

De Anza College
Guide to Writing
Student Learning Outcomes
(SLOs)

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- Section I: Key Principles (p. 2)**
- Section II: Back to Basics (p. 3)**
- Section III: Bloom's Taxonomies (p. 4-6)**
- Section IV: Sample SLOs (p. 7-8)**
- Section V: Steps to Writing SLOs (p. 9-12)**
- Section IV: SLOs and Accreditation (p. 12-14)**
- Section V: De Anza SLO Recording Form (p. 15)**
- Section VI: Accreditation and Rubric (p.16-17)**
- Section VII: How to document your work (p. 18)**

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Student Learning Outcomes - Key Principles

Here are the key concepts to remember about student learning outcomes.

1. An SLO is an over arching goal, one that asks students to synthesize many discreet skills using higher level thinking skills and to produce something that asks them to apply what they've learned.
2. The ACCJC Accreditation standards required that SLOs be written for all courses, programs, degrees and certificates, Student Services and the Library. This has proven so helpful that some colleges are also writing them for Administrative Services.
3. SLOs should be agreed upon by the group that is responsible for delivering the learning experience; for example, all the instructors who teach the same course should agree and teach to the SLOs for that course; all members of a program or department should agree to the program or departmental SLOs; the entire college should be involved in defining and writing institutional SLOs.

Back to Basics: Writing Student Learning Outcomes

Remember that Student Learning Outcomes describe the knowledge, skills, abilities or attitudes that a student can **demonstrate** by the end of your course, program, degree or student service. They describe the big picture, and include four major components. SLOs:

1. Require the use of **higher-level** thinking abilities.
2. Ask students to **synthesize** discreet skills or areas of content.
3. Result in the **production** of educational plans, papers, projects, portfolios, performances, exams etc. that require students to **apply** what they've learned.
4. Require faculty to **evaluate** or **assess** the product to measure a student's achievement or mastery of the outcomes.

SLOs versus Course Objectives

How is that different from course objectives? 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. See the table below for a more detailed contrast between outcomes and objectives.

	Objectives	Outcomes
Scope	Skills, tools, or content to engage and explain a particular subject	Overarching results - subsequent learning
Target	Details of content coverage and activities which make up a course curriculum.	Higher level thinking skills that integrate the content and activities.
Major Influence	Input – nuts and bolts	Output – Observable evidence (behavior, skill, or discrete useable knowledge) of learning.
Number	Objectives can be numerous, specific, and detailed to direct the daily activities and material.	SLOs are limited in number (5-9) to facilitate modification and improvement of teaching and learning.

“Outcomes demonstrate an understanding and application of a subject beyond the nuts and bolts which hold it together; objectives represent the nuts and bolts.” (Bakersfield College Chemistry Professor).

Bloom's Taxonomies

Look at the following three tables 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.



Knowledge

Objectives

Basic
Knowledge
Thinking

Outcomes

More Sophisticated
Higher Level

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 written by faculty from different colleges. Note the verbs and how they reflect higher level thinking skills, making them SLOs rather than objectives. Some of these are the only outcomes for the course, while others are one of several.

Forensic Anthropology

-Using the basic principles of forensic anthropology, **analyze** skeletonized human remains to determine sex, age at death, height and genetic ancestry.

Biology

-**Utilize** the scientific method and **evaluate** the scientific validity of information presented by the media and other sources.

Chemistry 1A

- **Solve** quantitative chemistry problems and demonstrate reasoning clearly and completely. **Integrate** multiple ideas in the problem solving process. Check results to make sure they are physically reasonable.

- **Analyze** the results of laboratory experiments, evaluate sources of error, synthesize this information, and express it clearly in written laboratory reports.

Child Development

-Given a description of an infant with a particular disability, **analyze** ways to provide support and education to parents including; on-site, in-home, and community services available.

Construction Fundamentals: Principles and Practices (lab)

-**Construct** a building applying the skills and knowledge obtained in this class.

Dance: Street Dance and Hip Hop

-**Perform**, with an increasing degree of proficiency, simple Hip Hop movements, **demonstrating** increasing control of skills pertaining to memorization, physical safety, body awareness, alignment, and aesthetic valuing.

Labor Studies - Collective Bargaining

-**Apply** collective bargaining theories from both management and labor perspectives.

-**Analyze** and apply the principles of collective bargaining and labor law during negotiations.

-**Utilize** negotiation skills in labor and employer relations.

Nutrition

-**Analyze** a documented nutritional problem, **determine** a strategy to correct the problem, and **write** a draft nutritional policy addressing the broader scope of the problem

Theatre Art (a series of courses)

Intro to Acting

-**Select, analyze, and perform** selections from dramatic texts **utilizing** the performance skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

Beginning Acting

-**Select, analyze, and perform** selections from dramatic texts **demonstrating increasing control** over the skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

Intermediate Acting

-**Select, analyze, and perform** selections from dramatic texts **demonstrating consistent control** and use of the performance consistent skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

Advanced Acting

-**Select, analyze, and perform** selections from dramatic texts **demonstrating a mastery** of the performance skills of memorization, vocal projection, spatial awareness, stage directions and physical expression.

English Composition series

Basic Writing (2 levels below transfer)

-**Write** paragraphs and short essays **demonstrating** basic sentence-level competency and culminating in a portfolio.

-**Comment** on ideas and writing strategies in reading assignments.

Elements of Writing (1 level below transfer)

-**Write essays demonstrating** sustained clarity of intention, awareness of audience, and various writing techniques.

-**Articulate** responses to readings in various genres.

1A – College Composition (transfer level)

- **Write essays**, including research-based writing, **demonstrating** academic rhetorical strategies and documentation.

-**Analyze** and evaluate assigned and researched texts.

1B – Composition and Literature (transfer level)

-**Write literary analysis**, interpretation, and research-based essays.

-**Demonstrate** close readings of literary texts for analysis and interpretation.

2 – Critical Thinking (transfer level)

- **Write evidence-based essays demonstrating** logical reasoning and argumentative skills.

- **Evaluate** logical reasoning and argument in assigned and researched texts.

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 assignments.
- 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?

Some Dos and Don'ts:

1. Don't use the words "understand" - go for higher level thinking skills.
2. Do distinguish the difference between an A and B courses of the same number.
3. Keep the number of outcomes short – no more than four or five at most . Use the outcomes to describe the **major** skills or knowledge students will take away from the course and what they will **produce** to show you that they have mastered those skills.

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
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

Student Learning Outcome Checklist	Yes	No
Do the SLOs include active verbs?		
Do the SLOs suggest or identify an assessment?		
Do the SLOs address the expected level of learning for the course using Bloom's Taxonomy as a guideline?		
Are the SLOs written as outcomes rather than as objectives? 1. Language indicates an important overarching concept versus small lesson or chapter objectives. 2. Outcomes address what a student will be able to do at the completion of the course.		

3. SLOs address student competency rather than content coverage.		
<p>Are the SLOs appropriate for the course?</p> <ul style="list-style-type: none"> • Consistent with the curriculum document of record • Represents a fundamental result of the course • Aligns with other courses in a sequence, if applicable • Represents collegiate level work 		
Will students understand the SLOs?		
Comments or suggestions:		

SLOs and Accreditation

Once SLOs are written, where should they live? Since the advent of the 2002 ACCJC Accreditation Standards, some have argued that the SLOs should be on the Course Outline of Record. The COR is an official document required in California to use for articulation agreements between community colleges and transfer institutions. Some colleges fear that they cannot get agreements if their SLOs do not match the SLOs of nearby transfer institutions. In addition, since SLOs are not static or fixed, some colleges are reluctant to attach them to their official CORs. Others feel that, like course objectives, the regular curriculum process is sufficient for making needed changes. Why go to the trouble of creating another place to officially list SLOs, they argue, when the Course Outline of Record is already available. A 2007 survey by the statewide Academic Senate revealed the state is evenly split in half, with 50% of colleges keeping their SLOs as addenda to the official Course Outlines of Record or in a separate place, while the other 50% insert them directly into the document.

A discussion has also arisen about SLOs being in the syllabi for all courses. Standard IIA6a of the 2002 ACCJC Accreditation Standards, states that “in every class section, students receive a course syllabus that specifies learning objectives consistent with those in the institutional officially approved course outline.” Since the official Course Outlines of Record have course objectives which all faculty teaching a particular course need to meet, it makes sense to provide students with those objectives. However, since students and the public should be apprised of what the expected outcomes for a course should be, then it is also reasonable to put the SLOs that have been agreed upon by the faculty in a discipline into course syllabi.

The ACCJC rubric that outlines the requirements for Student Learning Outcomes implementation is attached.

Rubric for Evaluating Institutional Effectiveness – Part III: Student Learning Outcomes

Levels of Implementation	Characteristics of Institutional Effectiveness in Student Learning Outcomes <i>(Sample institutional behaviors)</i>
Awareness	<ul style="list-style-type: none"> • There is preliminary, investigative dialogue about student learning outcomes. • There is recognition of existing practices such as course objectives and how they relate to student learning outcomes. • There is exploration of models, definitions, and issues taking place by a few people. • Pilot projects and efforts may be in progress. • The college has discussed whether to define student learning outcomes at the level of some courses or programs or degrees; where to begin.
Development	<ul style="list-style-type: none"> • College has established an institutional framework for definition of student learning outcomes (where to start), how to extend, and timeline. • College has established authentic assessment strategies for assessing student learning outcomes as appropriate to intended course, program, and degree learning outcomes. • Existing organizational structures (e.g. Senate, Curriculum Committee) are supporting strategies for student learning outcomes definition and assessment. • Leadership groups (e.g. Academic Senate and administration), have accepted responsibility for student learning outcomes implementation. • Appropriate resources are being allocated to support student learning outcomes and assessment. • Faculty and staff are fully engaged in student learning outcomes development.
Proficiency	<ul style="list-style-type: none"> • Student learning outcomes and authentic assessment are in place for courses, programs and degrees. • Results of assessment are being used for improvement and further alignment of institution-wide practices. • There is widespread institutional dialogue about the results. • Decision-making includes dialogue on the results of assessment and is purposefully directed toward improving student learning. • Appropriate resources continue to be allocated and fine-tuned. • Comprehensive assessment reports exist and are completed on a regular basis. • Course student learning outcomes are aligned with degree student learning outcomes. • Students demonstrate awareness of goals and purposes of courses and programs in which they are enrolled.
Sustainable Continuous Quality Improvement	<ul style="list-style-type: none"> • Student learning outcomes and assessment are ongoing, systematic and used for continuous quality improvement. • Dialogue about student learning is ongoing, pervasive and robust. • Evaluation and fine-tuning of organizational structures to support student learning is ongoing. • Student learning improvement is a visible priority in all practices and structures across the college. • Learning outcomes are specifically linked to program reviews.

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De Anza SLO Recording Form

- All outcomes written for a course must be recorded electronically.
- The electronic form is available for download at:
(separate downloads for MAC or PC versions available).
- The completed form should be sent via email to
with a cc to your dean.