

College of Engineering Assessment Committee

April 15, 2026



Cal Poly
Pomona



SLO 6 – Problem Solving
GESLO – Critical Thinking

Criteria	Mastery (4 pt)	Proficient (3 pt)	Developing (2 pt)	Novice (1 pt)
Problem/Issues/ Objective	Identifies the main problems/issues clearly (which supports the purpose and objectives of the project), provides subsidiary embedded aspects of the problems/issues and presents their relationship to each other.	Identifies the main problems/issues clearly (which supports the purpose and objective of the project), provides subsidiary embedded aspects of the problems/issues but does not present their relationship to each other.	Identifies the main problem/issue (partial supports the objective), but leaves terms undefined (i.e. causes confusion). Does not address embedded issues and their relations.	Identifies the problems/issues inaccurately and/or incompletely, which causes confusion of the main and subordinate problems/issues.
Perspective of Others and the Student's	States specific position considering the complexity of the issues and acknowledging others point of view(s); accurately notes limitations of other positions by clearly showing problems with the arguments/evidence used to support them; recognizes limits to one's own view as well	States specific position considering the complexity of the issues and acknowledging different sides of the issues and others and owns point of view. Notes limitations of other positions by showing problems with the arguments/evidence used to support them but does not recognize limits of own's views.	States specific position and acknowledges the positions of others and self on the issues; however, the analysis of all positions are overly simplistic or uncharitable	States an unclear or simplistic position and cannot articulate the positions of others.
Evidence/Results/ Discussion	Analyzes data/evidence and source of data/evidence for its accuracy, relevance, precision and completeness. Makes few or no fallacious inferences. Clearly distinguishes fact, opinion and value judgement.	Analyzes data/evidence and source of data/evidence for its accuracy, relevance, precision and completeness. Makes some fallacious inferences. Sometimes distinguishes fact, opinion and value judgement.	Analyzes data/evidence and source of data/evidence but lacks a coherent analysis. Makes fallacious inferences. All viewpoints are taken as facts and does not distinguish fact, opinion and value judgement	Merely repeats information provided (no analysis of data), taking it as truth, or denies data/evidence without adequate justification. Makes many fallacious inferences. All viewpoints are taken as facts.
Conclusions	Comes to a clear conclusion based on relevant information/evidence; thoroughly discuss consequences/implications of the conclusion	Comes to a conclusion based on somewhat adequate analysis of information/evidence; discuss consequences/implications of the conclusion	Comes to a conclusion based on somewhat adequate analysis of information/evidence; does not discuss consequences/implications of the conclusion.	Does not conclude based on the information/evidence presented; Does not discuss consequences/implications of the conclusion

Background

Methods

Results

Conclusion – Close the Loop



Timeline of Collection

AY 2019-2020

- Assignment Developed
- Rubric Established
- CoE Assessment Committee Piloted Results

AY 2020-2021

- CoE Used LMS and enrolled all EGR 4830 students
- Approximately 90% of students submitted the artifacts

AY 2022-2023

- University assessed Critical Thinking
- CoE Assessment Committee provided access to all artifacts through the LMS

AY 2023-2024

- CoE Used LMS and enrolled all EGR 4830 students
- Approximately 90% of students submitted the artifacts

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Sampling Size

Engineering Degree Program	Number of Artifacts			
	AY 19-20 ^a	AY 20-21	AY 21-22 ^b	AY 23-24
Aerospace Engineering	16	40	7	55
Chemical Engineering	14	24	3	22
Civil Engineering	23	52	7	64
Computer Engineering		20	5	33
Electrical Engineering		30	7	47
Industrial Engineering	8	12	9	17
Manufacturing Engineering		6	8	12
Mechanical Engineering	8	58	15	84
Construction Engineering and Management		12	2	15
Electronic Systems Engineering Technology		7		10
Electromechanical Engineering Technology	8	10		15
Total Samples	77	271	63	374

**785
Total
Artifacts**

Background

Methods

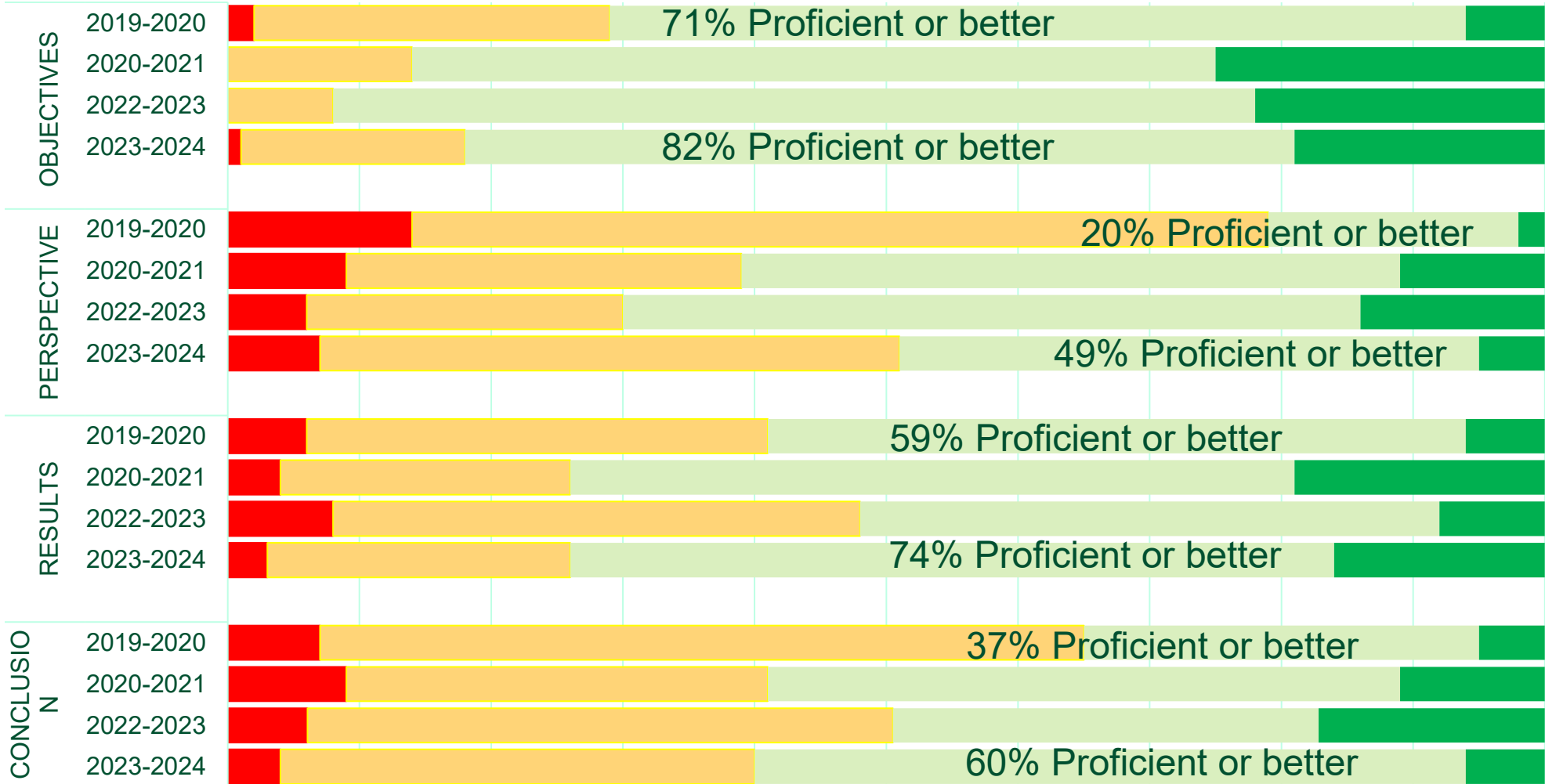
Results

Conclusion
Close the Loop

Results

■ Novice
 ■ Developing
 ■ Proficient
 ■ Mastery

0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100%





Questions?

