Lake Tahoe Community College

Student Learning Outcome & Assessment Handbook

Course Student Learning Outcomes (CSLOs)

Program Student Learning Outcomes (PSLOs)

Review

Implement

Update

Plan

Institutional Student Learning Outcomes (ISLOs)

Annual Unit Updates & Program Review
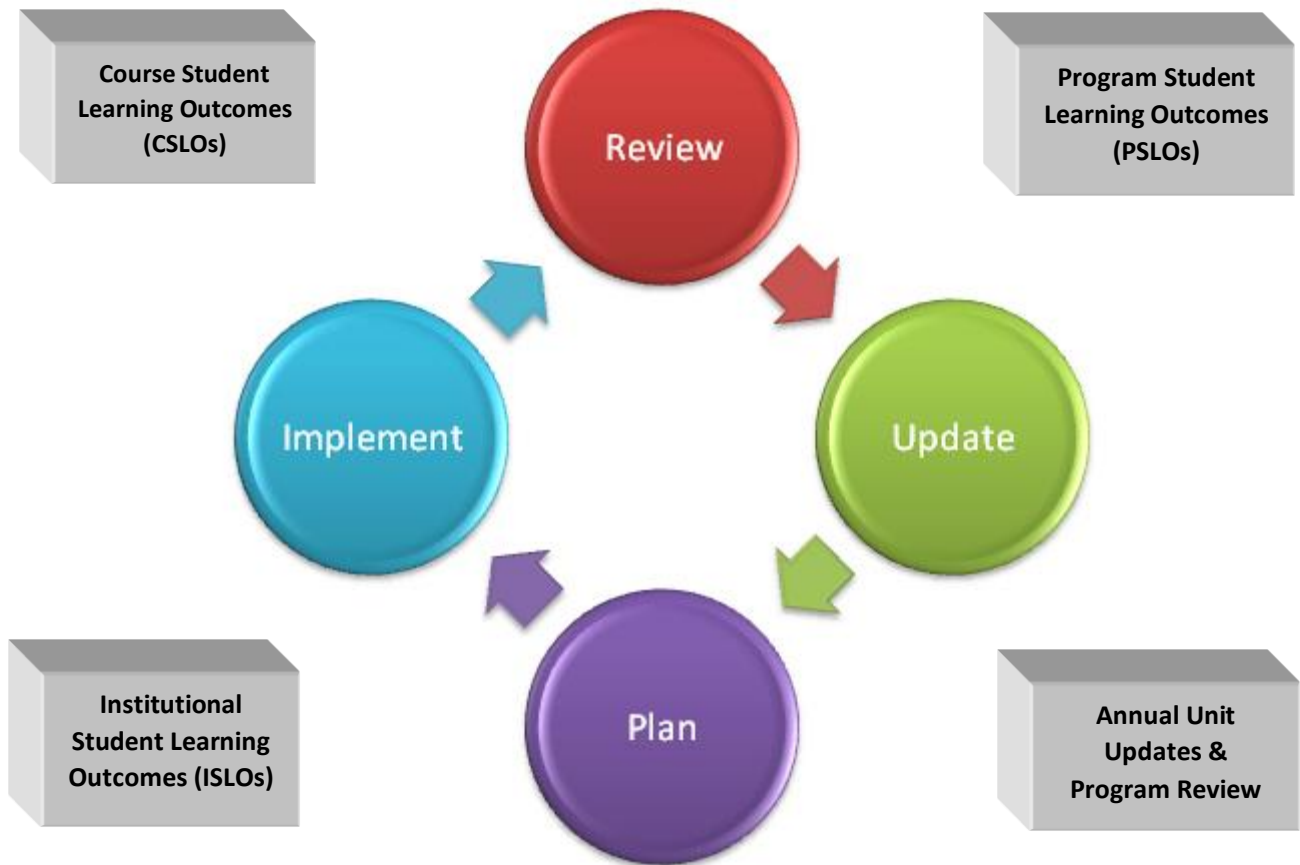
Compiled and written by Sara Pierce, Ed.D. (Fall 2013)
Revised by Mark D. Williams, D.M.A. (Winter 2021)

Preface

Lake Tahoe Community College's mission states that "through quality instruction and student support, our personalized approach to teaching and learning empowers students to achieve their educational and personal goals."[1] Our commitment to learning will guide our innovative instructional programs delivered in a student-oriented environment. Academic excellence and strong community partnerships will afford our students the experiences necessary for their future.

By believing that students come first, Lake Tahoe Community College fulfills its mission by engaging students in creative work that demonstrates the knowledge, skills and attitudes contained within the college's Institutional Core Competencies:

- Communication
- Critical Thinking and Information Competency
- Global Awareness
- Personal Responsibility and Professional Development

This manual describes the Student Learning Outcome (SLO) and Assessment Process for Lake Tahoe Community College. It contains processes, templates, and terminology associated with SLOs and Assessments. Our data entry currently is managed through *eLumen.* The process of assessing SLOs at LTCC began in Fall 2008 and is ongoing.

For an instructor, assessing SLOs is a natural and continuous process. Throughout the quarter an instructor might think, "That went well, but next time I would like to …" or "the students seemed to achieve better lab results now that I began with an easier lab." The SLO and assessment process formalizes this type of thinking. It further provides a method for documenting suggestions and improvements based upon outcomes, as well as encourages the exchange of ideas with one's colleagues.[2]

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[1] "Vision, Mission, and Beliefs," *LTCC.edu*. Accessed 2/21/2019.
[2] Adapted from *Instructional Student Learning Outcome Process Guide*. *DeAnza.edu* (Updated 9/14/2011). Accessed 2/21/2019.

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STEP ONE – SLO PROCESS

Terminology & Basics

Course Student Learning Outcomes (CSLOs) are directed at assessing and improving the extent to which students are achieving the skills recognized as the outcomes in individual courses. CSLOs have been written for all courses at LTCC and are housed in *eLumen* on each course's official course outline of record (COR).

Program Student Learning Outcomes (PSLOs) assess how well the program area is reaching the needs of the students. The program as a whole as well as the certificates and degrees offered through the program are considered. PSLOs are what the student should be able to do at the completion of a program, certificate, or degree. These statements for certificates and degrees are included in Lake Tahoe Community College's catalogue. CSLOs are mapped to one or more of the PSLOs.

Institutional Student Learning Outcomes (ISLOs) are aimed at assessing to what extent the college's institutional core competencies (See Appendix A.) are being met.

CSLOs are assessed individually. PSLOs and ISLOs are assessed indirectly through the process of mapping CSLOs to PSLOs and ISLOs and reviewing the successes of PSLOs and ISLOs through the Annual Unit Plan (AUP).

All outcome statements 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 to and teach to the CSLOs for that course; all members of a program or department should agree to the PSLOs; the entire college is involved in defining and assessing the ISLOs.
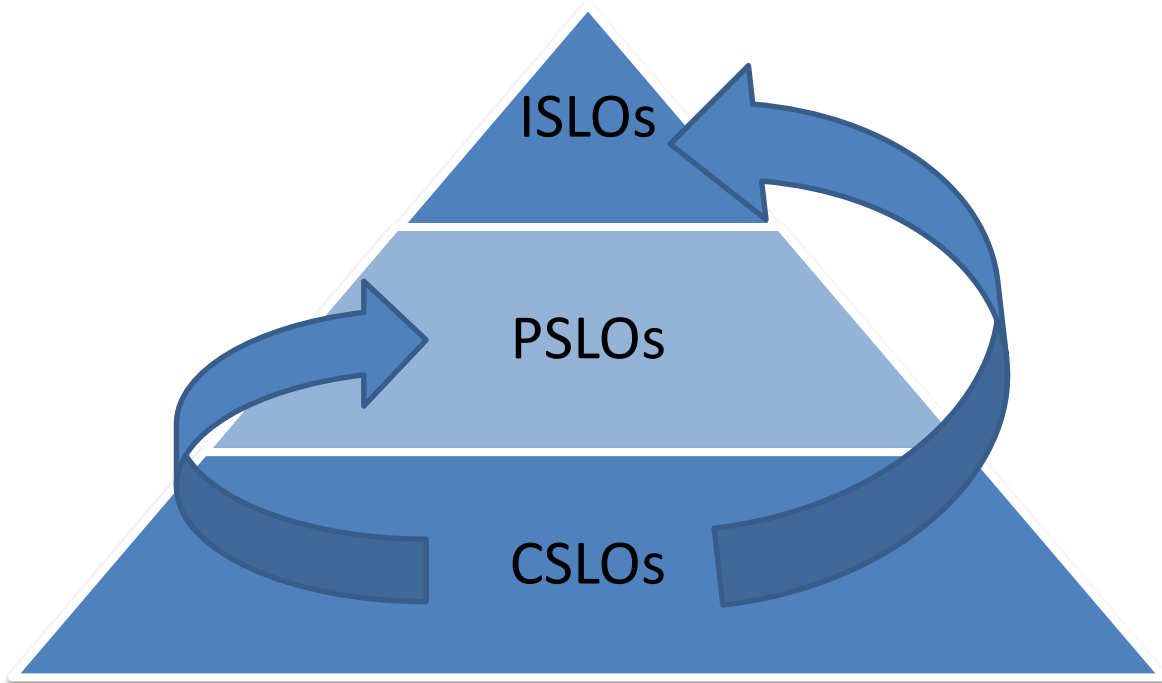
Why is there a SLO Process?

SLOs and their assessment process were adopted at LTCC for a variety of reasons:

➢ Encourages dialogue among peers so that a "culture of inquiry" is established leading to a best practices sustainable process for improving student learning.
➢ Is used to make decisions regarding resources by justifying the need for faculty and/or equipment.
➢ Informs instruction.
➢ Is required for accreditation by the Accrediting Commission for Community and Junior Colleges (ACCJC).

The Steps for Faculty

1. Write the CSLOs for each course. This is a process that should be completed in dialogue with your teaching peers. In addition, each certificate, degree, and/or program needs to have program student learning outcomes (PSLOs). These often are based on the CSLOs within the program. Each CSLO will be mapped to the PSLOs within *eLumen*. The CSLOs will also be mapped to the college's Institutional Student Learning Outcomes (ISLOs). These are also sometimes called Institutional Core Competencies (ICCs).

2. Decide on the method or methods of assessment or consider assessments that you already do and see if they apply. The instrument of assessment is your choice. This assessment(s) may be constructed by individual faculty member teaching the course or it may be an assessment created by a group of faculty. All CSLOs for a course need to be assessed at the time of assessment. See Appendix B for a list of Methods of Assessing Student Learning Outcomes (MASLOs) approved by LTCC's Curriculum Committee.

3. Assess each CSLO for all sections of the course. You will be notified by the SLO/Assessment Coordinator a few weeks before finals if you have any courses that need to be assessed that quarter.

4. Summarize findings. During the first cycle, your findings will allow you to set a target or benchmark to describe student success in that area.

5. Determine the extent to which students have achieved the stated outcomes. Reflect upon how the course can be enhanced to improve the learning experience for the student. If assessment has been completed prior, reflect upon the successes of the last recommendations. This step is most meaningful when accomplished through ongoing dialogue with your colleagues. If there are budget requests (both faculty and/or equipment) that would help improve your course, please include those with your reflection.

6. Submit your assessment and reflection in *eLumen*. Specific instructions are included… **Department chairs of full-time faculty departments are responsible for working with their adjuncts to assess courses within their departments.**

7. The College Learning and Enrollment Management Council (CLEMC) currently has oversight over the SLO and Assessment process.

The SLOAC (Student Learning Outcome Assessment Cycle) is illustrated below.
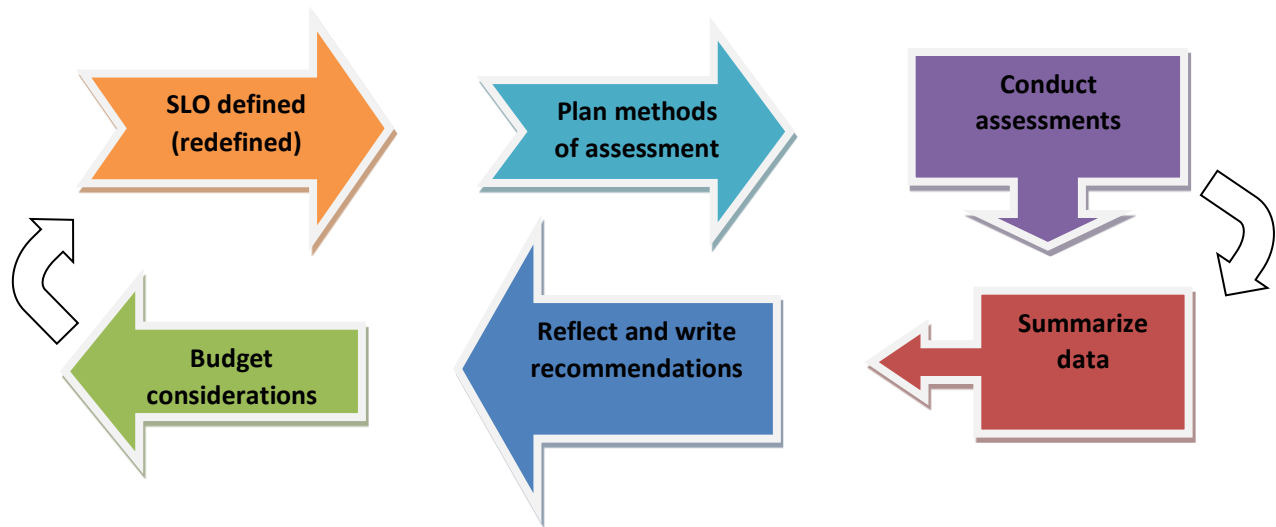
Writing SLO Statements

What are Student Learning Outcomes?

Student Learning Outcomes are the skills that the student will possess at the completion of your course or of the completion of a program. An outcome completes the sentence: "At the completion of this course/program the student will be able to …"

A student learning outcome is a measurable outcome of an educational experience. Something the student *knows* or *can do* or *feel* after completing the educational experience successfully. It is an over-arching goal that is achieved by the completion of the course, certificate, degree, or program.

Since one needs to assess or measure whether the outcome is being achieved by the students it is well to consider the assessment instrument as one is crafting the student learning outcome itself. The assessment tool will be asking students to produce something – papers, projects, portfolios, demonstrations, performances, art works, exams, educational plan, etc. – that applies what they have learned.

Crafting SLO statements for your course

Begin the statement or at least the thought process with the phrase: "At the end of the course the student will be able to do/think/feel _____."

Some pointers:

➢ Keep the number of student learning outcomes to a minimum.

➢ Consider how you will measure the outcome as you are writing the outcome. You may wish to employ a table with a column stating the outcome, another to state how you will assess the outcome, and a third stating when the assessment will occur. Perhaps, a fourth column suggesting a benchmark or target for how you will know that the student has achieved the outcome.

- *A team approach to SLO assessment is highly encouraged.* The student learning outcome statements and the assessment methods should be discussed with one's peers. All instructors who teach the same course should agree on and teach to the same outcomes. The methods of assessment may vary.

- Student Learning Outcome Assessment tools may or may not be the same instruments used to directly determine the final grade of an individual student at the end of the course.

- Avoid the use of the words such as —"understand" and "know". Instead choose a higher level thinking skill from Bloom's Taxonomy. (Appendix C)

- Determine how you will share your expectations with your students *Will you show them a rubric that defines criteria for success on your "capstone" assignment? Will you place your SLO(s) on your syllabus? Or will you create your own transparency/PowerPoint?*

Changing your CSLOs or PSLOs

How should I change my current Course Student Learning Outcomes (CSLOs)?

You may change your CSLOs as part of the Title V update process for curriculum in *eLumen*. If you would like to change your CSLOs outside of the Title V update process, please do the following:

1. Log into *eLumen* from *Passport*. It is the second link from the bottom of the **Miscellaneous Quick Links**. Or click the following link: https://ltcc.elumenapp.com/elumen/.

2. Once in *eLumen* choose "Faculty" from the pull-down menu.

3. Select the "Curriculum" tab. Below that select the "Curriculum Library" tab. Then verify that below that **Course** is selected.

4. Type the three-letter designator for your department and the course number (*e.g.*, MUS101) for the course for which you wish to modify the Course SLOs (CSLOs) in the box under "**Course Code**" and hit "Enter." The screen will refresh and the course will be listed below.

5. Select the check box beside your course. The buttons above will refresh. Then select the **blue** "New Revision" button. A dialog box will appear with an option for **"Course – SLO Revision."**

6. Select **"Course – SLO Revision."** The screen will refresh and you will see the Course Outline of Record (COR) for your course. Under the first tab titled **Cover Info**, scroll down until you see the box containing "**Proposal Details**." Under "**Proposal Start**" choose the Starting Term in the pull-down menu.

7. Scroll back up and select the sixth tab titled **Learning Outcomes**. The screen will refresh and display your **Course Objectives** and **CSLOs**.

8. If you wish to add a new CSLO, type the CSLO into the first indicated box and select the "+Add New CSLOs" button next to it. The new CSLO will appear at the bottom of your listed CSLOs with a status of "New." Type "70" into the box under "Expected SLO Performance." Repeat this process for each new CSLO you wish to add.

9. If you wish to edit the text of an existing CSLO, click the CSLO you wish to edit, make the desired changes, and click the **blue** button with the check mark. The status will change to **"Modified"** with the option to [undo]. Repeat this process for each CSLO you wish to modify.

10. If you wish to delete a CSLO, click the last box with an "x." The Status will change to **"Deleted"** with the option to [undo]. Repeat this process for each CSLO you wish to delete.

11. When you have completed your modifications, select the **blue** "Submit" button at the bottom of the page. At any time you may also "Delete Workflow" or "Save as Draft" to return and finish your changes.

12. A dialog box will ask you to confirm the submission of your workflow. Select the **blue** "Submit" button again. Your modifications will be sent to the SLO Coordinator for review and approval.

How should I change my current Program Student Learning Outcomes (PSLOs)?

You may change your PSLOs by completing a **Revise Program** workflow in *eLumen*. The process to do that is as follows:

1. Log into *eLumen* from *Passport*. It is the second link from the bottom of the **Miscellaneous Quick Links**. Or click the following link: https://ltcc.elumenapp.com/elumen/.

2. Once in *eLumen* choose "Faculty" from the pull-down menu.

3. Select the "Curriculum" tab. Below that select the "Curriculum Library" tab. Then verify that below that **Program** is selected.

4. Type the three-letter designator for your department (*e.g.*, MUS) for the Program for which you wish to modify the Program SLOs (PSLOs) in the box under "**Program Title**" and hit "Enter." The screen will refresh and the programs will be listed below.

5. Select the check box beside your program or certificate. The buttons above will refresh. Then select the **blue** "New Revision" button. A dialog box will appear with an option for **"Program – Revision to a transfer degree (TMC)"** or **"Program – Revision to program (degree or certificate)."**

6. Select the appropriate option. A new dialog box will appear with an option for you to select your Program Type: **"Pathways Program"** or **"Rule-Based."** In most cases, you would choose **"Rule-Based."** If you are not sure check with your supervisor.

7. The screen will refresh and you will see the Program Outline of Record (POR) for your course. Under the first tab titled **Cover Info**, scroll down until you see the box containing "**Proposal Details**." Under "**Proposal Start**" choose the Starting Term in the pull-down menu. Check the box beside "Change to Content" under **"Submission Rationale."**

8. Click the **blue** "Save and Continue" button until you reach the fourth tab titled **Learning Outcomes**. The screen will refresh and display your **Program Outcomes**.

9. If you wish to add a new PSLO, click the "Add New Program Outcome Button." Type the PSLO into the box and type "70" into the box under "Expected SLO Performance." Repeat this process for each new CSLO you wish to add.

10. If you wish to edit the text of an existing PSLO, click the PSLO you wish to edit, and make the desired changes. Repeat this process for each CSLO you wish to modify.

11. If you wish to delete a PSLO, click the **red** "x." The box will disappear. Repeat this process for each PSLO you wish to delete.

12. When you have completed your modifications, select the **blue** "Save and Continue" button until you reach the last tab. Then select the **blue** "Submit" button at the bottom of the page. At any time you may also "Delete Workflow" or "Save as Draft" to return and finish your changes.

A dialog box will ask you to confirm the submission of your workflow. Select the **blue** "Submit" button again. Your modifications will be sent to the next level for review and approval.

STEP TWO: Assessing SLOs

Rubrics

How good is good enough? By what criteria are you going to define "mastery, some understanding and no understanding" . . . define that the students have done well enough? Set a benchmark? Is your course online, improvement-based, etc?

LTCC's general rubric has been set as follows:

	Complete Understanding	Strong Understanding	Moderate Understanding	Little to No Understanding	
SLO	4	3	2	1	N/A

Assessing SLOs: Steps Involved with the Assessments of SLOs

➢ Identify when the assessment will take place. **(The Institutional Effectiveness Office will set this schedule for you.)**

➢ Choose your means/method off the list of MASLOs for each SLO for your course (Appendix B). If possible define the benchmark or target that means success for the outcome. *What does your rubric look like?*

➢ Conduct the assessment and summarize the findings. Keep a copy of the assessment tool for your own records. Rubrics can be of great help not only to summarizing the findings but also to the quality of work that students produce. Essentially a rubric translates the standards and criteria that determine the grade into some sort of chart or description.

➢ Reflect on the findings and decide upon enhancement(s) to better students' learning experience. Keep track of these enhancements/recommendations for your assessment description. See next step.

(Note that this section applies to assessing both course level and program level outcomes.)

STEP THREE: Reflect, Adjust & Enhance

Use of Results

LTCC aims at providing authentic and valuable assessments that inform change. Authentic assessments should include the following information in their findings:

1) Whether and to what degree students acquired the targeted skills, knowledge, or other targeted outcome,
2) Whether, how, and why the SLO itself should be changed or eliminated,
3) Whether, how, and why your method of assessment should perhaps be changed, and,
4) Whether and how you are considering changing anything about your course or its delivery as a result of your findings; and if so, for what specific improvement(s) in outcomes are you aiming.

The results might show that your students met or surpassed your expectations. But, even so, is there a little something that could make the course more meaningful for the students? Is it time to expect more of your students? Should the SLO statement be reworded?

Reflect on ways that can enhance student learning especially if the target was not met by the students.

- Are there other methods of **delivery**? Students appreciate having materials and notes presented in class also online. Some students learn better in groups.
- Maybe an assignment is too difficult, not explained well enough, or maybe too easy.
- Perhaps too little **time** was spent on the tasks that were to develop the necessary skills.
- Perhaps more **resources** are needed. Is there is a simulation available that will assist students in achieving the outcome? What more or better equipment help? Do students need tutoring outside of class?
- Where more resources are needed, it is important to be able to tie the request back to student learning outcomes.
- **Curriculum** might not be designed for needs of today. Is the course sequencing and amount of content appropriate? Ask your students. Converse with your peers.

Maybe the reasons why the SLOs may not be working are outside the control of the faculty in the department (*e.g.*, earthquake, construction, etc.). It is okay to reflect on both internal and external reasons why students may not be able to demonstrate the goal set by the SLO. This information can be included as part of using the results. The department or instructor might want to redefine this SLO and start working on the next priority SLO.

STEP FOUR: USING *eLumen*

Course assessments will be entered into *eLumen* by the instructor of that course. Department Coordinators in consultation with their faculty will be responsible for entering the mapping for all CSLOs to PSLOs and ISLOs.

Instructions for completing a CSLO assessment in eLumen[3]

1. Log in to *Passport*. A link is in the top menu of the college website at www.ltcc.edu. Then click on the *eLumen* link in the **Miscellaneous Quick Links** on the right. Or you may click the following link and login using your *Passport* username and password: https://ltcc.elumenapp.com (You may wish to create a bookmark in your browser for easy access.)

2. Choose "Faculty" as your role in the first drop-down menu. If not already selected, click on the "Courses" tab and verify that the term is the correct one. You should see a list of the courses you taught.

3. If you have an assessment due for a course, you should see scorecard icons on the right side of the screen under "Scorecards." There are two different scorecard view icons:

- The first icon is a **Scorecard view**, where all students are shown on one page.
- The second icon is a **Rubric Scorecard view**, where each page is the full assessment for each student.
- There is **no preference** which scorecard is selected for the completion of a course assessment.
- You may switch between views using the "**Actions"** dropdown menu, and your work will be saved.

4. Scoring Students

- Enter the assessment using either of the scorecard views.
- Assess all students by selecting the boxes in the rubric
    - If using the first option, "Scorecard View," all students are on a single page.
    - If using the second view option, "Rubric View," select "**Save and Next**" to move from one student to the next.
- Saving your scores
    - If after all students are scored you *only* see "**Save,**" select it. This will take you to pop up box with option to either Go to RFI, Go to Action Plan, Go to Results Explorer, or Go to Courses. We recommend you select "**Go to Courses**." From there, you will launch into another screen where you can see "completed" green scorecard checkmarks; then close out.
    - If you are using the second rubric, assess all students by selecting the boxes in the rubric and selecting "**Save and Next**" to move from one student to the next.
    - If you have the option to "**Save and Continue to Reflection,**" please insert a reflection.
        - "**Save Draft**" allows you to return later to share your reflection.
            - After saving, you'll get the same pop up box to select "**Go to Courses.**" You will want to return later to complete and submit your reflection.
        - "**Submit and Share**" allows your reflection responses to be shared through the Results Explorer with other evaluators for this course and administrative users. Your

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[3] Scott McCoubrey, Institutional Effectiveness Office, Lake Tahoe Community College (Rev. Winter 2019).

name will be visible. Select "**Go to Courses**" to verify you have the green checkmark next to your scorecards.

▪ "**Submit and Share Anonymously**" allows your reflection responses to be shared through the Results Explorer (same as above); however, your name will not be visible. Select "**Go to Courses**" to verify you have the green checkmark next to your scorecards.

5. You know your assessment is completed when you view the "Courses" tab and see a green check mark next to your scorecards. When all scorecards in your "Courses" view have a green check mark, you can close *eLumen*; your assessment(s) are complete.

Instructions for Mapping Course SLOs (CSLOs) to Institutional SLOs (ISLOs)

1. Log into *eLumen* from *Passport*. It is the second link from the bottom of the **Miscellaneous Quick Links**. Or click the following link: https://ltcc.elumenapp.com/elumen/.

2. Once in *eLumen* choose "Department Coordinator" from the pull-down menu.

3. Select the "SLOs & Assessments" tab.

4. Select the "Curriculum Map" tab. Verify that your department is listed in the pull-down menu underneath **Organization**.

5. Directly below that is another pull-down menu that has two radio buttons for "Core PSLOs" or "Core ISLOs." Select the radio button for "Core ISLOs."

6. A table will appear with LTCC's Core Competencies across the top (**Communication, Critical Thinking and Information Competency, Global Awareness,** and **Personal Responsibility and Professional Development**). These serve as the Institutional Student Learning Outcomes (ISLOs) to which you will map your Course Student Learning Outcomes (CSLOs).

7. Your department's courses with each CSLO will appear in numerical order on the left. For each CSLO select the box(es) that correspond to LTCC's ISLOs. A selected box will turn green and have a check mark. On the right there is an arrow that allows you to scroll through all categories of the ISLOs. (Or you may select the categories individually in the pull-down menu below "Core ISLOs" that reads "- All Categories -.")

8. Continue until you have completed all of the courses for your department. It should look like the image below.

Instructions for Mapping Course SLOs (CSLOs) to Program SLOs (PSLOs)

1. Log into *eLumen* from *Passport*. It is the second link from the bottom of the **Miscellaneous Quick Links**. Or click the following link: https://ltcc.elumenapp.com/elumen/.

2. Once in *eLumen* choose "Department Coordinator" as your role from the pull-down menu. Then Select the "SLOs & Assessments" tab.

3. Select the "Curriculum Map" tab. Verify that your department is listed in the pull-down menu underneath **Organization**. Ignore **Outcomes Groups.** In the pull-down menu underneath **Terms**, verify that "**Current**" is selected. In the pull-down menu underneath **Programs**, select the AA and/or Cert you would like to map. A table will appear with your Program SLOs (PSLOs) across the top.

4. The courses that make up that program with each Course SLO (CSLO) will appear in numerical order on the left. For each CSLO select the box(es) that correspond to your PSLOs. A selected box will turn green and have a check mark. If you have several PSLOs you may need to scroll to the right to see them all.

5. Continue until you have completed all of the courses for your AA and/or Cert. It should look like the image below. If your degree contains courses outside of your program, you should consult with the Department Coordinator for that program to ensure those CSLOs are properly mapped.

APPENDIX A

INSTITUTIONAL STUDENT LEARNING OUTCOMES (ISLOS)

The Institutional Core Competency statements are a promise to the communities that support LTCC that students graduating with an A.A., A.S., or AA-T degree, or who will transfer to a four-year college or university, will be able to demonstrate the knowledge, skills, and attitudes contained within all the following competency areas based on general education and discipline-specific courses at the lower division level.

I. Communication

Students will communicate effectively, which means the ability to:

A. Read – Students will be able to comprehend and interpret various types of written information in (1) prose and in (2) documentation, such as manuals and graphs.

B. Write – Students will demonstrate the ability to:

- Communicate thoughts, ideas, information, and messages in writing.
- Compose and create documents, such as: letters, reports, memoranda, manuals, and graphs with correct grammar, spelling, punctuation, and appropriate language, style and format.
- Check, edit, and revise written work for correct information, appropriate emphasis, form, style, and grammar.

C. Listen – Students will be able to receive, attend to, interpret, and respond appropriately to (1) verbal and/or (2) non-verbal messages.

D. Speak and/or Converse – Students have the ability to:

- Organize ideas and communicate verbal and non-verbal messages appropriate to audience and the situation.
- Participate in conversations, discussions, and group activities.
- Speak clearly and ask questions.

II. Critical Thinking and Information Competency

Thinking critically is characterized by the ability to perform:

A. Analysis – including:

- Applying rules and principles to new situations
- Discovering rules and applying them in the problem solving process
- Using logic to draw conclusions from information given
- Differentiating between facts, inferences, assumptions, and conclusions

B. Computation – demonstrated by an ability to:

- Use basic numerical concepts, such as: whole numbers, percentages, estimates of math without a calculator
- Use tables, graphs, charts, and diagrams, to explain, concepts or ideas
- Use basic geometrical constructs, such as: lines, angles, shapes, and measurement

C. Research – demonstrated abilities to:

- Collect information
- Identify the need for data
- Obtain data from various sources
- Organize, process, and maintain records of the information collected• Analyze and evaluate the information for relevance and accuracy
- Synthesize, evaluate, and communicate the results
- Determine which technology resources will produce the desired results
- Use current technology to acquire, organize, analyze, and communicate information

D. Problem Solving – Students demonstrate the ability to:

- Recognize whether a problem exists
- Identify components of the problem or issue
- Create a plan of action to resolve the issue
- Monitor, evaluate, and revise when necessary

III. Global Awareness

Students demonstrate a measurable understanding and appreciation of the world including its:

A. Scientific complexities – Students demonstrate an understanding of:

- The scientific method
- How experiments work
- The major differences between social, natural, and physical sciences

B. Social diversity:

- Interface with people from a variety of backgrounds
- Understand different cultural beliefs and behaviors
- Recognize important social and political issues in their own community

C. Artistic variety – Students have been exposed to:

- The visual and performing arts, including: drawing, painting, sculpture, photography, digital media, music, theatre and/or dance of multiple cultures
- Analytical techniques for understanding artist meaning, and they have
- Hands-on experience with creative endeavors

IV. Personal Responsibility and Professional Development

Appropriately apply the concepts associated with:

A. Self-Management and Self-Awareness – The student is able to:

- Accurately assess his/her own knowledge, skills, and abilities
- Motivate self and set realistic goals
- Accept that taking feedback well is important to success
- Respond appropriately to challenging situations

B. Social and Physical Wellness – Students make an appropriate effort to:

- Manage personal health and well-being
- Demonstrate appropriate social skills in group settings

C. Workplace Skills – Students understand the importance of:

- Being dependable, reliable, and accountable
- Maintaining a professional attitude

APPENDIX B

METHODS OF STUDENT LEARNING OUTCOME ASSESSMENT (MASLOs)

	Approved MASLO Categories	Inclusive MASLOs
1.	Exam/Test/Quiz	• Final exams or mid-terms • Chapter quizzes • Pop Quizzes • Test • Exam • Quiz
2.	Written Assignment	• Final paper, mid-term paper, term paper • Homework assignment • Quick write
3.	Presentation/Performance	• Oral presentation • Speech • Performance
4.	Portfolio/Project	• Portfolio • Compendium • Packet • Project
5.	Self-Evaluation	• Self-evaluation • Self-reported learning
6.	Group Activity	• Group project • Group work • Group paper
7.	Discussion	• Small group discussion • Large group discussion • Class discussion
8.	Observation	• Question and answer sessions • Direct observation • Activity observation
9.	Lab Report	• Lab assignment • Lab

BLOOM'S TAXONOMY

Since the student is being asked to assimilate many specific concepts or skills, the SLO statements need to be written with higher thinking level verbs from Bloom's Taxonomy.[4] There are six major categories, which are listed in order below, starting from the simplest behavior to the most complex. The categories can be thought of as degrees of difficulties.

The table below shows words to use when writing meaningful outcomes.

Bloom's Taxonomy Action Verbs

Definitions	Knowledge	Comprehension	Application	Analysis	Synthesis	Evaluation
Bloom's Definition	Remember previously learned information.	Demonstrate an understanding of the facts.	Apply knowledge to actual situations.	Break down objects or ideas into simpler parts and find evidence to support generalizations.	Compile component ideas into a new whole or propose alternative solutions.	Make and defend judgments based on internal evidence or external criteria.
Verbs	Arrange Define Describe Duplicate Identify Label List Match Memorize Name Order Outline Recognize Relate Recall Repeat Reproduce Select State	Classify Convert Defend Describe Discuss Distinguish Estimate Explain Express Extend Generalized Give example(s) Identify Indicate Infer Locate Paraphrase Predict Recognize Rewrite Review Select Summarize Translate	Apply Change Choose Compute Demonstrate Discover Dramatize Employ Illustrate Interpret Manipulate Modify Operate Practice Predict Prepare Produce Relate Schedule Show Sketch Solve Use Write	Analyze Appraise Breakdown Calculate Categorize Compare Contrast Criticize Diagram Differentiate Discriminate Distinguish Examine Experiment Identify Illustrate Infer Model Outline Point out Question Relate Select Separate Subdivide Test	Arrange Assemble Categorize Collect Combine Comply Compose Construct Create Design Develop Devise Explain Formulate Generate Plan Prepare Rearrange Reconstruct Relate Reorganize Revise Rewrite Set up Summarize Synthesize Tell Write	Appraise Argue Assess Attach Choose Compare Conclude Contrast Defend Describe Discriminate Estimate Evaluate Explain Judge Justify Interpret Relate Predict Rate Select Summarize Support Value

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[4] "Bloom's Taxonomy for Categorizing Learning Outcomes," *Clemson.edu*. Accessed 18 Mar 2019.

APPENDIX D

FREQUENTLY ASKED QUESTIONS (FAQS)

Is the SLO Assessment Cycle to be used to evaluate faculty?

No. Currently at LTCC, this process is NOT used to evaluate faculty. It has, however, been defined as a requirement of faculty by the Administration (listed as *Other Duties as Assigned*).

The SLO Assessment Cycle is strictly aimed at improving the learning experience of our students. The process invokes dialogue among faculty within programs. A culture of inquiry is instigated by the cycle of assessment, enhancement and re-assessment.

How often should courses be assessed?

All courses and each program should be assessed at least once during a 3-year period. The Institutional Effectiveness Office will set this schedule for you.

Should SLOs be on the course syllabus?

Yes. For students to benefit the most, the student needs to know and comprehend what he/she is expected to do. Thus, the student needs to know what the Student Learning Outcomes are. Share with your students.

RESOURCES

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http://www.deanza.edu/slo

http://www.clemson.edu/assessment/assessmentpractices/referencematerials/documents/Blooms%20Taxonomy%20Action%20Verbs.pdf

http://www.ltcconline.net/pierce/Assessment%20Stuff/Assessment.htm