What is a Course Learning Outcome (CLO)?

Course learning outcomes are the "big ideas," skills, or competencies students should be able to articulate, put into action, or utilize (theoretically or pragmatically) after their course experience. As a general institutional practice, at MJC, the OAW has recommended that faculty construct 2-3 CLOs per course.

What is the difference between a course "objective" and a "course learning outcome" (CLO)? When faculty construct or adjust their curriculum, performing what is known as a "course outline of record" update, part of the process includes affirming both the course *objectives* and the course learning *outcomes*. Sometimes, the difference between objectives and outcomes can be difficult to discern, as they both play an important role in the learning process.

The ASCCC has written an "SLO Terminology Glossary" to help local academic senates and faculty in understanding and communicating the lexicon of assessment. In this glossary, the difference between objectives and outcomes is made as follows:

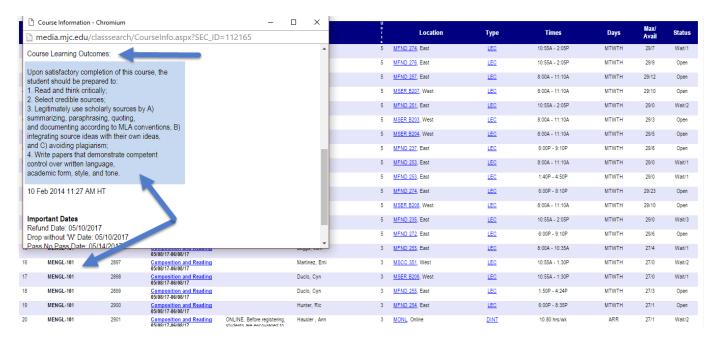
- **Objectives** are small steps that lead toward a goal; for instance, the discrete course content that faculty cover within a discipline. Objectives are usually more numerous and create a framework for the overarching Student Learning Outcomes which address synthesizing, evaluating and analyzing many of the objectives.
- Student learning outcomes are the specific observable or measurable results that are expected subsequent to a learning experience. These outcomes may involve knowledge (cognitive), skills (behavioral), or attitudes (affective) that provide evidence that learning has occurred as a result of a specified course, program activity, or process. An SLO refers to an overarching outcome for a course, program, degree or certificate, or student services area (such as the library). SLOs describe a student's ability to synthesize many discreet skills using higher level thinking skills and to produce something that asks them to apply what they've learned. SLOs usually encompass a gathering together of smaller discrete objectives (see definition above) through analysis, evaluation and synthesis into more sophisticated skills and abilities.

CLOs, then, comprise the *measurable* evidence of student learning that occurs as a result of taking classes through Modesto Junior College. The CLOs for any given course are expected to be attained when students are successful, and they are the skills, competencies, or "big ideas" faculty want students to comprehend and utilize during and after their learning experience.

Where are CLOs stored, and are they publicly accessible for students and the community?

CLOs for each course can be found in three locations:

- *First*, CLOs are primarily housed in MJC's curriculum management database, **CurricUNET**. Any additions, changes or assessments of CLOs take place via CurricUNET, as it is the primary source for SLOs and assessment at MJC. CLOs are also stored and assessed in *eLumen*.
- Second, all CLOs are <u>publicly accessible</u> for students and our community in <u>PiratesNet</u>: after each course description, corresponding CLOs are listed.



In PiratesNet, all CLOs are publicly accessible for prospective and current students. Above is an example from ENGL 101: Basic Composition & Reading.

• Third, faculty <u>must include</u> current CLOs on <u>all course syllabi</u>. Syllabi are provided for students at the beginning of their class, and all current syllabi are stored in their respective divisions.

How are CLOs written?

At MJC, CLOs begin with a standardized phrase adopted by the OAW and the Academic Senate:

As a result of satisfactory completion of this course, the student should be prepared to:

What happens after this phrase is the responsibility of discipline faculty, and all CLOs should be entered into CurricUNET *and* eLumen (and double-checked in PiratesNet for their currency). Full-time faculty should construct and agree on the CLOs for the courses they offer and teach. Part-time faculty should be part of the conversation and informed of the current CLOs, as they will be also be assessing the outcomes for their classes! Here are some keys to constructing useful CLOs:

- **Use Bloom's Taxonomy!** When creating and modifying CLOs that capture the "big ideas" of a course, faculty should draw on Bloom's Taxonomy <u>action verbs</u>. The original 1956 *Taxonomy of Educational Objectives* identified six major categories of cognitive skills and abilities, including knowledge, comprehension, application, analysis, synthesis and evaluation. It also identified affective and psychomotor domains of learning. While the 1956 version has since been a bit revised, what is important are the key words and verbs that can be associated with different levels and evidence of learning complexity. There are several internet websites that can aid in providing lists of verbs to use in building outcomes.
- <u>Make them measurable</u>. Generally, CLOs—and all SLOs—need to be measurable: they should be able to be assessed in a way that provides <u>qualitative</u> and <u>quantitative</u> data. Faculty should be able to report how many students assessed were successful (quantitative data), and faculty should be able to provide narrative of the results, including a description of the assessment context (qualitative data). Both kinds of data will aid in a comprehensive analysis and interpretation of the assessment, as well as evidence of student learning.
- Plan for authentic assessment. The ASCCC defines authentic assessment as something that "simulates a real world experience by evaluating the student's ability to apply critical thinking and knowledge or to perform tasks that may approximate those found in the work place or other venues outside of the classroom setting." Such a definition indicates that the best kinds of assessment may not merely be multiple choice questions on a test; at MJC, we aim to assess CLOs through scenarios that engage critical thinking, conceptual understanding, and active production.

What are some useful examples of CLOs being assessed at MJC?

Philosophy 101

As a result of satisfactory completion of this course, the student should be prepared to:

- 1. Analyze and evaluate the issues and possible solutions to the "Great Questions" asked by philosophers
- 2. Synthesize a world view based on an array of the possible solutions to the "Great Questions" asked by philosophers.
- 3. Construct arguments in support of, and in opposition to, the world views generated by the possible solutions to the questions asked by philosophers.

Student Services: Academic renewal Workshops

Students will be able to identify the requirements and the process of the Academic Renewal by attending a workshop and taking part in a pre and post survey.

WELD 204 Gas Metal Arc Welding & Flux Core Arc Welding

Upon satisfactory completion of this course, the student should be prepared to:

- 1. Select and adjust controls on a constant voltage power source for Gas Metal Arc Welding and Flux Core Arc Welding applications and create welds on both ferrous and non-ferrous metals.
- 2. Identify and select Gas Metal Arc Welding and Flux Core Arc Welding electrode wire according to American Welding Society identification codes for welding applications on both ferrous and non-ferrous metals.

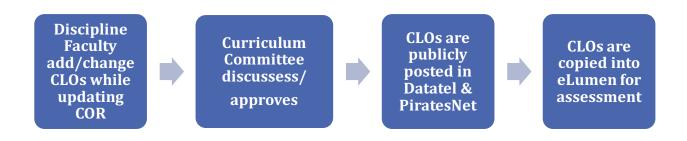
<u>How can CLOs be modified or changed to make them better?</u>

CLOs should be periodically examined throughout the assessment and curriculum update processes. If faculty agree on modifications, changes can occur in two ways.

<u>CLO Update</u>. If the course outline of record does not need any changes, faculty can perform a "CLO update only" inside of <u>CurricUNET</u>. The process begins with launching a "CLO Update Only," followed by a review and approval by the Curriculum Committee, in its role as a committee of the Academic Senate. The CLOs are posted publicly in <u>PiratesNet</u> through Datatel and ready for input and assessment by faculty in <u>eLumen</u>.



<u>Curriculum Update with CLO modification</u>. Discipline faculty must perform a "curriculum update," or review and submission of an updated course outline of record (COR) every five years. During this process, faculty must affirm or modify their corresponding CLOs inside of <u>Curricunet</u>. This process begins with launching a "COR Update," followed by review and approval by the Curriculum Committee, in its role as a committee of the Academic Senate. Curriculum is also forwarded to the Board of Trustees and the CCCCO for approval. The CLOs are posted publicly in <u>PiratesNet</u> through Datatel and ready for input and assessment by faculty in <u>eLumen</u>.



What can we learn from the assessment of CLOs?

One of the primary goals of CLO assessment is to provide insight about how learning might improve in a given course—whether it be online, in a classroom, or happening in another context.

• <u>Dialogue and analysis is central to the process.</u> At MJC, there are some courses that have only one section, and many courses that have multiple sections taught by full-time and part-time faculty. When a course is scheduled for assessment, all sections of the course must be assessed, so this requires departmental planning and conversation

Assessing CLOs and talking about them—especially in department meetings or as a group of faculty who teach a particular course—is to converse about the outcomes of a course and to strategize ways to improve equity and student success.

- What kinds of instructional styles, methods, or activities are working for faculty in the classes?
- What are some of the obstacles?
- Where or when are students having problems with the material?
- What might help students be more successful?
- What kinds of resources might be needed?
- Are there differences in student achievement rates and SLO rates?

Broad dialogue across the college, and throughout our governance bodies, is a key feature of the SLO process at MJC. The Outcomes Assessment workgroup is charged with helping facilitate dialogue about SLOs that lead to institutional improvement and student success.

- **Data disaggregation is key.** Data disaggregation is central to the college focus on equity and success. The building of longitudinal data for SLOs will allow departments to analyze disaggregated learning data in Program Review, including how different populations are doing (e.g., across ethnicity, gender, face-to-face vs. distance education, etc.).
- Analyze, plan, and evaluate curricular or pedagogical changes to improve student success at the course level.

After the inputting of data for course learning outcomes, instructors have the ability to analyze their outcomes. Individual instructors and departments can strategize curricular or pedagogical modifications to increase student learning and success, and can evaluate the previous course. This is an important step in continuous quality improvement. Modifications and strategies at the course level should be included in program review for continuing analysis.

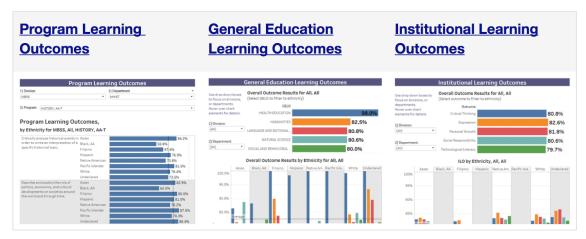
• <u>CLOs provide us with foundational data that can help us make better</u> institutional decisions.

CLOs and their assessment provide different data than student achievement rates. CLOs help to inform faculty what students are learning in the classroom, and provide a measure of the quality of learning at MJC.

Our CLOs are mapped to inform our program learning outcomes (PLOs), general education learning outcomes (GELOs), and institutional learning outcomes (ILOs). The data from CLOs provides us with a lens on how we are doing in terms of our program, general education, and institutional learning. These measures are used in program review and institution-wide reports (such as our data dashboard) to inform the college and our community on the quality of student learning on our campus.

By incorporating SLOs into the program review and embedding discussions about disaggregated institutional data, we can make more informed decisions and provide resources to improve student learning.

Instructional Learning Outcomes Data



<u>MJC utilizes data dashboards that include disaggregated SLO data.</u>
http://www.mjc.edu/instruction/outcomesassessment/programreview/prda
<a href="http://www.mjc.edu/instruction/outcomesassessment/programreview/program

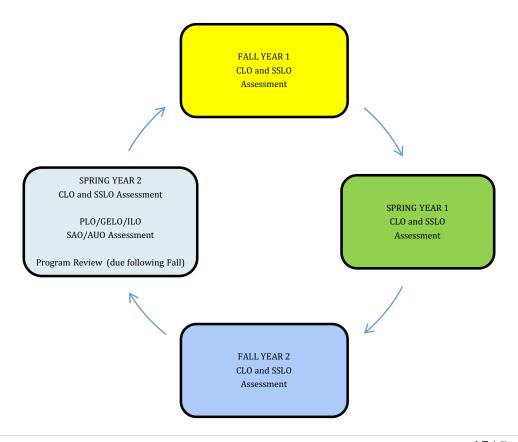
When are CLOs assessed?

CLO, SSLO, PLO, GELO, SAO, AUO, ILO Assessment and Program Review Two-Year Cycle

Every academic and student support program—including administrative services and units—at Modesto Junior College will complete its Program Review and SLO Assessment Cycle every two years.

Analysis of outcomes assessment is an integral component of Program Review. All Student Learning Outcomes, including course (CLO), student support (SSLO), program (PLO), general education (GELO), service area (SAO), administrative unit (AUO), and institutional (ILO) learning outcomes will be assessed once by all appropriate programs during the two-year cycle. When courses are assessed, all sections of a given course will complete the assessment of all CLOs for that course. Additionally, all support service learning outcomes (SSLO), service area outcomes (SAO), and administrative unit outcomes (AUO) will be assessed at least once during the two-year cycle. Data will be disaggregated whenever possible to measure student learning across subpopulations, including those identified in the Modesto Junior College Student Equity Plan.

The following graphic represents the college-wide two-year outcomes assessment & program review cycle:



The following graphic (an example from Computer Graphics) represents a twoyear outcomes assessment & program review cycle schedule. All programs are required to post a schedule of their cycle on the OAW website.

1	Α	В	С	D	E	F
1		cro	CLO	CLO	CLO+Map+Program Review	
2	COURSE NAME	Fall 2017	Spring 2018	Fall 2018	Spring 2019	
3	CMPGR-202	X				
4	CMPGR-213			Х		
5	CMPGR-215			Х		
6	CMPGR-217	X				
7	CMPGR-219	Х				
8	CMPGR-225	Х				
9	CMPGR-226	X				
10	CMPGR-235			Х		
11	CMPGR-236			Х		
12	CMPGR-252			Χ		
13	CMPGR-263		X			
14	CMPGR-266		X			
15	CMPGR-267		X			
16	CMPGR-268		Х			
17	CMPGR-284		Х			
18						
40						

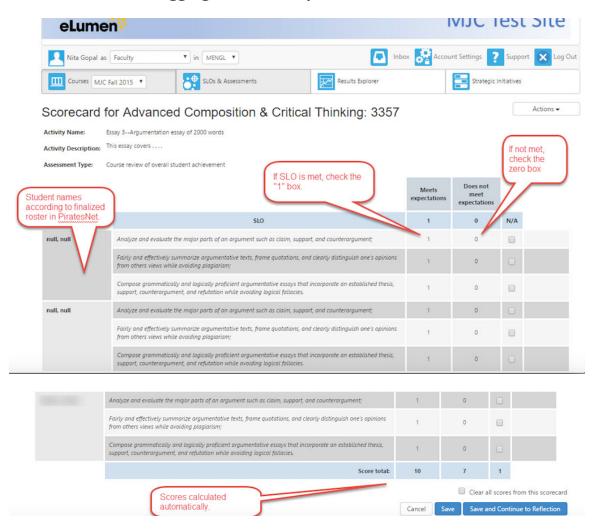
A discipline example: a two-year schedule of assessment with program review at the end of the cycle.

How are CLOs assessed?

CLOs are assessed by all full-time and part-time faculty teaching sections of a course during a semester when assessment is scheduled. Full-time and part-time faculty should discuss the kinds of authentic assessment tools (essay, exercise, problem, etc.) that can provide measureable results for all sections of a course. In terms of when to assess during a scheduled semester, faculty can assess their CLOs when it is best seen fit during their class—and at a time when authentic assessment might be best practiced.

All CLOs for a course, across all sections, must be assessed during the semester the course is scheduled. Schedules are housed on a page on the Outcomes Assessment site.

Faculty enter CLO assessment results into <u>eLumen</u> in order to provide data that can be disaggregated for analysis.

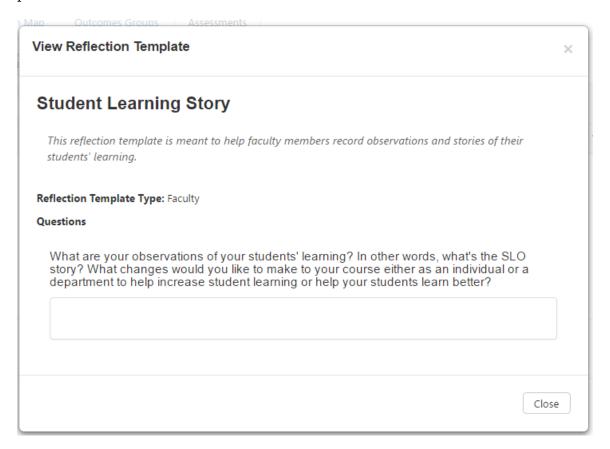


Entering quantitative data into eLumen is easily done.

Qualitative Analysis:

students learn better?

After inputting CLO data, the following "Outcomes Assessment Template" opens up for faculty in *eLumen*, so that qualitative analysis and planning can be performed at the course level:



Discipline faculty are encouraged to provide qualitative CLO data and analysis.

Faculty reflect on their own pedagogical and curricular experiences:

	Course MANTHR130 - Archaeology & Cultural Prehistory	Organization MANTH	Date 4/25/2017	Activity Final Exam	Highlight	
What are your observations of your students' learning? In other words, what's the SLO story? What changes would you like to make to your course either as an individual or a department to help increase student learning or help your	Overall, most of the students who finished the course accomplished the SLOs, and I think even this assessment may have been limited by their performance on the exam itself - given the active nature of archaeology, it might be interesting to design a project-based assessment or partial assessment. The trickier goal seems to be a working understanding of theories and models - it might benefit us to think about ways to make presentations of theory more even across different classes, to ensure clarity.					

An example of faculty analysis of the CLO "Student Learning Story" in eLumen.

What does CLO data and assessment inform?

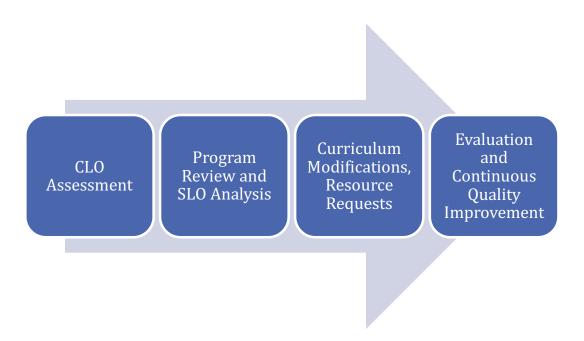
CLO data and assessment inform program review, curriculum and resource allocation. CLOs are utilized so that faculty and the college can improve programs and student success. The data from CLOs provide longitudinal data so that faculty can track learning over time and examine disaggregated results. The data from courses is utilized in Program Review, used to inform curriculum changes, and drawn on to make resource requests.

CLO assessment data is the primary source for assessing Program Learning Outcomes, General Education Learning Outcomes, and Institutional Learning Outcomes. CLOs are mapped to inform our program learning outcomes (PLOs), general education learning outcomes (GELOs), and institutional learning outcomes (ILOs). The data from CLOs provides us with a lens on how we are doing in terms of our program, general education, and institutional learning. These measures are used in program review and institution-wide reports (such as our data dashboard) to inform the college and our community on the quality of student learning on our campus.



CLOs are mapped to PLOs in eLumen.

By incorporating SLOs into the program review and embedding discussions about disaggregated institutional data, we can make more informed decisions and provide resources to improve student learning.



CLOs are the building blocks for program and institutional improvement.