General Information on Student Learning Outcomes

In the new Accreditation Standards, a Student Learning Outcome (SLO) describes the:

- knowledge
- skills
- abilities
- attitudes

that students have attained by the end of any set of college experiences – classes, occupational programs, degrees and certificates and even encounters with Student Services or the Library. The stress is on what students can **DO** with what they have learned, resulting in some sort of product that can be evaluated.

Faculty must articulate student learning outcomes for each **course**, each **occupational program** and each **degree** and **certificate** that the school offers. Then, they must design assessments or evaluations that provide students with an opportunity to demonstrate what they have learned. Evaluating those assessments gives information to both the student and to the faculty member about how successful the learning experience has been.

In the classroom, the new Accreditation Standards require that SLO's become an integral part of every syllabus. SLO's should also act as a guide for classroom activities and direct classroom assessments or evaluations.

Theory

This approach to teaching believes that "covering" material during a course does not necessarily **guarantee** that students learn it. The instructor has delivered the course, but how do we know if the students have truly absorbed the material, or better yet, can apply it? The new Accreditation Standards state that success and retention are no longer considered an accurate way of answering that question. Success is determined by students emerging from courses with integrated, higher learning skills that they can **demonstrate** to others. Those demonstrations are the proof that they have truly learned.

Another keystone of the theory is the belief that students perform better when they know exactly what is expected of them, including what they will be required to do and how it will be evaluated. What defines an A, B or C paper or project should be public knowledge. This concept of **transparency** is key to using SLO's successfully in the classroom.

The final key concept is **practice.** Before being evaluated on an SLO, students should have the opportunity to practice the skill or tasks that compose it.

Practical Experience

Feeling bewildered by all this? Confused? Skeptical? You're in luck! Many of your fellow Cabrillo faculty have actually had some practical experience with this approach to teaching through the Learner Outcomes Summer Institute. Most scoffed in the beginning, but found that this teaching model was useful and that it worked. Their experience shapes the materials you'll find in this workbook.

Beginning in 1999, Cabrillo began exploring the use of SLOs in the classroom through the Institute. The sixty faculty trained by the institute discovered that this "new" approach to learning was actually something they had been doing all along, but with a few new wrinkles. Every instructor possessed well-defined goals and grading criteria, but many had not put them in writing or taken the step to share them with students. Most Institute faculty found that using SLOs did not necessarily require that they change their approach to teaching, but asked instead that they articulate the one they were already using

Faculty also found that using this approach resulted in a more stream-lined and effective course. Once activities were integrated with outcomes and their assessments, the course became more focused and exciting.

Finally, faculty found that the teaching model did not improve their success and retention rates, the old methods of measuring learning. But successful students seemed to be learning more in depth. Why? If true success is measured by what students can **do** with the material they are learning, rather than what the teacher covers, then the focus shifts to the students. Cabrillo faculty found that students, as always, varied in their willingness and ability to participate in their classroom experiences. However, greatly increased communication resulted from both the key concepts of transparency and practice. Students argued less about their grades because they were aware of the criteria that formed them, and they had a better idea of how to improve. Grading was more consistent and, in some cases, more rigorous.

Part I: Writing Student Learning Outcomes

SLOs versus Course Objectives

Student Learning Outcomes for the classroom describe the knowledge, skills, abilities or attitudes that a student can **demonstrate** by the end of your course.

- Don't think about content or coverage - consider what students should be able to DO with what they've learned by the end of the semester.
- How will students demonstrate this?
- What can they produce to show faculty that they have learned to apply their new knowledge?

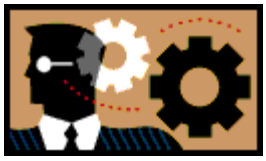
When trying to define Student Learning Outcomes for a course, think of the big picture. SLOs:

- Describe the broadest goals for the class, ones that require **higher-level** thinking abilities.
- Require students to **synthesize** many discreet skills or areas of content.
- Ask them to then **produce** something - papers, projects, portfolios, demonstrations, performances, art works, exams etc. – that **applies** what they have learned.
- Require faculty to **evaluate** or **assess** the product to measure a student's achievement or mastery of the outcomes.

Course objectives are on smaller scale, describing small, discreet skills or "nuts and bolts" that require basic thinking skills. They are subsets of outcomes. Think of objectives as the building blocks used to produce whatever is used to demonstrate mastery of an outcome. Objectives can be practiced and assessed individually, but are usually only a portion of an overall project or application.

Objectives	**Outcomes**
Objectives describe skills, tools or content that a student will master by the end of course.	Outcomes describe over-arching goals that a student will be able to demonstrate by the end of a course.
Objectives require the use of basic thinking skills such as knowledge, comprehension and application.	Outcomes require the use of higher level thinking skills such as analysis, synthesis and evaluation.
Objectives do not necessarily result in a product. Most often, objectives are synthesized or combined to produce something that measures an outcome.	Outcomes result in a product that can be measured and assessed.

Are you still confused? Look at the following three pages for examples of the difference between outcomes and objectives describing the knowledge, skills and abilities, and attitudes in a course. Note that there is a **flow**, a line of progression from the most basic objectives to the most sophisticated outcomes. The charts are adapted from the work of Janet Fulks and Kate Pluta from Bakersfield College. To help you write a course outline, they have noted the words from Bloom's Taxomony that can be used to describe either an objective or outcome.

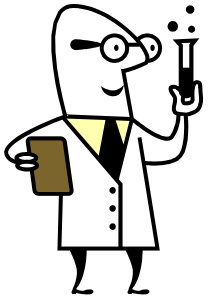


Knowledge

Objectives
Basic
Knowledge

Outcomes
More Sophisticated
Higher Level Thinking

Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Student remembers or recognizes information or specifics as communicated with little personal assimilation.	Student grasps the meaning behind the information and interprets, translates, or comprehends the information.	Student uses information to relate and apply it to a new situation with minimal instructor input.	Student discriminates, organizes, and scrutinizes assumptions in an attempt to identify evidence for a conclusion.	Student creatively applies knowledge and analysis to integrate concepts or construct an overall theory.	Student judges or evaluates information based upon standards and criteria, values and opinions.
Cite Label List Enumerate Identify Imitate Match Name Quote Recall Reproduce State Write	Convert Define Describe Discuss Estimate Explain Generalize Identify Illustrate Locate Paraphrase Restate Summarize	Apply Chart Compute Demonstrate Determine Dramatize Establish Make Manipulate Prepare Project Solve Use	Analyze Compare Contrast Correlate Diagram Dissect Differentiate Distinguish Infer Investigate Limit Outline Separate	Assemble Create Construct Design Develop Formulate Generate Hypothesize Initiate Invent Modify Reframe Synthesize	Access Appraise Conclude Critique Decide Defend Diagnose Evaluate Judge Justify Rank Recommend Support



Skills and Abilities

Objectives
Basic Knowledge
Basic Skills
Level

Outcomes
More Sophisticated Skills
Higher Level Abilities
Critical Understanding of Performance

Observe	Model	Recognize Standards	Correct	Apply	Coach
Students translate sensory input into physical tasks or activities.	Students are able to replicate a fundamental skill or task.	Students recognize standards or criteria important to perform a skill or task correctly.	Students use standards to evaluate their own performances and make corrections.	Students apply this skill to real life situations.	Students are able to instruct or train others to perform this skill in other situations.
Hear Identify Observe See Smell Taste Touch Watch *Usually no outcomes or objectives written at this level.	Attempt Copy Follow Imitate Mimic Model Reenact Repeat Reproduce Show Try	Check Detect Discriminate Differentiate Distinguish Notice Perceive Recognize Select	Adapt Adjust Alter Change Correct Customize Develop Improve Manipulate Modify Practice Revise	Build Compose Construct Create Design Originate Produce	Demonstrate Exhibit Illustrate Instruct Teach Train

Attitudes

Objectives

Elementary Values and Behaviors
Inherited Value System
Egocentric View

Outcomes

More Highly Developed Attitudes
Well Thought-out Value System
Higher Level Abilities to Identify and Articulate Others' Values

Receiving	Responding	Valuing	Organizing	Characterizing
Students become aware of an attitude, behavior, or value.	Students exhibit a reaction or change as a result of exposure to an attitude, behavior, or value.	Students recognize value and display this through involvement or commitment.	Students determine a new value or behavior as important or a priority.	Students integrate consistent behavior as a naturalized value in spite of discomfort or cost. The value is recognized as a part of the person's character.
Accept Attend Describe Explain Locate Observe Realize Receive Recognize	Behave Comply Cooperate Discuss Examine Follow Model Present Respond Show Studies	Accept Adapt Balance Choose Differentiate Defend Influence Prefer Recognize Seek Value	Adapt Adjust Alter Change Customize Develop Improve Manipulate Modify Practice Revise	Authenticate Characterize Defend Display Embody Habituate Internalize Produce Represent Validate Verify

Sample Student Learning Outcomes

Here are sample outcomes developed by Cabrillo faculty. Note the verbs used and how they reflect higher level thinking skills, thus making them SLOs rather than objectives.

BIOLOGY: Apply concepts of chemistry to physiological systems.

CRIMINAL JUSTICE: Describe the principles of community-based policing and **apply** them to given situations.

SPEECH: Organize, outline and **deliver** well-researched speeches to inform and persuade that are tailored to a specific audience.

DENTAL HYGIENE: Demonstrate technique of soft-tissue curettage on appropriate clinic patients.

HISTORY: Evaluate historical myths, clichés and prejudices that permeate contemporary US culture.

PHOTOGRAPHY: Manually operate a 35 mm camera to **create** original photographs **applying** principles of exposure and development of black and white photographic films and papers with concepts of composition and design, aesthetics and content.

English: Use your unique voice to write papers that **analyze** the ecological, anthropological, historical and literary aspects of the Monterey Bay region.

Piano: Sit at the keyboard so that the body will rest on its frame in such a way to be able to use one's hands, arms and fingers to **produce** a beautiful tone with great speed and evenness.

Guide to Writing SLOs

Beginning is often the most difficult step. Remember that you have been doing this all along. Now is your chance to put what you know intuitively as a professional into words. Use the Worksheet below and:

1) In one sentence, describe one **major** piece of knowledge, skill, ability or attitude that a student will have gained by the end of your class. Describe what students will **do --** not content, activities or hours.

2) Use action verbs. See the previous pages for examples.

3) Write it in language that a student will understand.

4) Make sure that the outcome is something that can be assessed or tested.

5) Hint: Sometimes it's easier to start backwards by thinking about the major assessments you use in the course. These would be the products or demonstrations of your outcomes. Make a list of your major assignments for this course. Then try to describe in one sentence what the students are being asked to demonstrate in those assignment.

6) A word of warning: Be careful when describing attitudes in a learning outcome. They are hard to assess. Ask yourself if the attitude is crucial to success in your course. If a student doesn't have a certain attitude, but possesses the knowledge and skills being taught, is that satisfactory? There were unresolved ethical and pedagogical issues that arose for Cabrillo faculty at the Summer Institutes when we discussed assessing students about attitudes (See Institute Toolkit for a more developed discussion – link).

Writing Student Learning Outcomes Worksheet

Course Name and Number _____

Outcome **1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course**	**Assessment** **Major Assignment, Project or test used to demonstrate or apply outcome**

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Checklist for Writing Student Learning Outcomes

Now that you've written your SLOs, it's best to show them to other faculty in both your discipline and outside it to see if what you've written is understandable and concise. Use the following checklist:

1. Have you used action verbs in describing your SLOs?

2. Is it written as an outcome rather than objective?
   - ☐ Language indicates the BIG PICTURE rather than nuts and bolts
   - ☐ Describes what students can DO
   - ☐ Asks students to apply what they've learned by producing something
   - ☐ Addresses student competency rather than content coverage

3. Is the SLO appropriate for the course?
   - ☐ Represents a fundamental result of the course
   - ☐ Aligns with other courses in a sequence, if applicable
   - ☐ Represents collegiate level work

Revised Student Learning Outcomes Worksheet

Use the chart below to revise any of the SLOs you created earlier.

Course Name and Number _____

Outcome **1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course**	**Assessment** **Major Assignment, Project or test used to demonstrate or apply outcome**

Outcome **1 sentence that describes a major piece of knowledge, skill, ability or attitude that students can demonstrate by the end of the course**	**Assessment** **Major Assignment, Project or test used to demonstrate or apply outcome**