Student Learning Outcomes Handbook

SADDLEBACK COLLEGE

Produced by Educational Planning and Assessment

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STUDENT LEARNING OUTCOMES OVERVIEW

Background

Student Learning Outcome (SLO) assessment is a part of the systematic review process adopted by the South Orange County Community College District (SOCCCD). Saddleback College is committed to collecting and analyzing student learning outcomes data in order to foster program effectiveness and continual improvement. SLO assessment contributes to the annual assessment of course outcomes that make up a portion of the Program Review process. A minimum of one SLO per course is assessed annually. This document describes the process for recording and documenting outcome data.

Beginning in 2002, the Accrediting Commission for Community and Junior Colleges (ACCJC) has required colleges to develop and assess SLOs for courses, degrees, and student support services as a key mechanism for improving institutional performance. ACCJC Standard I.B.2 states: "The institution defines and assesses student learning outcomes for all instructional programs and student and learning support services."

Purpose

SLO assessment is designed to provide a systematic approach to collecting, summarizing, and interpreting student success data. Resulting departmental discussions lead to the identification of department needs and recommendations for program level improvements. This annual review and planning approach allows each program to contribute to the college mission of empowering its diverse student body to achieve personal, academic, and economic advancement through equitable and innovative educational experiences.

Educational Planning and Assessment Committee (EPA)

The Educational Planning and Assessment (EPA) committee assists programs by providing orientation, guidance, and direction during all stages of the program review process. The SLO coordinator is part of the EPA team that assists with the annual data collection of SLOs. This includes assisting departments develop and update the language of outcomes, develop methods of assessment, summarize and interpret results, and foster effective departmental discussions. The goal of the SLO coordinator is to assist each department to define a process of SLO assessment that has maximum utility for effective program growth and development.

EPA Contacts

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SLO Assessment Cycle

One SLO must be assessed per course each year the course is taught. The cycle for SLOs collection and reporting follows 4 steps:

1. **Identify:** Departments work together to identify which SLO shall be assessed in the coming year. **Only one SLO per course per year is required**. More can be assessed if that is meaningful to the department. This should be decided and announced to faculty before the start of the assessed semester.
2. **Assess:** Departments decide how best to assess SLOs and collect success rate data. Data can be collected from fall or spring semesters, whichever works best for your department.
3. **Reflect:** Prior to submitting results into Nuventive (formerly Improve), departments will reflect on findings and discuss implications of results and any planned changes.
4. **Adjust:** Implement planned changes or other adjustments deemed necessary.
5. **Submit:** Assessment results are aggregated by course and then input into Nuventive by the department chair or designee by the third Friday of September following the academic year in which the SLOs were assessed. Reflection discussions will be briefly described in the "Use of Results" section of Nuventive.

SLO FRAMEWORK AND STRUCTURE

SLOs, PSLOs, ISLOs

Student Learning Outcomes (SLOs) are statements of the knowledge, skills, and abilities students can demonstrate upon completion of their experience. These learning outcomes are measured at the completion of the course (SLOs), at the completion of a program (PSLOs), and at the completion of their time at our institution (ISLOs).

Course SLOs (SLOs)

Each program designs their own course level SLO to reflect a collection of skills and knowledge expected to be mastered at the *completion of a course*. SLOs can be changed and updated to meet departmental needs. Each course offered at the college must have a minimum of three (3) SLOs. There is no set maximum, but many have between 3 and 6 SLOs per course. It is not recommended to have over 10 SLOs per course.

Program SLOs (PSLOs)

Program faculty define the expected student learning across the body of coursework in the program. The resulting Program SLOs (PSLOs) represent the essential skills and knowledge that a student gains after *successfully completing the program*. The average number of PSLOs is between 3 and 5, but the department might elect to have a different number. Course SLOs inform success of PSLOs.

Institutional SLOs (ISLOs)

Institutional SLOs (ISLOs) are broad, institutional-level outcome statements that describe what degree-seeking students develop *during their time at the college*. ISLOs are approved through the Academic Senate. Saddleback College currently has four established ISLOs:

Preamble:
Students should expect to develop knowledge, skills, and abilities across four broad areas as a result of their overall experience at Saddleback College. The broad areas are identified by the Institutional Student Learning Outcomes (ISLOs) listed below:

I.   Effective Communication

Students completing a degree or transfer program at Saddleback College will be able to:
1. Demonstrate the ability to understand, evaluate, and analyze a variety of academic, professional, and personal readings.
2. Demonstrate the ability to clearly express themselves and the knowledge they have attained in various forms of writing.
3. Demonstrate the ability to clearly communicate ideas to others when speaking in one or more of the following modes: interpersonally, in small group settings, or in public presentations.

II.   Intellectual and Practical Skills

Students completing a degree or transfer program at Saddleback College will be able to:

1. Demonstrate competence in fundamental computing and information technology.
2. Demonstrate competence in scientific and quantitative reasoning necessary for informed judgment and decision-making.
3. Conduct effective research, including the identification, evaluation, synthesis, and responsible use of sources and information.
4. Analyze information and ideas independently and logically in order to arrive at reasoned, meaningful, and creative conclusions.
5. Work with others to develop creative, logical, and reasoned solutions to problems.
6. Develop cognitive, physical, and affective skills that will allow them the opportunity to be well-rounded individuals.

III. Community/Global Consciousness and Responsibility

Students completing a degree or transfer program at Saddleback College will be able to:

1. Demonstrate knowledge of cultural diversity and awareness of multiple perspectives in the U.S. and globally.
2. Demonstrate the ability to effectively interact with others in academic, personal, and professional contexts.
3. Demonstrate an awareness of the necessity for social responsibility and accountability of citizenship in a democratic society.
4. Demonstrate an awareness of the necessity for ethical conduct in academic, personal, and professional contexts.

IV. Breadth of Subject Area Knowledge

Students completing a degree or transfer program at Saddleback College will be able to:

1. Describe the scope and key principles of the natural sciences and mathematics, including an understanding of the methods of scientific inquiry.
2. Describe the scope and key principles of the arts and humanities in order to understand the rich history of human knowledge, discourse, and achievements.
3. Describe the scope and key principles of the social and behavioral sciences in order to understand the complexities of social interactions and human experiences.

The Importance of SLO Mapping

All SLOs are structurally tied. The results of SLO course-level assessments are "rolled up" and used to assess program outcomes (PSLOs). Each SLO is tied to one or more PSLO. Similarly, PSLOs are tied to institutional outcomes (ISLOs). This mapping of SLOs to PSLOs and PSLOs to ISLOs allows for Saddleback College to reflect on student performance. The overall effectiveness of the Institution can be assessed with how well program outcome goals are met. This mapping of courses to programs and programs to institutional outcomes is important for addressing overall effectiveness at the college.
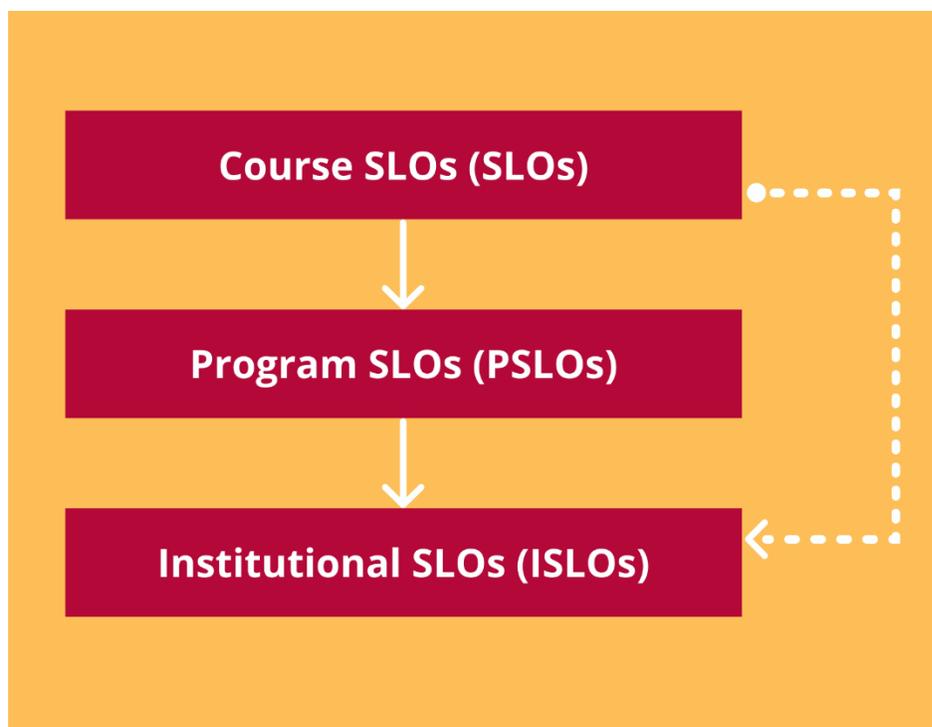
Figure 1. Assessment of Course SLOs informs progress of PSLOs, which in turn, inform progress of ISLOs.

Requirements for Mapping

Each course SLO must align with at least one program SLO. This builds the structure of the program and allows for assessment in how the collection of courses meet all program goals. Similarly, each program SLO must align with at least one Institutional SLO. Course SLOs should also be directly mapped to ISLOs.

The alignment mapping is recorded in Nuventive. Please see instructional sheet for "Mapping SLOs." This mapping allows the extraction of assessment data for courses in program review reports. Nuventive aggregates data by ISLO and then by PSLO. Therefore, if mapping is missing, the course level outcomes will not be produced in reports. Accurate reporting requires that all outcomes are mapped appropriately.

The SLO coordinator will check for proper mapping of courses at the time a program is going through program review. Any missed mapping is identified at that time and the coordinator will work with the department chair to complete mapping for all SLOs.

Course Learning Objectives vs Outcomes

Course learning objectives are different from course student learning outcomes. Objectives are statement of what the instructor strives to teach during the course and are detailed in the Course Outline of Record (COR).

Objectives focus on what the instructor does rather than what the student will be able to do. It is content-based and not competency-based, which often means that objectives are often not measurable. However, detailing course objectives allows instructors to build the course curriculum. Outcomes will allow for later assessment of how well those objectives were carried out. Objectives explain what will be done IN the class and outcomes explain what students will be able to do AFTER the class.
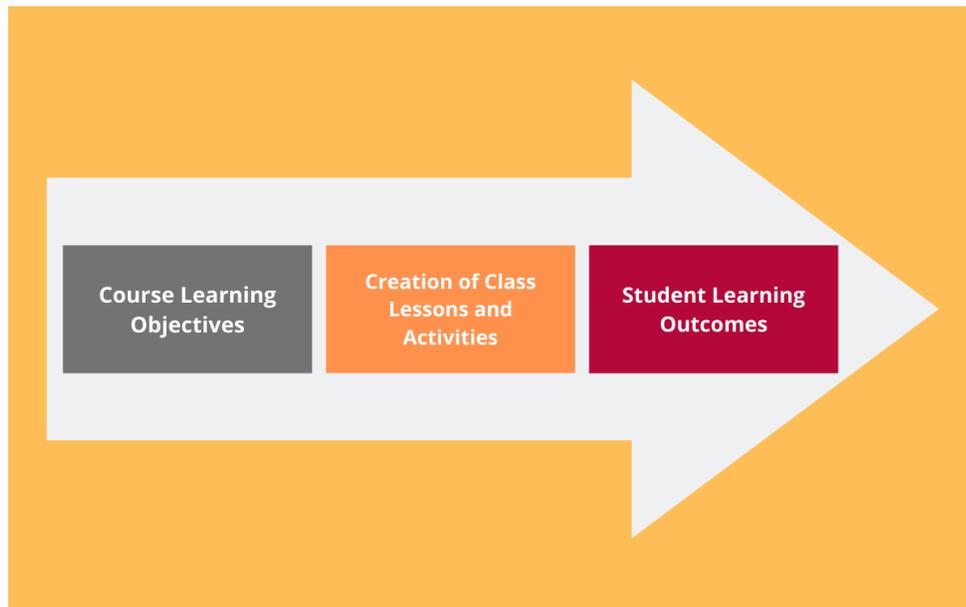

Figure 2. The diagram demonstrates how course learning objectives can be used to develop class activities that, hopefully, result in successful student learning outcomes.

WRITING SLOs

Tips for Writing SLOs

- **Focus on students**. Address the *measurable* and *observable* achievements you expect from the student.
- **Use active verbs**. Active verbs produce statements that are concrete and measurable. The word understand is not measurable. Instead, describe the desired outcome (E.g., "Students will display a focused image on a microscope"). See "Action Verbs" instructional sheet for help selecting actionable outcomes that unequivocally demonstrate mastery.
- **Create a singular outcome**. Do not "bundle" outcomes by linking them with "and." This requires that success on the SLO requires success on both listed in that outcome.
- **Modify as needed**. SLOs may need to be changed as course or program goals change or results suggest updates are warranted. For example, your program may decide to add a PSLO to assess equity gaps. See Instruction Guides for "How to Change SLOs" or "How to Change PSLOs."

Example SLOs

- Upon successful completion of this course, students will be able to change the oil and the oil filter to industry standards.
- Upon successful completion of this course, students will be able to identify anatomical differences between monocotyledonous and dicotyledonous plants.
- Upon successful completion of this course, students will be able to cite all sources used for their speeches in the form of a bibliography attached to their preparation outlines.

Examples PSLOs

- Upon completion of an AA or AAT degree in anthropology, students will be able to identify the ethical responsibilities and concerns in the conducting of anthropological research.
- Upon completion of an AA degree in music, students will demonstrate a working knowledge of harmonic theory applicable to their area of specialization.
- Upon completion of an AA degree in geography, students will be able to demonstrate map literacy (as related to the basic geographic theme of "location").

ASSESSMENT PROCESS

SLO assessment methods, criterion, and results are entered into Nuventive. Please see instruction sheet "Entering SLO Outcomes and Results" for step-by-step directions on using Nuventive. Below is a discussion of each of those elements as they relate to the assessment process.

Assessment Methods

Assessment is the systematic collection and interpretation of outcome data in order to improve student learning. Assessment methods should be clearly outlined prior to data collection to ensure continuity across professors and sections and to allow for optimal assessment of the outcome. See "Assessment Methods" in Instructional sheets for example assignment ideas.

Direct Assessment

Direct assessment techniques include data from student assignments, pre and post tests, or exit exams. This includes, but not limited to essays, journals, presentations, lab reports, performance, papers, exams, etc. Existing assignments may be assessed for qualities that are separate from the original purpose. For example, a paper about psychological disorders may also be used to assess the skill of finding relevant peer reviewed literature. In this case, the direct assignment grade would be irrelevant to SLO assessment but success on one piece of the assignment would mark success in that outcome.

Indirect Assessment

Indirect assessment techniques may be embedded in the course and can include surveys of students, alumni, employers, or transfer institutions. Techniques could also include self-evaluation, interviews, and focus groups. The college has also invested in the Scantron programs **Class Climate** and **ParScore** for assessing SLOs. These are powerful tools that can simplify the process of SLO assessment. If you require particular or customized collection needs, please reach out to the EPA research analyst.

Criterion

Each department should discuss and select the standard to determine success for each outcome that fits departmental needs. For example, one department may decide that all students must demonstrate a particular skill and therefore require 100% of students to "pass" this test for the SLO goal to be met. Other departments might decide that SLO success would result from at least 75% of students successfully meeting outcome parameters.

The criterion for the SLO is made up of two parts. First, the department determines how many students (%) should pass the assessment to deem the outcome a success. Second, departments must then clarify what constitutes a "passing" designation. Departments that use individual question responses may set the criteria simply as those students who "respond correctly," pass the outcome. Or, for more comprehensive exams and assignments, a

department may outline that students must "obtain a 75% on the assignment or higher" in order to be considered as passing the outcome assessment.

Similarly, each department can decide what rubric score qualifies as sufficient passing of an outcome. In short, the department decides what qualifies as passing an outcome and clearly articulates this criterion in Nuventive and to their faculty.

Example Criterion Descriptions:
- 75% of students must correctly answer a multiple-choice question assessing this SLO.
- 80% of students must receive a rubric score of 3 or more for the paper addressing this SLO.
- It is expected that 85% of students will score 75% or above on this SLO.
- 100% of students must successfully identify blood type.
- 75% of students must obtain a paper grade of 70% of higher.

Results

SLO results should be reported in the same fashion as the criterion, as described above. A tally student success data as they relate to the criterion will be collapsed across sections and professors so that each course has one reported number. Data must be reported separately across modality (i.e., face-to-face, online, hybrid).

Examples of Appropriate Criterion Results

Ensure that results directly speak to the appropriate criterion. Below are examples of appropriate and inappropriate result reports.

Criterion Example	Example Results Reports
Criterion: 80% of students must receive a rubric score of 3 or higher for paper addressing SLO	• **Good**: "70% of students received a 3 or higher. Criterion not met" • **Doesn't work**: "100 students wrote a paper and all passed with at least a score of 75%." Passing rate of the paper was NOT the defined criterion. Criterion required percent of students be reported. • **Doesn't work**: "Only 4 students received below a rubric score below 3." The criterion did not require a breakdown for this rubric. This extra detail confuses the final results. • **Doesn't work**: "2 classes showed 100% of students passing the rubric but 1 class had only a 40% pass rate." Do not breakdown by classes. The total number of students across all three courses should be totaled so the percent of those who scored above 3 can be calculated.

Use of Results

Once the results of assessment have been collected, faculty in a program should meet to discuss what the results reveal about areas in which the program succeeds and about areas in which improvements can be made. These discussions can be very fruitful for program growth and should be documented in the Nuventive documentation.

Goal for 'Use of Results'

Programs can use results and reported discussion surrounding results to drive change in the program. The goal is for programs to self-evaluate and attempt improvements. Departments may not always see improvements or high passing rates and that is okay. The most important goal is to assess and generate discussion to attempt improvement.
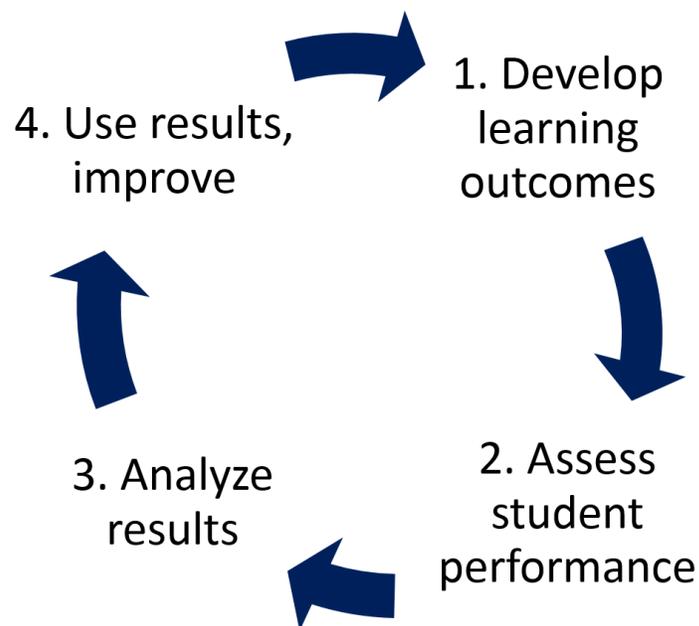
Figure 3. SLO Assessment Cycle (courtesy of Georgetown University)

Possible Areas of Change

- **Teaching Strategies:** plan to share methods for how to teach topics, investing in better tools, team teaching
- **Curriculum Changes:** plan to change or update prerequisites, course topics, or objectives.
- **Program/Division/College:** discuss needed division resources or college policies that need updating
- **SLO Assessment Process:** plan changes to SLO language change or assessment process.

For example, while exploring lower success rates, a department may discuss the apparent need for more updated visual aids. This will be documented in Nuventive and later referred to

during program review or funding requests. Once new aides are obtained and used, the SLO can be assessed again to explore the success of this plan. Departments are often making these adjustments regularly and it is helpful to be documenting their discussions and successes in the "Use of Results" during SLO reporting.

LOCATION OF SLOs

SLO Changes

Nuventive (formerly Improve) is where all SLOs and outcomes data are edited and updated. Bi-annually, the SLOs from Nuventive will automatically populate the SLOs in **META** (formerly Curricunet) and the Budget Resource Allocation and Institutional Needs (BRAIN) system.

Every **syllabus** for a Saddleback College course must list the SLOs for the course. The SLOs on the syllabi must match word-for-word the SLOS as they are listed in appended files to the COR found in META. Therefore, any changes made in Nuventive are not finalized until those changes are listed in META.

Updating SLOs

Course and program SLOs will periodically need to be updated to accommodate changing department needs. This may include updating SLO language or archiving old SLOs and creating new SLOs. Please see the instruction sheets "Updating SLOs in Nuventive" and "Updating PSLOs in Nuventive" for step-by-step guidance on making those changes.

NOTE: Any changes to SLOs should only be made in Nuventive.

Deadlines for SLO Changes

Changes to SLOs (wording, new, or archiving) will be rolled over into other systems twice annually, immediately following the deadlines listed below:

- 3rd Friday of October
- 3rd Friday of February

SLO Results

Departments will enter SLO assessment results and findings into Nuventive. Department chairs are automatically given access to Nuventive. To request another designee, please email the EPA coordinator or research analyst. Please see instruction sheet "Entering SLO Outcomes and Results" for step-by-step directions.

Deadline for Results

SLO results and findings ("use of results") are due by the third Friday of September following the academic year in which the SLOs were assessed.

DEADLINES

SLO Data and "Use of Results"	•3rd Friday of September
Changes to SLO Language	•3rd Friday of October •3rd Friday of February

Figure 4. Deadlines for data and changes into Nuventive

INSTRUCTION AND INFORMATIONAL SHEETS

The following step-by-step instruction sheets are available on the EPA SharePoint site:

1. Updating SLOs in Nuventive
2. Updating PSLOs in Nuventive
3. Mapping SLOs in Nuventive
4. Entering SLO Outcomes and Results
5. Ways to Record SLO data

Action Verbs Informational Sheet (courtesy of Clinton Community College)

Knowledge Level: The successful student will recognize or recall learned information.

list	record	underline
state	define	arrange
name	relate	describe
tell	recall	memorize
recall	repeat	recognize
label	select	reproduce

Comprehension Level: The successful student will restate or interpret information in their own words.

explain	describe	report
translate	express	summarize
identify	classify	discuss
restate	locate	compare
discuss	review	illustrate
tell	critique	estimate
reference	interpret	reiterate

Application Level: The successful student will use or apply the learned information.

apply	sketch	perform
use	solve	respond
practice	construct	role-play
demonstrate	conduct	execute
complete	dramatize	employ

Analysis Level: The successful student will examine the learned information critically.

analyze	inspect	test
distinguish	categorize	critique
differentiate	catalogue	diagnose
appraise	quantify	extrapolate
calculate	measure	theorize
experiment	relate	debate

Synthesis Level: The successful student will create new models using the learned information.

develop	revise	compose
plan	formulate	collect
build	propose	construct
create	establish	prepare
design	integrate	devise
organize	modify	manage

Evaluation Level: The successful student will assess or judge the value of learned information.

review	appraise	choose
justify	argue	conclude
assess	rate	compare
defend	score	evaluate
report on	select	interpret
investigate	measure	support

Assessment Methods Informational Sheet (courtesy of Las Positas College)

The following table outlining SLO assessment methods used by programs and units at the college:

Method	Description	Direct or Indirect
Capstone Project or Course	A capstone project or course that integrates knowledge, concepts, and skills students are to have acquired during the course of their study. Capstones provide a means to assess student achievement within a program.	Direct
Clinical Evaluation	An evaluation of students' performance in a clinical setting. The clinical performance is scored using a rubric.	Direct
Competition (Juried)	An evaluation of students' performance or work based on the scoring or judging of external reviewers.	Direct
Demonstration/ Presentation	An evaluation of students on a demonstration or presentation to the class or other audience. The demonstration or presentation is scored using a rubric.	Direct
Document Review	A review of course or unit documents for the purpose of determining if information is available and clear.	Indirect
Entrance/Exit Interviews	An assessment based on interviews conducted with students when they enter college and when they leave—either through graduation or early departure. These interviews can be designed to measure program-specific SLOs or to gather feedback on student services AUOs.	Direct/ Indirect
Exam - Exit	A comprehensive exit exam given near the end of the student's academic career (usually during the final semester prior to graduation). The exam is generally given to determine a student's acquisition and application of a particular type or form of knowledge or skill, as well as the ability to integrate knowledge from various disciplines. The exam can be written, oral, or a combination.	Direct
Exam or Quiz – In Course	An exam or quiz that is administered by individual professors in their classes. It may be the entirety of the exam or embedded questions within an exam.	Direct
Exam – Standardized/Li censure	A test that is developed outside the institution for use by a wide group of students using national, regional, or professional norms.	Direct
Exhibit	An evaluation of students' work in a public exhibit. The exhibit is scored using a rubric.	Direct
Field Work	An evaluation of students on the demonstration of skills during field work. The skills demonstration is scored using a rubric.	Direct
Focus Group	A series of structured discussions with students who are asked a series of open-ended questions designed to collect data about beliefs, attitudes, and experiences.	Indirect
Frequency/Cou nt	An assessment based on the number or frequency of things, such as usage of particular services.	Direct/ Indirect
Group Project	An evaluation of students' work on an assigned group project. The work is scored using a rubric.	Direct
Institutional Data	A review of program and student data collected at the institutional level. Data may include program enrollment, retention, or student GPA.	Direct/ Indirect
Internship	An evaluation of students' job performance during an internship or volunteer placement. The job performance is scored using a rubric.	Direct
Journal Review	An evaluation based on students' written journals. Entries can be used to determine students' overall engagement with the course material and to assess their understandings of course content.	Direct
Lab Practicum	An evaluation of students' work during a lab practicum. The work is scored using a rubric.	Direct
Lab Report	An evaluation of students' work on a lab report. The work is scored using a rubric.	Direct

Observation/Interview Report	An evaluation of students' work on an observation or interview report. The work is scored using a rubric.	Direct
Outreach	An assessment of the successes, benefits, or quality of outreach activities.	Direct/ Indirect
Participation	An evaluation of students on their course participation. Participation is scored using a rubric.	Direct
Performance	An evaluation of students during musical, theatre, athletic, communications, or other performance. The performance is scored using a rubric.	Direct
Portfolio	An evaluation of students' work collected in a portfolio and evaluated using a common rubric. Portfolios may contain research papers, reports, tests, exams, case studies, videos, personal essays, journals, self-evaluations, or exercises.	Direct
Pre/Post Testing	An exam administered at the beginning and at the end of a course or program to determine the progress of student learning.	Direct
Professional Development	An assessment based on the frequency or quality of professional development opportunities.	Indirect
Project	An evaluation of students' work on an assigned project. The work is scored using a rubric.	Direct
Reflective Essay	Reflective essays used to determine students' opinions and perceptions.	Indirect
Survey - Alumni	An assessment based on the surveying of program alumni. Alumni surveys can provide information about program satisfaction, preparation (transfer or workforce), employment status, and skills for success. Surveys can ask alumni to identify what should be changed, altered, maintained, improved, or expanded.	Indirect
Survey - Employee	An assessment based on the surveying of unit employees. Employee surveys can provide information about satisfaction levels and can ask employees to identify what should be changed, altered, maintained, improved, or expanded.	Indirect
Survey - Employer	An assessment based on the surveying of employers to determine if graduates are satisfactorily skilled. Additional information collected can include on the job skills, or field specific information.	Indirect
Survey – Exit	An assessment of a student's overall satisfaction with his or her collegiate experience and learning.	Indirect
Survey - Student	An assessment based on the surveying of students designed to collect perceptions of their college experiences.	Indirect
Writing Assignment	An evaluation of students' work on written assignments or essays. The work is scored using a rubric.	Direct