# Overview

Core competencies at MiraCosta College refer to the over-arching learning outcomes students are expected to acquire as the result of completing coursework required for a degree, certificate or transfer. Each semester the college conducts a classroom assessment of student skill acquisition from both the student as well as the faculty perspective. For the Spring 2019 semester, the college assessed students’ information literacy as well as quantitative literacy and problem solving. This report is divided into two parts to address each assessment separately.

NOTE: As of 7-2-2019, the student portion of the assessment is not yet included.

# Evaluation Methodology

At the end of the semester, faculty volunteers in specific class sections evaluated their students using criteria and a rubric developed locally to assess that competency. Students independently conduct a self-evaluation using similar assessment criteria. This information is then merged and analyzed by the Office of Research, Planning and Institutional Effectiveness (RPIE).

Spring 2019 is the first time information literacy and quantitative literacy have been assessed. The sample sizes for this assessment are somewhat small, resulting in a reduced ability to make broad-based inferences about the student body as a whole. The strength of the inferences will increase over time as more data is collected in future semesters.

## Information Literacy

|  |  |
| --- | --- |
| Table 1: Information Literacy Summary | |
| Number of Course Sections | 11 |
| Students Rated (Duplicated) | 235 |
| Average Rating | 3.14 |

* Students were assessed in the following areas for information literacy
  + Determine the Extent of Information Needed
  + Access the Needed Information
  + Evaluate Information and its Sources Critically
  + Use Information Effectively to Accomplish a Specific Purpose
  + Access and Use Information Ethically and Legally
* Nine faculty in 11 sections participated in the information literacy assessment.
* Students receiving a grade of “W” or who dropped the course prior to census were excluded from the analysis.
* A total of 235 duplicated (231 unduplicated) students were included in the evaluation process
* More than half of the students assessed received an average rating of “3”

Figure 1: Number of Students by Average Information Literacy Rating

### Information Literacy by Component

Figure 2: Average Score by Information Literacy Rubric Component

* Average scores ranged from 3.09 to 3.23
* Three of the five metrics had similar average scores
* The ethical and legal use of information component generated the highest average score, while the use of information to accomplish a specific purpose generated the lowest score.

### Average Information Literacy ScorE by Grade Received

Table 2: Average Rating by Grade Received

|  |  |  |
| --- | --- | --- |
| Grade Received | Number of Students | Average Overall Score |
| A | 119 | 3.39 |
| B | 71 | 3.03 |
| C/P | 36 | 2.69 |
| D | 6 | 2.13 |
| F | 3 | 2.73 |

* Rubric scores were compared with the grade students received in the course to see if there was any kind of relationship between the two variables
* Sample sizes by grade were not yet large enough to measure the strength statistically, however, the heat map below does appear to indicate a relationship between the grade received and the average information literacy score.

Table 3: Information Literacy Heat Map

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Information Literacy Score | | | |
| **Grade Received** | 1 | 2 | 3 | 4 |
| **A** | 0.0% | 4.2% | 51.3% | 44.5% |
| **B** | 4.2% | 5.6% | 63.4% | 26.8% |
| **C/P** | 5.6% | 25.0% | 52.8% | 16.7% |
| **D** | 33.3% | 33.3% | 16.7% | 16.7% |
| **F** | 0.0% | 33.3% | 66.7% | 0.0% |

### Information Literacy Demographic Tables

Table 4: Average Information Literacy Score by Number of Units Completed Prior to Spring 2019

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| 0 Units | 25 | 3.24 |
| 1-15 Units | 82 | 3.14 |
| 16-30 Units | 40 | 3.15 |
| 31-45 Units | 41 | 3.10 |
| 46-60 Units | 25 | 3.10 |
| More than 60 Units | 22 | 3.04 |

Table 5: Average Information Literacy Score by Admission Status

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| First Time Student | 21 | 3.40 |
| Continuing Student | 191 | 3.10 |
| Returning Student | 17 | 3.06 |
| Transfer Student | 5 | 3.28 |
| High School Student | 1 | 4.00 |

Table 6: Average Information Literacy Score by Age Category

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| 17 and Under | 3 | 3.73 |
| 18-24 | 173 | 3.10 |
| 25-30 | 27 | 3.19 |
| 31-40 | 19 | 3.15 |
| 41-50 | 6 | 3.27 |
| Over 50 Years Old | 7 | 3.26 |

Table 7: Average Information Literacy Score by Gender

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| Female | 135 | 3.10 |
| Male | 100 | 3.18 |

Table 8: Average Information Literacy Score by Ethnicity

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| Asian | 21 | 3.34 |
| Black/African American | 5 | 2.64 |
| Hispanic | 101 | 3.12 |
| White | 81 | 3.21 |
| Two or More Races | 19 | 2.94 |
| Unknown | 8 | 2.75 |

### Student assessment of academic Performance – Information Literacy

As a part of the analysis, students were also asked to assess achievement of their own core competencies using the same standards and rubric. Not every student assessed by their instructor also completed the survey, so the population sizes will appear smaller than those seen in the previous tables. One section was unable to complete the survey, and another section completed the survey anonymously, so that data is also not included in the assessment. The figures in this section reflect only those student responses that have a corresponding faculty assessment.

Figure 3: Faculty and Student Assessments Overall – Information Literacy

The faculty assessment of student performance was slightly below that of the students themselves. This is consistent with prior core competency assessments. Figures 4-7 break down the ratings for students and faculty. When comparing the percentage of faculty and students who provided a 3 or 4 rating, the percent gap ranged between five and seven percent.

Figure 4: Student and Faculty Ratings for "Determine the Extent of Information Needed"

Figure 5: Student and Faculty Ratings for "Access the Needed Information"

Figure 6: Student and Faculty Ratings for "Evaluate Information and its Sources Critically"

Figure 7: Student and Faculty Ratings for “Use Information Effectively to Accomplish a Specific Purpose”

## Quantitative Literacy and Problem Solving

|  |  |
| --- | --- |
| Table 9: Quantitative Literacy and Problem Solving Summary | |
| Number of Course Sections | 12 |
| Students Rated (Duplicated) | 231 |
| Average Rating | 2.63 |

* Students were assessed in the following areas for quantitative literacy:
  + Interpretation
  + Representation
  + Calculation
  + Application/Analysis
  + Assumptions
  + Communication
* Ten faculty in 12 sections participated in the quantitative literacy assessment.
* Students receiving a grade of “W” or who dropped the course prior to census were excluded from the analysis.
* A total of 237 duplicated (234 unduplicated) students were included in the evaluation process
* The most commonly awarded score was “2”, but almost as many students received a score of “3.”

Figure 8: Number of Students by Average Quantitative Literacy Rating

### Quantitative Literacy by Component

Figure 9: Average Score by Information Literacy Rubric Component

* Average scores ranged from 2.22 to 3.01
* The calculation component generated the highest average score, while the assumptions component generated the lowest score.

### Average Quantitative Literacy Score by Grade Received

Table 10: Average Rating by Grade Received

|  |  |  |
| --- | --- | --- |
| Grade Received | Number of Students | Average Overall Score |
| A | 92 | 3.22 |
| B | 75 | 2.55 |
| C/P | 57 | 2.00 |
| D | 9 | 2.06 |
| F | 4 | 1.00 |

* Rubric scores were compared with the grade students received in the course to see if there was any kind of relationship between the two variables
* Sample sizes by grade were not yet large enough to measure the strength statistically, however, the heat map below does appear to indicate a relationship between the grade received and the average quantitative literacy score.

Table 11: Quantitative Literacy Heat Map

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Quantitative Literacy Score | | | | |
|  |  | 0 | 1 | 2 | 3 | 4 |
| Course Grade | A | 0.0% | 0.0% | 17.4% | 37.0% | 45.7% |
| B | 0.0% | 8.0% | 40.0% | 30.7% | 21.3% |
| C/P | 3.5% | 15.8% | 52.6% | 22.8% | 5.3% |
| D | 0.0% | 44.4% | 22.2% | 22.2% | 11.1% |
| F | 0.0% | 75.0% | 25.0% | 0.0% | 0.0% |

### Quantitative Literacy Demographic Tables

Table 12: Average Quantitative Literacy Score by Units Completed

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| 0 Units | 17 | 2.63 |
| 1-15 Units | 39 | 2.41 |
| 16-30 Units | 56 | 2.48 |
| 31-45 Units | 47 | 2.83 |
| 46-60 Units | 32 | 2.85 |
| More than 60 Units | 46 | 2.66 |

Table 13: Average Quantitative Literacy Score by Admission Status

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| First Time Student | 12 | 2.65 |
| Continuing Student | 200 | 2.66 |
| Returning Student | 20 | 2.19 |
| Transfer Student | 4 | 3.00 |
| High School Student | 1 | 3.83 |

Table 14: Average Quantitative Literacy Score by Age Group

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| 17 and Under | 3 | 3.44 |
| 18-24 | 156 | 2.65 |
| 25-30 | 54 | 2.58 |
| 31-40 | 17 | 2.35 |
| 41-50 | 5 | 3.07 |
| Over 50 Years Old | 2 | 3.08 |

Table 15: Average Quantitative Literacy Score by Gender

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| Female | 133 | 2.46 |
| Male | 100 | 2.87 |
| Unknown | 2 | 2.84 |

Table 16: Average Quantitative Literacy Score by Ethnicity

|  |  |  |
| --- | --- | --- |
|  | n | Average Score |
| American Indian/Alaska Native | 1 | 3.17 |
| Asian | 23 | 2.78 |
| Black/African American | 2 | 2.83 |
| Hispanic | 92 | 2.45 |
| Pacific Islander | 1 | 1.83 |
| White | 97 | 2.73 |
| Two or More Races | 16 | 2.99 |
| Unknown | 5 | 2.23 |

### Student assessment of academic Performance – Quantitative Literacy

As a part of the analysis, students were also asked to assess achievement of their own core competencies using the same standards and rubric. Not every student assessed by their instructor also completed the survey, so the population sizes will appear smaller than those seen in the previous tables. One section was unable to complete the survey, and another section completed the survey anonymously, so that data is also not included in the assessment. The figures in this section reflect only those student responses that have a corresponding faculty assessment.

Figure : Faculty and Student Assessments - Quantitative Literacy

Unlike the student/faculty assessments in the Information Literacy portion of this report, there were stark differences between student and faculty perspectives. Figure 10 compares the average overall ratings. Figure 11 illustrates the percentage gaps between students who rated themselves as a 3 or 4 and the faculty who rated them the same way. Figures 12 through 17, compare each criteria.

Figure 11: Percentage Gap between Student and Faculty Ratings of "3'" and "4"

Figure 12: Student and Faculty Ratings for "Interpretation”

Figure 13: Student and Faculty Ratings for "Representation"

Figure 14: Student and Faculty Ratings for "Calculation"

Figure 15: Student and Faculty Ratings for "Application/Analysis"

Figure 16: Student and Faculty Ratings for "Assumptions"

Figure 17: Student and Faculty Ratings for "Communication"