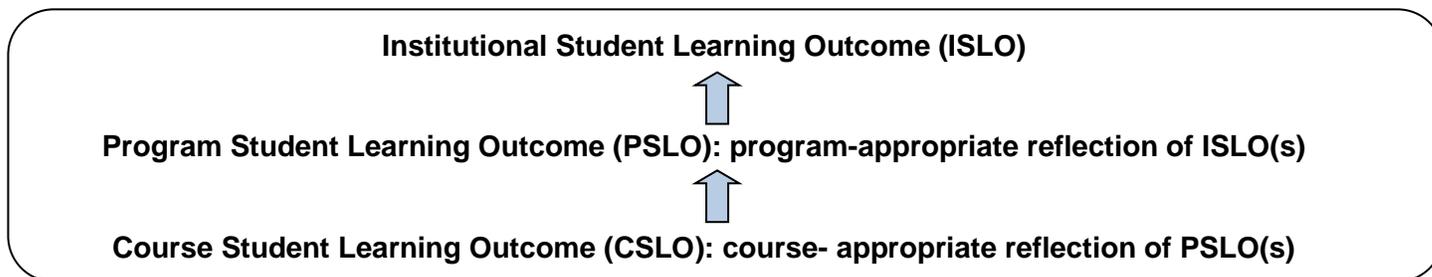


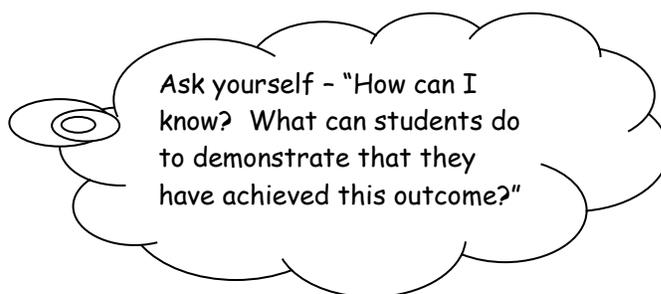
## Guidelines for Well-written Student Learning Outcome Statements

1. Outcomes should identify and measure or validate only the most useful and meaningful learning goals of the course, program, institution.

2. Outcomes should “align up”:



3. Outcomes must be measurable and/or verifiable or they can't be assessed. Use verbs that specify the skill, ability, behavior, or habit of mind you will assess with the assignment. Be sure that each outcome is going to be measured or verified at least once.



- Don't use, "students will understand....". Choose a verb that allows you to verify their understanding. If students understand a concept, they should be able to:
  - describe a phenomenon
  - explain a process
  - identify key elements
  - apply their understanding to perform a task

4. Outcomes should be explicitly stated in terms of what students will do. Use active verbs (below and on next page) to describe what students will do prior to successful completion of the course, program or degree. Instructor goals can be converted into student learning outcomes as shown below:

Course/Program Objective –	Student Learning Outcome – on the Syllabus
To demonstrate --- to students	Students will describe, explain, review, ....
To introduce students to -----	Students will identify, articulate, ....
To help students understand --	Students will compare, contrast, analyze, defend, ....

## ACTIVE VERBS for LEARNING OUTCOME STATEMENTS – Bloom's Taxonomy

The categories of learning presented below proceed from the simplest forms of knowing to the most complex forms. Only the three highest levels of knowing - **Analysis**, **Evaluation** and **Creation** - are universally accepted as intended to elicit students' critical, creative and problem solving skills. Ideally, assignments integrate lower with increasingly higher levels of learning, engaging students concurrently with acquiring and applying new knowledge.

### 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

<b>Verb</b>	<b>Appropriate testing/ measurement of learning</b>
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

<b>Verb</b>	<b>Appropriate testing/ measurement of learning</b>
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 (critical thinking and problem solving)

**Verb** Appropriate testing/ **measurement of learning**

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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 (critical thinking and problem solving)

**Verb** Appropriate testing/ **measurement of learning**

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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 (critical and creative thinking and problem solving)

**Verb** Appropriate testing/ **measurement of learning**

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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