OUTCOMES & ASSESSMENT

General Education Learning Outcome (GELO) Assessment

CCSF Area A: Communication & Analytical Thinking

Course Completion and SLO Data Fall 2018 - Spring 2023

Assessment Report, Spring 2024

Contents

General Education Learning Outcome (GELO) Assessment

CCSF Area A: Communication & Analytical Thinking

Executive Summary

- Overall, 150,216 assessments of SLOs mapped to Area A were analyzed in this report, drawn from ten semesters (fall 2018 – spring 2023), with an overall proficiency of 79.2% "meets SLO". This includes 58,216 assessments in Area A Mathematics courses (with a proficiency of 71.1%) and 91,500 non-Mathematics courses in Area A (with a proficiency of 84.5%).

- Mathematics courses in Area A were broken out from the rest of Area A in most areas of this analysis because the data (about a third of all the assessment data in Area A) showed a different pattern. While overall proficiency in Mathematics courses was lower, it also showed a trend toward improvement during the study period, distinct from the performance of non-Mathematics courses. In the analysis by demographic groups, there were also some distinct patterns between Mathematics and the non-Mathematics courses in Area A. It should be noted that a few of the non-Mathematics courses actually teach math (e.g., statistics, business math), but are not in the Mathematics department and therefore are grouped with the non-Mathematics courses in Area A.

- Enrollments in this period totaled 82,398 students in Area A (25,435 in Mathematics courses and 56,963 in non-Mathematics courses). With over 150,000 SLO assessments for the period, this means there was more than 1 assessment per student per Area A.

- The percentage of students meeting the SLOs in this four-year period was higher than that reported in the prior GELO assessments (79% in 2024, compared to 74% in 2018 and 66% in 2014). We do not have data on what factors may have contributed to this increase in learning.

- Among the Mathematics courses in Area A, we saw a pattern of generally increasing SLO proficiency over the time period, including through the pandemic (see Table 5), and course success rates in Mathematics courses also improved (see Table 22) – a very positive trend. However, course success for students in equity populations did not improve as much as it did for students not in equity populations, so the opportunity gap in course success increased slightly during the study period (from 8-9% pre pandemic to around 10% now). The opportunity gap in SLO attainment in Mathematics courses did not increase; it hovered around 7% in the study period (see Table 18).

- Among the non-Mathematics courses in Area A, we saw a different pattern, with a steady high level of SLO attainment over the time period (see Table 5), yet a decrease in course success (see Table 23), with students from equity populations more affected by the decrease in course success, especially during the pandemic semesters. The opportunity gap in course success wobbled around 8%, without a clear trend of increasing or decreasing. The opportunity gap in SLO attainment in non-Mathematics courses remained stable throughout the period, at 4-5% (see Table 19).

- Patterns of attainment among the sub-elements in Area A varied (see Tables 6-8).
  - Attainment of the 3 sub-elements in Area A was highly consistent within each of the two divisions of Area A courses – proficiency of 70-71% for Mathematics

courses and proficiency of 84-85% for non-Mathematics courses.

- ○ For the Mathematics courses, proficiency was highest for the sub-element "Apply the principles of language toward logical thought" (71.8%), while for the non-Mathematics courses, proficiency was highest for the sub-element "Evaluate communications in whatever symbol system is employed" (85.1%).

- ○ Students in equity populations attained proficiency in the individual sub-elements at a lower level than the enrolled students, as a whole, reflecting the opportunity gap in Area A (and in the college as a whole); the gap was consistent across sub-elements, with students in equity populations attaining the highest percentage of proficiency on the same sub-elements as the Area A student population overall. That is, we did not identify a specific sub-element that had a larger or smaller gap, or a different pattern of attainment for students in equity populations, which might have pointed to specific competencies within Area A that contribute to the opportunity gap.

- ● Demographic data provided additional information on the opportunity gaps in Area A.

  - ○ The overall opportunity gap for SLO proficiency among students from equity populations is 7% for Mathematics courses and 5% for non-Mathematics courses.

  - ○ That gap is not even across all age groups, however. Younger students from equity populations are most affected. While for Mathematics courses, there is also a gap for students aged 50-59 and 35-39, far and away the largest number of students impacted by the opportunity gap in Mathematics are under 25. For non-Mathematics courses, students under 25 are the only age group impacted by an opportunity gap.

  - ○ Age alone is also a significant factor in understanding opportunity gaps. As shown in Tables 9 and 10, students under 25 are meeting proficiency in the SLO at much lower rates. When membership in an equity population is cross tabulated (see Tables 20 and 21), it's evident that the youngest students both in and out of equity populations are not attaining proficiency at a rate within 3% of the average of all students. To perhaps state more clearly, there is an age-based opportunity gap for the youngest students across the college, a gap which is even greater among young equity populations. However, one group of young students is attaining proficiency at a higher level– dual enrollment students (see Table 11).

  - ○ Opportunity gaps persist along ethnic/racial lines, as well. Black/African American, Latina/o/x, Pacific Islander, and Native American students all experience (over 3%) opportunity gaps across both Mathematics and non-Mathematics courses in Area A. Filipino/a/x students also experience opportunity gaps (over 3%) in Mathematics, but not in non-Mathematics courses, in Area A.
  - ○ In terms of sex/gender, while men/male students meet the SLO at a slightly lower rate, it does not rise to the level of an opportunity gap (3% difference from

average of all students) in Mathematics courses, and in non-Mathematics courses, the gap is exactly 3%. There is also no opportunity gap for nonbinary students.
- Students with disabilities and foster youth/former foster youth experienced an opportunity gap in both Mathematics and non-Mathematics courses in Area A.
- Veterans experienced an opportunity gap in non-Mathematics courses in Area A, only.

- Faculty discussion of the data charts in this report raised a number of questions at a more granular level than the data in this report can answer about what goes into supporting student learning and course success and what can aid in closing opportunity gaps (see Discussion section).

Introduction

This report presents the findings of the third assessment of General Education Area A, Communication & Analytical Thinking. This report is part of an ongoing effort, in accordance with the CCSF Institutional Assessment Plan, to regularly assess teaching and learning in individual General Education Areas. These reports are intended more specifically to document aggregate student learning outcome proficiency and course completion data, explore equity issues and opportunity gaps, and look more deeply at the outcomes and core concerns in the Area. This assessment process facilitates dialogue around teaching and assessment and helps to ensure the integrity of programs at CCSF.

Area A roughly aligns to the CSU Areas A1 and A3 and IGETC Areas 1B and 1C, although not all courses that meet CCSF Area A meet the corresponding areas for CSU and IGETC. Changes to Title 5 and the forthcoming CalGETC changes have led to a reorganization of General Education at CCSF; as of Fall 2024, some of the courses currently in Area A will be in the new Area 1B, Communication and Critical Thinking, and others will be in the new Area 2, Mathematics and Quantitative Reasoning. Therefore, this is the last report that addresses Area A, as such.

Area A data showed a distinct pattern for Mathematics classes versus other classes in Area A. For this reason, the research department's analysis of Area A splits out the Mathematics courses from all other Area A. While this was a decision driven by the data, it also mirrors the future split of Area A into Areas 1B and Area 2 and may be useful for future comparisons when those areas are assessed. It must be noted that some Area A courses outside of the Mathematics department – including statistics courses PSYC 5, ECON 5, and LALS 5; business math BSMA 68; and technical mathematics ET 50 – are, in content, math courses. However, only courses in the Mathematics department are included in the tables labeled Mathematics.

Area A GE outcomes read as follows:

Upon completion of this coursework, a student will be able to:

1. Apply the principles of language toward logical thought.
2. Express ideas with clarity and precision.
3. Evaluate communications in whatever symbol system is employed.

Courses that meet Area A come from a range of departments, including Behavioral Sciences; Business; Career Development; Communication Studies; Computer Networking and Information Technology; Computer Science; Engineering & Technology; English as a Second Language; Interdisciplinary Studies; Journalism; Latin American & Latina/o/e/x Studies; Learning Assistance; Mathematics; Music; Philippine Studies; Social Sciences; and World Languages and Cultures.

This report includes a variety of quantitative data prepared by the Office of Research and Planning based on course completions and CRN-level SLO mastery levels for the Fall 2018 – Spring 2023 period. Summer semesters were excluded. The SLO Coordination Team conducted faculty outreach in Area A during the Spring 2024 semester to supplement this numerical data with discussion, principally through a meeting held on March 6, 2024, plus a few additional conversations with departments that could not attend that day. The report results were also discussed with the SLO Committee of the Academic Senate. Comments in the report noted as being the views of faculty or staff may or may not reflect wider views.

CCSF Courses that meet the CCSF, CSU and IGETC (UC) area requirements.

- CCSF courses that meet the CCSF Communication & Analytical Thinking Requirement are listed in the 2022-2023 CCSF General Education Worksheet.
- CCSF courses that meet CSU Areas A1 and A3 are listed in the 2022-2023 CSU Transfer Worksheet.
- CCSF courses that meet IGETC 1B and 1C are listed in the 2022-2023 IGETC Transfer Worksheet.

CCSF Area A Requirement Outcome Mapping

Data considerations:

The mapping of outcomes from courses to GE areas is vetted during the curriculum approval process by the Curriculum Committee.

The following data describe student learning outcomes (SLO) assessment results for Area A, Communication and Analytical Thinking, of CCSF's General Education (GE) curriculum. This report covers primary terms (i.e. fall and spring terms) from Fall 2018 to Spring 2023. The data are disaggregated by department, mathematics vs. non-mathematics courses, and by student demographics.

Definitions of terms are included in the methodology section at the end of this memo.

Mathematics and non-mathematics courses show different trends in their assessment outcomes. Many of the figures and tables below separate Area A courses into those two categories.

The onset of the COVID-19 pandemic in Spring 2020 affected SLO assessment in several ways. For many sections, course modality changed from in-person to online/remote, and SLO assessment reporting was modified to accommodate remote instruction. Overall, the total

number of assessments decreased over the course of the pandemic. In general, the resulting data may not be directly comparable to prior semesters.

No confidence intervals or standard deviations are shown, because the data presented constitute the entire universe of data available for the period of the study; the data were not sampled, nor can they be considered a randomized sample for some larger universe. They offer a snapshot in time of student learning in Area A at the college.

Follow-up on Recommendations in the 2018 Area A GELO Report

In the 2018 Area A GELO report few recommendations were made. The recommendations and subsequent actions taken are summarized below:

- The outcomes were revised to add clarity by relying more on the active voice.

- The 2018 report recommended "departments in Area A as well as other relevant bodies at the college use this Area A GELO Report to inform their discussions and efforts regarding expanding academic support systems, closing achievement gaps, contextualizing learning, accelerating pathways, and engaging in other evidence-based practices that support student success overall and student equity specifically.

  ○ Tutoring, professional development, and other support strategies have been implemented, including embedded tutors in some Area A courses.

  ○ Increasingly, the college has recognized that the opportunity gaps cannot be closed by tutoring or remediation alone, and the Student Equity Plan for 2022-2025 emphasizes race-conscious structural changes and instructional changes intended to close the gap.

- The 2018 report showed significant opportunity gaps for Latinx, Pacific Islander and African American students. These gaps persist in the current report.

Data Analysis and Discussion

Overall Outcome Assessment Results

In this section, we present the total counts of assessments in Area A and the breakdown of SLO assessment results. A brief analysis and summary of the comments from area faculty and/or the SLO Committee follow each set of tables and graphs.

Count of Assessments

Table 1. Count of assessments in Area A. Communication & Analytical Thinking, Fall 2018 – Spring 2023 (primary terms, meaning not including Summer)

Period relative to the pandemic	Term	Count of Assessments
Pre-Pandemic	Fall 2018	21,603
Pre-Pandemic	Spring 2019	23,863
Pre-Pandemic	Fall 2019	21,933
During Pandemic	Spring 2020 *	4902
During Pandemic	Fall 2020	17,205
During Pandemic	Spring 2021	16,137
During Pandemic	Fall 2021	12,803
During Pandemic	Spring 2022	10,589
Transitioning out of Pandemic	Fall 2022	10,545
Transitioning out of Pandemic	Spring 2023	10,636

<mark>Table 2.</mark> Department-level SLO counts and attainment in Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Department	Count of Assessments	% Met Outcome
Mathematics	58,716	71.1%
World Languages and Cultures	39,492	87.6%
Social Science	13,925	76.2%
Communication Studies	11,585	83.5%
Computer Science	9,741	83.5%
Learning Assistance	3,740	85.6%
Behavioral Sciences	3,381	84.8%
Computer Networking & InfoTech	3,000	86.3%
Counseling Continuing Students	1,497	93.9%
English As a Second Language	1,453	85.3%
Business	1,372	79.7%
Interdisciplinary Studies	856	74.4%
Latin Am & Latina/o/e/x Studies	816	89.7%
Music	320	80.0%
LGBT Studies	124	93.5%
Journalism	79	88.6%
Engineering & Technology	62	80.6%
Visual Media Design	52	69.2%
Phys Education & Dance	5	‡
Area A overall	150,216	79.2%

‡ Data not displayed where count is less than 30.

Discussion and commentary on the number of assessments

- Total assessments include over 150,000 section-level assessments of student learning, more than twice as many as the last GELO assessments of Area A, which included around 66,000. This increase occurred despite overall enrollment at the college having declined. This likely reflects that more semesters of data are included in the current report (10 semesters, versus 4 in the 2018 report).

- The count of assessments in Spring 2020 was lower than usual due to the lifting of the requirement to file SLO reports for that semester, as faculty and students alike adjusted to the global pandemic and remote delivery of classes. The number of assessments completed in later semesters within this study period were lower than prior to the pandemic, most likely reflective of lower enrollment at the college and a slight dip in the percent of faculty completing section-level SLO reports.

- In comparing SLO attainment in Area A across departments, there is some variation. Looking at the five departments that have over 5,000 assessments in this period, Mathematics is the lowest with 71.1% (and in fact, the Mathematics data is different enough that it is broken out from the rest of Area A in analyses below). Social Sciences is next with SLO attainment of 76.1%. Communication Studies and Computer Science both show SLO attainment of 83.5%, while World Languages shows 87.6%. The range of SLO proficiency in Area A courses by department is from 69% to 94%, a wide range which is unsurprising given the varied subject matter and circumstances that these departments operate with. (see Table 2)

- Discussion of the results of assessments follows the next set of tables and figures.

Results of Assessments (overall)

In reviewing the assessment data for Area A, the researchers in the Office of Research and Planning noted a salient trend: the outcomes for Mathematics courses (a sizeable portion of Area A) followed a different trend than the other courses in Area A. For this reason, they made a decision to analyze and present the data broken out by courses in the Mathematics department and all other Area A courses.

As noted in Methodology above, this means that some courses that actually do teach math but are not in the Mathematics department (such as statistics courses taught in Economics, Psychology, and LALS and a Business math course) are clustered with the non-Mathematics courses.

Table 3. Mathematics vs. non-mathematics courses' SLO assessment attainment levels in Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Assessment Level	Meets SLO	Developing SLO	No evidence of SLO	Total
Area A - Mathematics	71.1%	16.7%	12.2%	100%
Area A - Non-Mathematics	84.5%	10.2%	5.3%	100%
Area A – Overall %	79.2%	12.8%	8.0%	100%

Assessment Level	Meets SLO	Developing SLO	No evidence of SLO	Total
Area A – Overall Number of assessments	119,026	19,156	12,034	150,216

Figure 1. Percentage breakdown of mathematics vs. non-mathematics courses' SLO assessment attainment levels in Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)
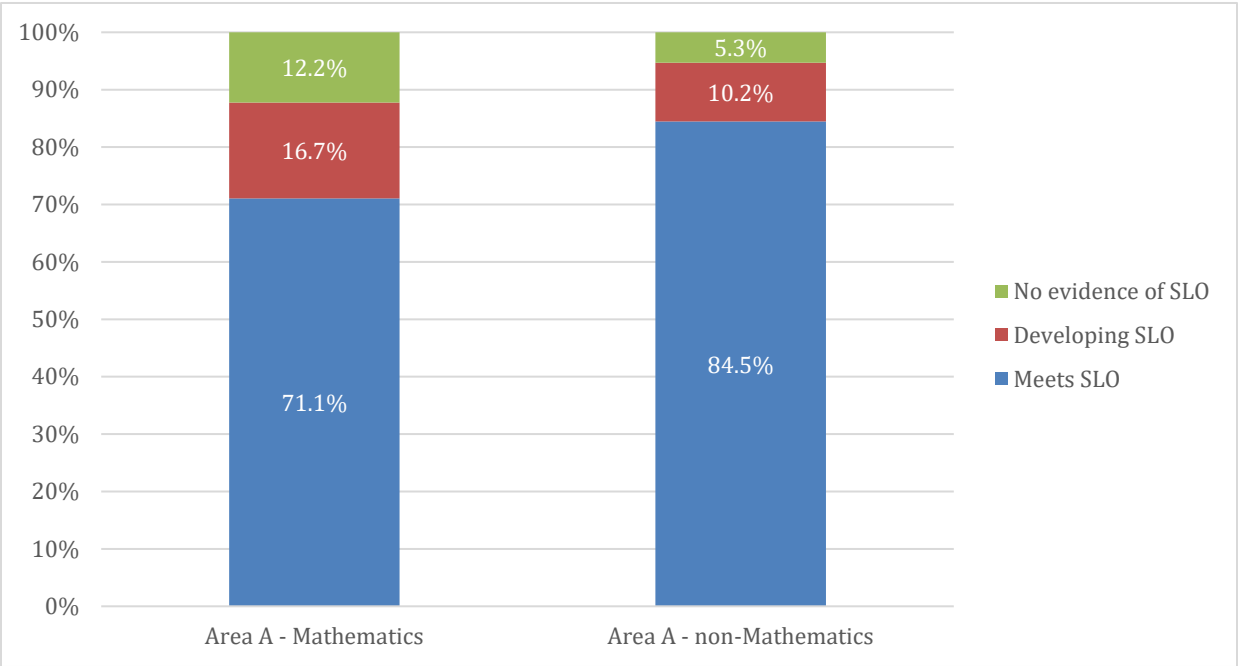
Note: Figure 1 and Table 3 present the same data in two different ways.

Table 4: Comparison of SLO attainment over time: SLO Attainment in Area A as reflected in the current and past GELO reports at CCSF.[1]

Assessment Level	Meets SLO	Developing SLO	No Evidence of SLO	Total SLO assessments
2014 Area A report	66 %	24 %	10 %	4,722
2018 Area A report	74%	16%	10%	66,206
2024 Area A report	79%	13%	8%	150,216

---

[1] The 2014 Area A report has a small data set including assessments from months April through October during spring and fall semesters 2014. The 2018 Area A report has a larger data set Spring 2015 through Spring 2017, a total of 5 semesters. The 2024 Area A report has the largest data set including assessments from Fall 2018 through Spring 2023, a total of 10 semesters. All reports exclude assessments reported during the summer sessions.

Mathematics vs. non-mathematics courses' SLO assessment counts and attainment in Area A: Communication and Analytical Thinking Fall 2018 - Spring 2023 (primary terms)

Term	Area A - Mathematics Count of assessments	Area A - Mathematics % met outcome	Area A - Mathematics Count of assessments	Area A – Non-Mathematics % met outcome	Area A – Non-Mathematics Count of assessments	Area A – Non-Mathematics % met outcome
Fall 2018	7,364	64.7%	14,239	83.0%	21,603	76.7%
Spring 2019	9,322	67.9%	14,541	84.0%	23,863	77.7%
Fall 2019	9,606	68.6%	12,327	84.9%	21,933	77.8%
Spring 2020 *	1,730	**	3,172	**	4,902	**
Fall 2020	7,588	73.4%	9,617	84.7%	17,205	79.7%
Spring 2021	6,368	76.4%	9,769	85.0%	16,137	81.6%
Fall 2021	5,700	71.5%	7,103	86.9%	12,803	80.0%
Spring 2022	5,130	77.2%	5,459	85.7%	10,589	81.6%
Fall 2022	2,910	70.9%	7,635	83.3%	10,545	79.9%
Spring 2023	2,998	71.0%	7,638	85.0%	10,636	81.0%
All terms	58,716	71.1%	91,500	84.5%	150,216	79.2%

** Due to the stay-at-home order issued for the COVID-19 pandemic, and the resulting interruption to instruction, assessment outcomes during Spring 2020 cannot be directly compared to other terms.

Discussion and commentary on the overall results of assessments

- On average, students demonstrated proficiency (met SLOs) in Area A at the rate of 79.2% in the study period. That breaks down to 71.1% for Mathematics courses in Area A, and 84.5% for all other courses in Area A. (see Table 3 and/or Figure 1)

- As evident in Table 4 each subsequent GELO report over the last decade has included significantly more assessment data, and there is a general tendency toward increasing SLO attainment (66% in 2014; 74% in 2018; 79% in 2024). As prior GELO reports did not break out the Mathematics department data, this comparison likewise does not.

  - It may be relevant to look at the trend in the Math Requirement learning outcome assessment reports, however. The 2023 Math Requirement GELO report showed results similar to the Area A Mathematics courses – 72% of students meeting the SLO, 16% developing, and 12% showing no evidence of the SLO (based on 11,821 assessments).

  - That number was also trending upward, when compared to the 2017 Math Requirement report that showed 66% of students meeting the SLO.

- In other recent GELO reports, it was suggested that the rise in SLO attainment could be due, at least in part, to the shift to teaching online – something that could be affecting Area A attainment, as well. Specifically in the Mathematics courses, the acceleration of the math sequence and the innovations in teaching math (for example, offering support courses that accompany college-level math classes for students who are less well

prepared) may have contributed to increases in SLO attainment in Area A. It is also true that each GELO report is a "snapshot in time" – this data in this report, given the unusual circumstances of the pandemic, may simply not be comparable to past reports.

- The percentage of students meeting SLOs varied considerably across the different semesters, grouped as pre-pandemic, pandemic, and emerging from the pandemic (see Table 5)

  - In the Mathematics courses, we see a trend toward increasing SLO attainment – from percentages in the mid-60's pre-pandemic, to the mid-70's in the pandemic semesters, to the low-70's as we emerge from the pandemic. It is notable that SLO attainment, while not at its pandemic peak, has stayed higher than pre-pandemic levels.

  - In the non-Mathematics courses, we don't see a trend toward improvement; rather, we see a fairly high level of SLO attainment that has been maintained through a difficult period and remains at a percentage in the mid-80's.

Results Disaggregated by Sub-Element, fall 2018-spring 2023.

Table 6. Mathematics vs. non-mathematics courses' GELO assessment counts and attainment levels in Area A: Communication and Analytical Thinking Fall 2018 - Spring 2023 (primary terms) (Accessible tables 6a and 6b)

	Area A - Mathematics				Area A- Non-Mathematics			
	Meets SLO	Developing SLO	No evidence of SLO	Total # Assess ments	Meets SLO	Developing SLO	No evidence of SLO	Total # Assess ments
1. Apply the principles of language toward logical thought.	71.8%	16.1%	12.1%	18,261	83.8%	10.7%	5.6%	35,450
2. Express ideas with clarity and precision.	70.5%	16.9%	12.6%	24,310	84.8%	10.0%	5.2%	28,596
3. Evaluate communications in whatever symbol system is employed.	71.1%	17.0%	11.9%	16,145	85.1%	9.8%	5.1%	27,454
Total # Assessments	41,722	9,816	7,178	58,716	77,304	9,340	4,856	91,500

Figure 2. Percentage breakdown of mathematics vs. non-mathematics courses' GELO assessment attainment levels in Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)
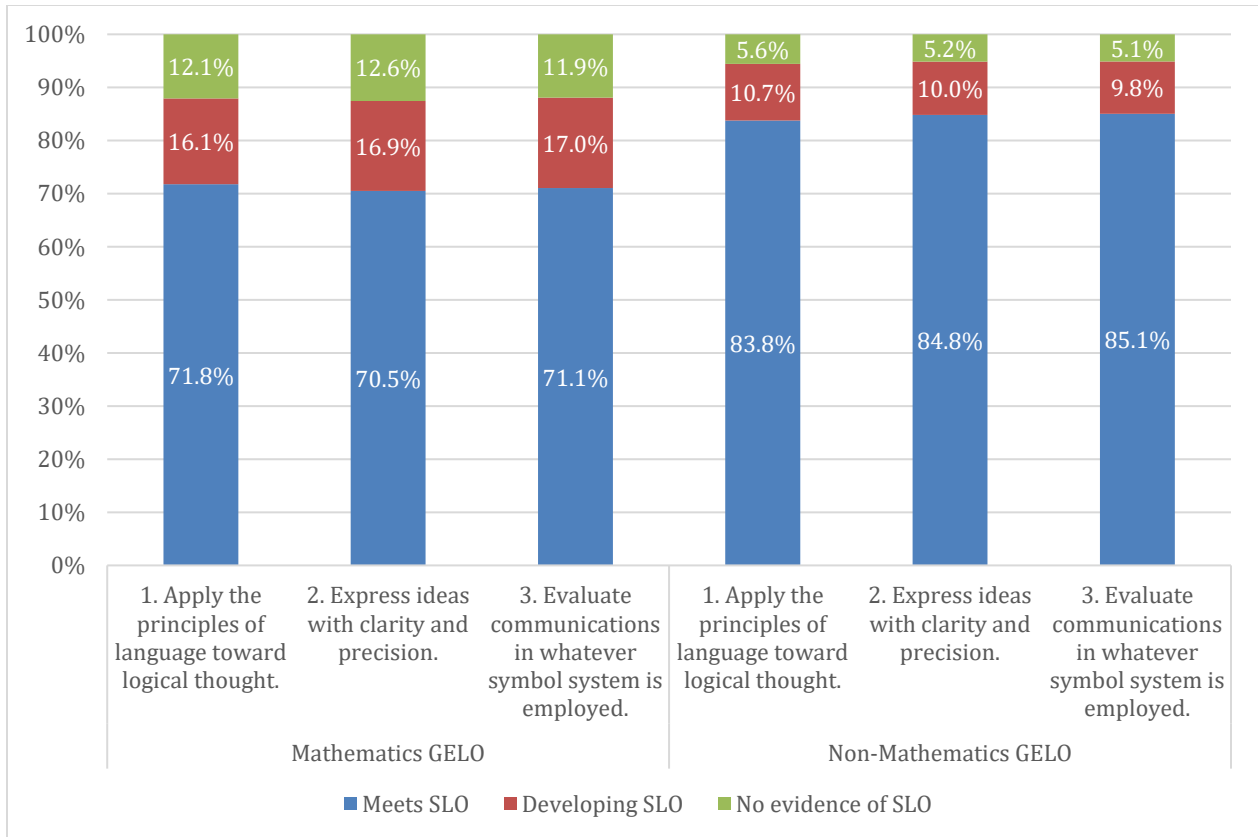
Figure. Stacked bar chart showing Meets SLO, Developing SLO, and No evidence of SLO percentages for Mathematics GELO and Non-Mathematics GELO.

Mathematics GELO:
- 1. Apply the principles of language toward logical thought.: 71.8% / 16.1% / 12.1%
- 2. Express ideas with clarity and precision.: 70.5% / 16.9% / 12.6%
- 3. Evaluate communications in whatever symbol system is employed.: 71.1% / 17.0% / 11.9%

Non-Mathematics GELO:
- 1. Apply the principles of language toward logical thought.: 83.8% / 10.7% / 5.6%
- 2. Express ideas with clarity and precision.: 84.8% / 10.0% / 5.2%
- 3. Evaluate communications in whatever symbol system is employed.: 85.1% / 9.8% / 5.1%

Legend: Meets SLO, Developing SLO, No evidence of SLO

Table 7. Mathematics courses' GELO assessment counts and attainment by equity group status in Area A: Communication and Analytical Thinking Fall 2018 - Spring 2023 (primary terms)

GELO	Not in equity group Count of Assessment	Not in equity group % met outcome	In equity group Count of Assessment	In equity group % met outcome	All students % met outcome	Percentage Point Gap
1. Apply the principles of language toward logical thought.	10,212	76.9%	8,049	65.3%	--	0.06
2. Express ideas with clarity and precision.	13,281	75.9%	11,029	64.0%	--	0.07
3. Evaluate communications in whatever symbol system is employed.	8,856	76.5%	7,289	64.5%	--	0.07
Area A - Mathematics	32,349	76.4%	26,367	64.5%	71.1%	0.07

Table 8. Non-mathematics courses' GELO assessment counts and attainment by equity group status in Area A: Communication and Analytical Thinking Fall 2018 - Spring 2023 (primary terms)

GELO	Not in equity group Count of Assessment	Not in equity group % met outcome	In equity group Count of Assessment	In equity group % met outcome	All students % met outcome	Percentage Point Gap
1. Apply the principles of language toward logical thought.	20,938	87.0%	14,512	79.1%	--	0.05
2. Express ideas with clarity and precision.	17,049	87.9%	11,547	80.3%	--	0.04
3. Evaluate communications in whatever symbol system is employed.	16,278	88.1%	11,176	80.6%	--	0.04
Area A - non-Mathematics	54,265	87.6%	37,235	79.9%	84.5%	0.05

Discussion and commentary on the overall results of sub-elements for Area A, mathematics and non-mathematics

- In Area A, the range of proficiency (meets SLO) was quite consistent across the three sub-elements for each of the two groupings of Area A courses (Mathematics and non-Mathematics). Figure 2 illustrates this well. For the non-Mathematics courses the range was 83.8% to 85.1% proficiency, and for Mathematics courses the range was 70.5% to 71.8% proficiency.

- The sub-element with the highest proficiency for non-Mathematics courses was "Evaluate communications in whatever symbol system is employed" and for Mathematics courses, it was "Apply the principles of language toward logical thought."

- The size of the percentage point gap between students in equity populations and those not in equity populations was also relatively consistent among sub-elements for Mathematics courses in Area A (0.06 to 0.07, or 6%-7%) and for non-Mathematics courses in Area A (0.04 to 0.05, or 4%-5%). The gap was larger for Mathematics courses than non-Mathematics courses.

Results Disaggregated by Demographics

In this section, we present data on SLO attainment by several demographic characteristics, including the following:
- Age and Dual Enrollment Status
- Ethnicity/race
- Sex/Gender
- Equity Populations, collectively and disaggregated by type
- Age cross tabulated with Equity Population

Age and Dual Enrollment Status

Table 9. Mathematics courses' SLO assessment counts and attainment by student age group, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Age Group	Count of assessments	% met outcome
19 or Less	20,377	67.8%
20-24	18,318	68.6%
25-29	9,066	75.1%
30-34	5,035	78.4%
35-39	2940	75.4%
40-49	1975	82.5%
50-59	747	71.9%
60+	258	79.1%
All ages	58,716	71.1%

. Non-mathematics courses' SLO assessment counts and attainment by age group, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Age Group	Count of assessments	% met outcome
19 or Less	19,635	80.1%
20-24	22,622	81.7%
25-29	16523	85.5%
30-34	11280	87.5%
35-39	6875	89.3%
40-49	7019	89.2%
50-59	4257	88.0%
60+	3283	89.8%
All ages	91,500	84.5%

Area A - Non-mathematics includes 6 assessments for students with unknown demographic information.

. Dual enrollment students' SLO assessment counts and attainment, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms) ([Accessible tables 11a and 11b](#))

Area A	Dual Enrollment students		All students	
	Count of assessments	% met outcome	Count of assessments	% met outcome
Area A - Mathematics	649	84.6%	58,716	71.1%
Area A - Non-Mathematics	3,749	84.6%	91,500	84.5%
Overall	**4,398**	**84.6%**	**150,216**	**79.2%**

Dual enrollment data are preliminary and reflect current records captured by Banner. Note: all students in the Dual Enrollment category are dual enrollment students so noted in Banner; the category of All Students may also include some dual enrollment students who were not correctly identified as such in Banner, as practices for denoting dual enrollment have varied over time. The All Students category is not subdivided by age.

Comments and analysis on age

- About two thirds of students assessed in Area A Mathematics classes are under age 25 (66%), while less than half of students assessed in non-Mathematics Area A classes are under age 25 (46%). This large population of younger students is also the age group with lowest proficiency (68-69% in Mathematics courses, 80-81% in non-Mathematics courses).

- Across many GE Areas, we tend to see lower SLO proficiency among younger students, with roughly continuous improvement of attainment with age, sometimes dropping off in the oldest age groups. In the data presented above, we see a loose approximation of that pattern. For Mathematics courses, the highest proficiency is found among students aged 40-49, and for non-Mathematics courses, among students aged 60+.

- Looking specifically at the population of students age 19 and younger, a question was raised about whether the gap in SLO attainment reflected the experience of dual enrollment students concurrently enrolled in high school. However, as shown in Table 11, dual enrollment students tend to attain SLOs at a rate similar to CCSF students overall in non-Mathematics courses and at a rate higher than CCSF students overall in Mathematics courses. So, if SLO attainment is lower than desired among students age 19 and younger overall (or students 24 and under), it is not reflective of an influence of dual enrollment students, who generally are doing very well.

Ethnicity/Race

Table 12. Mathematics courses' SLO assessment counts and attainment by ethnicity, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Ethnicity/Race	Count of Assessments	% Met Outcome
American Indian or Alaska Native	104	66.3%
Asian	20,954	76.6%
Black or African American	3007	57.9%
Filipino	4,038	67.6%
Latino/a/x	15,265	64.0%
Native Hawaiian or Other Pacific Islander	440	59.3%
Two or more races	3,477	71.5%
White	9,787	75.7%
Unknown/Not reported /Other	1,644	74.0%
All Ethnicities/Races	58,716	71.1%

The category 'Unknown/Not reported/Other' includes students self-identified as Middle Eastern

Table 13. Non-mathematics courses' SLO assessment counts and attainment by ethnicity, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Ethnicity/Race	Count of Assessments	% Met Outcome
American Indian or Alaska Native	204	73.5%

Ethnicity/Race	Count of Assessments	% Met Outcome
Asian	28,648	87.5%
Black or African American	4,979	75.4%
Filipino	5,125	82.6%
Latino/a/x	21,272	79.9%
Native Hawaiian or Other Pacific Islander	568	75.5%
Two or more races	5,326	80.7%
White	22,309	88.4%
Unknown/Not reported /Other	3,069	86.3%
All Ethnicities/Races	91,500	84.5%

The category 'Unknown/Not reported/Other' includes students self-identified as Middle Eastern

Comments and analysis on race/ethnicity

- Significant opportunity gaps persist across multiple groups of students, disaggregated by ethnicity/race.

    - Black/African American, Latina/o/x, Pacific Islander, and Native American students all experience significant (over 3%) opportunity gaps across both Mathematics and non-Mathematics courses in Area A.
    - Filipino/a/x students also experience significant (over 3%) opportunity gaps in Mathematics, but not in non-Mathematics courses, in Area A.

- Data on students' SLO proficiency by race/ethnicity and age, combined, is reported below.

Sex/Gender

Table 14. Mathematics courses' SLO assessment counts and attainment by sex/gender, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Sex/Gender	Count of Assessments	% Met Outcome
Female/Woman	27,064	73.1%
Male/Man	29,985	69.2%
Nonbinary	327	70.9%
Unknown/Not reported	1,340	70.9%
All Sexes/Genders	58,716	71.1%

Table 15. Non-mathematics courses' SLO assessment counts and attainment by sex/gender, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Sex/Gender	Count of Assessments	% Met Outcome
Female/Woman	45,904	86.8%

Sex/Gender	Count of Assessments	% Met Outcome
Male/Man	41,590	81.5%
Nonbinary	756	87.6%
Unknown/Not reported	3,244	89.0%
All Sexes/Genders	91,500	84.5%

Area A total includes 6 assessments for students with unknown demographic information.

Comments and analysis on sex/gender

- While there is a difference in SLO attainment by sex/gender favoring women/female students, in Mathematics the differences are relatively small (less than a 3% variation from the overall student average. In the non-Mathematics courses, a larger gap by sex/gender was identified, with men/male students at a disadvantage (a 3% equity gap).

- Nonbinary students did better than either men or women in the non-Mathematics courses, while in Mathematics courses, their proficiency fell between that of women/female and men/male students (as did those students whose gender is unknown). This is the first GELO report to analyze data on students who identify as nonbinary (or trans?) separate from the unknown/not reported category (in previous reports these categories were combined), it is anticipated that the data sets on nonbinary students will continue to grow, making it possible to better identify needs and strengths of this population.

Equity Populations, disaggregated by type

Table 16. Mathematics courses' SLO assessment counts and attainment by select subpopulations, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Student demographic group	Count of Assessments	% Met Outcome
Foster youth and former foster youth	647	57.8%
Veterans	4,827	69.5%
Students with disabilities	5,473	66.8%
Low-income students	37,830	70.5%
All Student demographic groups	58,716	71.1%

Table 17. Non-mathematics courses' SLO assessment counts and attainment by select subpopulations, Area A: Communication and Analytical Thinking, AY 2018-23 (primary terms)

Student demographic group	Count of Assessments	% Met Outcome
Foster youth and former foster youth	1,033	77.1%
Veterans	6,336	77.5%
Students with disabilities	7,176	78.6%
Low-income students	45,868	82.6%
All Student demographic groups	91,500	84.5%

Comments and analysis on equity populations by four demographic groups

- Foster youth and former foster youth experience a gap in both Mathematics and non-Mathematics courses in Area A. While a small population, this group of students may need additional support (such as that available through Guardian Scholars) and resources. It is unknown if specific teaching approaches are especially beneficial for foster and former foster youth – something to investigate further.

- Students with disabilities experience an opportunity gap, also, in both Mathematics and non-Mathematics courses in Area A.

- Veterans experience an opportunity gap in non-Mathematics courses, but not in Mathematics courses.

- Low-income students (a group that includes more than half of all students in this Area A assessment) do not experience an opportunity gap as defined by the state.

Equity Populations, collectively

Table 18. Mathematics courses' SLO assessment attainment and percentage point gap by equity group status, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Term	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
Fall 2018	70.1%	57.3%	64.7%	0.07
Spring 2019	74.5%	60.9%	67.9%	0.07
Fall 2019	73.1%	63.9%	68.6%	0.05
Spring 2020 *	**	**	**	**
Fall 2020	77.6%	67.4%	73.4%	0.06
Spring 2021	81.1%	70.3%	76.4%	0.06
Fall 2021	77.3%	63.7%	71.5%	0.08
Spring 2022	80.9%	72.6%	77.2%	0.05
Fall 2022	78.2%	61.8%	70.9%	0.09
Spring 2023	75.9%	65.3%	71.0%	0.06

Table 19. Mathematics courses' SLO assessment attainment and percentage point gap by equity group status, Area A: Communication and Analytical Thinking, All Semesters Combined, Fall 2018 - Spring 2023 (primary terms)

All Semesters	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
% Met Outcome	76.4%	64.5%	71.1%	0.07
Count of Assessments	32,349	26,367	58,716	—

Table 20. Non-mathematics courses' SLO assessment attainment and percentage point gap by equity group status, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Term	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
Fall 2018	86.0%	78.0%	83.0%	0.05
Spring 2019	87.3%	78.7%	84.0%	0.05
Fall 2019	87.6%	80.8%	84.9%	0.04
Spring 2020	**	**	**	**
Fall 2020	87.4%	80.7%	84.7%	0.04
Spring 2021	88.4%	80.5%	85.0%	0.05
Fall 2021	90.5%	82.0%	86.9%	0.05
Spring 2022	89.2%	80.6%	85.7%	0.05
Fall 2022	86.3%	79.5%	83.3%	0.04
Spring 2023	88.5%	80.8%	85.0%	0.04

Table 21. Non-Mathematics courses' SLO assessment attainment and percentage point gap by equity group status, Area A: Communication and Analytical Thinking, All Semesters Combined, Fall 2018 - Spring 2023 (primary terms)

All Semesters	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
% Met Outcome	87.6%	79.9%	84.5%	0.05
Count of Assessments	54,265	37,235	91,500	—

Comments and analysis on equity populations collectively

- CCSF students in equity populations continue to experience significant opportunity gaps (7% gap overall in Mathematics courses in Area A and 5% gap overall in non-Mathematics courses).
- Throughout the pandemic, the size of the equity gap remained relatively consistent for non-Mathematics courses while it varied between 5 and 9 percent (without a clear trend increasing or decreasing) in the Mathematics courses in Area A.

Cross-tabulation of age and equity status

The following two tables show the intersection of age and equity status (member or not of an equity group).

Age and Student Equity Group

Table 22. Mathematics courses' SLO assessment counts and attainment by age and equity group, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Age Group	Not in equity group Count of Assessment	Not in equity group % met outcome	In equity group Count of Assessment	In equity group % met outcome	All students % met outcome	Percentage Point Gap
19 or Less	11,813	72.5%	8,564	61.3%	--	0.10
20-24	9,999	74.8%	8,319	61.1%	--	0.10
25-29	4,734	78.6%	4,332	71.4%	--	--
30-34	2,667	85.2%	2,368	70.7%	--	--
35-39	1,573	82.6%	1,367	67.1%	--	0.04
40-49	1,065	88.8%	910	75.2%	--	--
50-59	362	82.9%	385	61.6%	--	0.10
60+	136	86.8%	122	70.5%	--	--
All Ages	32,349	76.4%	26,367	64.5%	71.1%	0.07

Table 23. Non-mathematics courses' SLO assessment counts and attainment by age and equity group, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Age Group	Not in equity group Count of Assessment	Not in equity group % met outcome	In equity group Count of Assessment	In equity group % met outcome	All students % met outcome	Percentage Point Gap
19 or Less	10,850	84.0%	8,785	75.1%	--	0.09
20-24	12,382	85.5%	10,240	77.1%	--	0.07
25-29	9,460	88.2%	7,063	81.9%	--	--
30-34	7,087	89.3%	4,193	84.5%	--	--
35-39	4,463	91.6%	2,412	85.0%	--	--
40-49	4,595	89.9%	2,424	87.7%	--	--
50-59	2,956	90.9%	1,301	81.6%	--	--
60+	2,472	91.7%	811	84.0%	--	--
All Ages	54,265	87.6%	37,235	79.9%	84.5%	0.05

Area A - Non-mathematics Overall includes 6 assessments for students with unknown demographic information.

Comments and analysis on cross tabulation of age with equity population

- In Mathematics courses in Area A, the age groups of equity population students experiencing the largest opportunity gaps (10%) are those under 25 and in their 50's. Students from equity populations and aged 35-39 also experience an opportunity gap (4%) in these courses.
- In non-Mathematics courses, students from equity populations and aged 19 or less experience the largest opportunity gap (9%), with their slightly older peers (aged 20-24) experiencing an opportunity gap of 7%.

- Interestingly, most students over the age of 25 from equity populations in both Mathematics and non-Mathematics courses in Area A did not experience an opportunity gap (as defined by the state). However, at all ages, SLO attainment was higher among students not from equity populations than it was for the corresponding age group of students from equity populations.

Course Completion Data Compared with SLO Attainment Data

Course completion or course success refers to a student finishing a course with a grade of A, B, C, or P. A course is not considered to be successfully completed if a student finished with a grade of D, F, NP, W, or EW. The data set for course completion included 25,435 students in Mathematics courses in Area A and 56,963 students in non-Mathematics courses in Area A. The data set for SLO attainment included 58,716 assessments in Mathematics courses in Area A and 91,500 assessments in non-Mathematics courses in Area A. This means that there were, on average, approximately two SLO assessments completed per student enrolled in the study period. Course completion data overall and by equity group/not in equity group are presented below.

Table 24. Mathematics course success rates by equity group status by semester, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Course success - Term	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
Fall 2018	67.2%	51.5%	59.6%	0.08
Spring 2019	67.6%	49.4%	58.5%	0.09
Fall 2019	65.6%	48.6%	57.3%	0.09
Spring 2020 *	**	**	**	**
Fall 2020	73.3%	53.0%	63.9%	0.11
Spring 2021	43.6%	55.7%	64.7%	0.09
Fall 2021	69.4%	47.0%	58.8%	0.12
Spring 2022	71.8%	50.9%	61.5%	0.11
Fall 2022	72.9%	53.0%	63.1%	0.10
Spring 2023	74.2%	55.0%	64.7%	0.10

Table 25. Mathematics course success rates by equity group status, all terms combined, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Course success – All Terms	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
% Course Success	70.8%	51.9%	61.6%	0.10
N=	13,053	12,382	25,435	--

Table 26. Non-mathematics course success by equity group status by semester, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Course success - Term	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
Fall 2018	75.5%	63.4%	70.4%	0.07
Spring 2019	76.3%	63.3%	70.9%	0.08
Fall 2019	75.3%	61.4%	69.0%	0.08
Spring 2020*	**	**	**	**
Fall 2020	73.1%	58.8%	66.6%	0.08
Spring 2021	72.6%	59.7%	67.1%	0.07
Fall 2021	72.8%	55.5%	65.0%	0.09
Spring 2022	73.5%	55.9%	65.6%	0.10
Fall 2022	74.4%	59.4%	67.6%	0.08
Spring 2023	70.9%	61.3%	66.4%	0.05

Table 27. Non-mathematics course success by equity group status, all terms combined, Area A: Communication and Analytical Thinking, All Terms Combined, Fall 2018 - Spring 2023 (primary terms)

Course success – All Terms	Not in student equity group	Students in equity group(s)	Overall	Percentage Point Gap
% Course Success	73.6%	59.7%	67.5%	0.08
N=	32,006	24,944	56,963	--

Table 28. Comparison of Mathematics course success and SLO attainment by equity group status, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Area A - Mathematics - Metric	Not in student equity group	Students in equity group(s)	All students	Percentage Difference
% met SLO standard	76.4%	64.5%	71.1%	0.07
% course success	70.8%	51.9%	61.6%	0.10

Table 29. Comparison of non-Mathematics course success and SLO attainment by equity group status, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Area A -Non-mathematics - Metric	Not in student equity group	Students in equity group(s)	All students	Percentage Difference
% met SLO standard	87.6%	79.9%	84.5%	0.05
% course success	73.6%	59.7%	67.5%	0.08

Comments and analysis on course completion by semester and with equity data

- We see differences in the rates of course completion versus SLO attainment (for the Mathematics courses, 71% of students met the SLO while only 62% of students passed with a C or higher; for the non-Mathematics courses, 85% of students met the SLO while only 68% passed the class with a C or higher). This pattern is commonly found in other GELO reports, too, and may be explained by the fact that students who withdraw from a class are not assessed for SLO attainment but are included in course success data. In addition, course grades reflect all of a student's work for the semester, while SLO assessment usually focuses on a subset of assignments or exams that assess *one* SLO. It is not surprising that the two indicators are not identical.

- The size of the opportunity gaps in course completion also exceeded the size of the SLO opportunity gaps (10% vs. 7% in Mathematics courses, 5% vs 8% in non-Mathematics courses).

- There were some differences in the trends over time for the Mathematics and non-Mathematics courses in Area A.

  - While SLO proficiency in non-Mathematics courses held fairly stable in the study period, the course completion rates have varied, with a tendency toward slight decline.
  - For Mathematics courses in Area A, the pattern of course completion more closely matches that of SLO proficiency, with both improving somewhat.

- Looking at Table 22, we see the opportunity gap slightly expanding over time for the Mathematics courses, despite a trend toward improved outcomes for both equity and nonequity populations. The improvement for nonequity populations appears to be greater than that for equity populations (for example, the improvement in course success seen between Fall 2019 and Fall 2020 was almost 8% for nonequity populations, and around 4.5% for equity populations).

- For non-Mathematics courses, course success in pandemic semesters for equity populations dropped to a greater degree than for nonequity populations. This led to a slightly greater opportunity gap at the end of the study period than at the beginning.

- Course completion in Mathematics courses (and possibly in other courses across the college that involve math or English skills) has been affected in the study period by the myriad changes brought about by both internal improvement efforts and the mandates of AB 705 and AB 1705. With the removal of remedial math classes, the addition of supportive instruction co-enrollment courses, intensification of tutoring, faculty learning communities, and more innovations, the rate of completion of college-level math courses within 2 semesters has increased for all students, those in equity populations and those not (though opportunity gaps remain). These changes may help to explain the increase in course success and the increase in SLO attainment that we see in this report for the Mathematics courses in Area A. See this [Report to the Board Student Success and Policy Committee](#) for more detail on the impacts of AB 705 and AB 1705.

Discussion

- The Executive Summary at the front end of this report summarizes the main findings of this report, so no additional summary is provided here.

- Discussion with the SLO Committee highlighted the positive developments in Mathematics learning and course success, raising questions about what factors contributed to that rise. The continued steady proficiency at a high level in non-Mathematics courses was also noted.

- Discussion with faculty in Area A primarily focused on additional questions that would be good to know the answer to, but that the data we have on Area A cannot answer at this time. These questions include,

  - Do the math-content courses like ECON 5, PSYC 5, LALS 5, and BSMA 68 have results that follow the pattern in the Mathematics courses?
  - To what extent do the support courses (like MATH 80S, MATH 90S) have an effect? Do we see greater SLO proficiency and/or greater course success and/or a smaller opportunity gap in math classes that are paired with a support course?
  - How do the different tracks within math compare – for example, statistics, STEM (calculus), math for Humanities majors, etc.?
  - For World Languages courses, which represent a very large segment of Area A, are there different patterns of student learning or course success found in different languages, or at different levels of study (e.g., beginning, intermediate, advanced, or written language focus vs. conversational)?
  - Additional questions were raised about assessing the impact of support that is offered. For example, who is accessing tutors? Are classes with embedded tutors producing better learning outcome results than those without? What works to increase student engagement with the subject matter and/or support services?

- Prior to beginning the Area A assessment, the SLO coordinators asked at a Deans & Chairs meeting about their questions that might be addressed in the GELO assessment process (fall 2023). Deans & Chairs meeting was selected as the venue for this, given the broad swath of departments that offer courses in Area A. Most of the questions raised there were also not easily addressed by the types of data we have available on Area A. For example,

  - What are the experiences of queer and trans students in Area A? This report has responded to this only in a minimal way, by reporting the absence of an opportunity gap for nonbinary students. One step of program – nonbinary students are no longer grouped together with "Sex/gender unknown" -- as the number of students identifying as nonbinary in Banner has increased, the data set size allows for analysis of this population.
  - Several questions related to artificial intelligence were raised, but this report, unfortunately, offers no data to address those questions. Examples include, How are students developing their critical and analytical thinking skills in an era of increased misinformation/disinformation and artificial intelligence? And, Will

artificial intelligence uses increase or decrease the opportunity gaps for students from equity populations?

- A possibility for the future would be to organize a GELO report around a deep dive into a more limited number of questions and/or courses, to address questions that were not addressed this time.

Wording of Area A outcomes

Often a GELO report will recommend improvements to the wording of the learning outcomes, to improve mapping, reflect changing priorities in the field, or align to our CSU or UC partners. However, currently, no changes to Area A outcomes are recommended; primarily because this is the final year of Area A as we have known it, and the final GELO report on Area A.

The GE pattern at the college is in the process of a transformation, in response to changes in Title 5. Starting in Fall 2024, courses previously mapped to Area A will be mapped to either the new Area 1B, Communication & Critical Thinking, or Area 2, Mathematics & Quantitative Reasoning.

New GELOs for both of these areas have been approved by the Curriculum Committee, the SLO Committee, and the Academic Senate and can be viewed in this Resolution, GE Outcomes Resolution Fall '24.pdf - Google Drive, as well as here below:

Area 1B-1: Oral Communication

A. Express ideas orally with clarity and purpose.
B. Identify and use culturally responsive communication practices.
C. Analyze the impacts of diverse communication practices on human interactions.

Area 1B-2: Critical Thinking

A. Employ critical thinking and logical reasoning orally or in writing.
B. Analyze and synthesize support for an argument.
C. Evaluate communications and the use of information in context.

Area 2: Mathematical Concepts and Quantitative Reasoning

A. Use mathematical concepts to develop, present, and critique quantitative arguments.
B. Analyze and interpret quantitative information to solve mathematical problems.
C. Apply numerical, symbolic, graphical, and verbal methods to communicate mathematical results.

APPENDICES

1. Presentations and resolutions
2. Methodological notes
3. Mappings of Course SLOs to Area A GELO
4. Accessible Tables

Presentations and Resolutions Appendix

Student Learning Outcomes Committee of the Academic Senate
Report approval, May 3, 2024
[2023-2024 SLOC Meeting minutes](#)

Executive Council of the Academic Senate
Resolution approval,May 8, 2024
[Resolution 2024.05.08.7E GELO Area A Report](#)

Methodological Notes

Definitions

Primary term refers to a fall semester or spring semester.

CCSF Equity group students are those that fall into one or more of the following categories:
- American Indian or Alaskan Native,
- Black or African American,
- Filipino,
- Latino/a/x,
- Native Hawaiian or other Pacific Islander,
- current or former foster youth,
- students with disabilities,
- students experiencing homelessness, and
- students who identify as transgender or nonbinary gender identities.
- Students who are justice impacted or formerly incarcerated. (data not currently available for this population but are an equity population at CCSF)

In Spring 2018, the CCCCO added students who identify as LGBT as a student equity group. That group, in its entirety, is not identified in this dataset because the college does not currently maintain any local data regarding student's sexual orientation. CCSF does have an incomplete subset of locally available data regarding student's gender identity, thus students who identify as transgender or a nonbinary gender identity are included as students belonging to a student equity group.

While it is understood the terms *gender* and *sex* represent separate, distinct constructs, they are displayed together in order to accurately represent the underlying data. The language on the questionnaire that collects this demographic data has changed over time and some response options have referred to sex and others to gender, creating a dataset that includes response categories for both gender and sex, combined.

Financial aid, disability services, foster youth, housing, and military service statuses each include all students who have ever received the services or benefits for that group.

Percentage point gap is a method developed by California Community Colleges Chancellors' office to measure disproportionate impact, with guidelines to better understand the

disaggregated subgroups that are significantly impacted. The detection of disproportionate impact uses a threshold which is adjusted by the sample size of the subgroup, to compare with the percentage point gap. In this report,

- percentage point gap (PPG) = [(% of subgroup) − (overall %)] * (-1)
- threshold = 3% based on the sample size of subgroup (n ≥ 800)

If percentage point gap (PPG) ≥ 3%, a disproportionate impact with statistical significance was detected, otherwise no gap exists.

Because small sample sizes do not provide statistically meaningful results, in order to protect student privacy when disaggregating student data, the following thresholds were set for data display:

- Where the count of students is less than 30, outcome data are not displayed. However, while cells with small counts are masked from display, overall totals and averages always include all assessments among all groups.
- To keep cell sizes above 30 wherever possible, this analysis aggregates across terms or combines groups as appropriate.

Source

Data prepared by: Chloe Rickards, Research Analyst, Carol Liu, Research Analyst
Report prepared by: Carol Liu, Research Analyst
Databases: CurrIQunet, Banner
Date extracted: 12-06-2024 from CurrIQunet; 01-19-2024 from Banner

Mappings of Course SLOs to Area A GELO

Area A Course to GELO Mappings
Downloaded Oct. 30, 2023

Accessible Tables

Table 6a. Mathematics courses' GELO assessment counts and attainment levels in Area A: Communication and Analytical Thinking Fall 2018 - Spring 2023 (primary terms)

GELO	Meets SLO	Developing SLO	No evidence of SLO	Total
1. Apply the principles of language toward logical thought.	71.8%	16.1%	12.1%	**18,261**
2. Express ideas with clarity and precision.	70.5%	16.9%	12.6%	**24,310**
3. Evaluate communications in whatever symbol system is employed.	71.1%	17.0%	11.9%	**16,145**
Total	**41,722**	**9,816**	**7,178**	**58,716**

Table 6b. Non-Mathematics courses' GELO assessment counts and attainment levels in Area A: Communication and Analytical Thinking Fall 2018 - Spring 2023 (primary terms)

GELO	Meets SLO	Developing SLO	No evidence of SLO	Total
1. Apply the principles of language toward logical thought.	83.8%	10.7%	5.6%	**35,450**
2. Express ideas with clarity and precision.	84.8%	10.0%	5.2%	**28,596**
3. Evaluate communications in whatever symbol system is employed.	85.1%	9.8%	5.1%	**27,454**
Total	**77,304**	**9,340**	**4,856**	**91,500**

Table 11a. Dual enrollment students' SLO assessment counts and attainment, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms)

Area A	Count of assessments	% met outcome
Area A - Mathematics	649	84.6%
Area A - Non-Mathematics	3,749	84.6%
Overall	4,398	84.6%

Table 11b. All students' SLO assessment counts and attainment, Area A: Communication and Analytical Thinking, Fall 2018 - Spring 2023 (primary terms); presented to compare with the dual enrollment data in Table 11a.

Area A	Count of assessments	% met outcome
Area A - Mathematics	58,716	71.1%
Area A - Non-Mathematics	91,500	84.5%
Overall	150,216	79.2%