ILO Assessment

Critical Thinking

Fall 2022

Institutional Research and Planning

Palomar College

July, 2023

Table of Contents

Section I: Introduction

GE ILOs are typically assessed on a three-year cycle under the direction of the Learning Outcomes Subcommittee and represent the overall set of abilities and qualities that a student should possess when graduating from Palomar College. This study focuses on the assessment of one GEILO in Fall 2022: Critical Thinking.

Critical Thinking is considered a habit of the mind involving comprehensive exploration of issues, ideas, artifacts, and events before coming to a conclusion or forming an opinion. It involves developing an open mind and identifying assumptions, implications, and an awareness of personal bias. There were five dimensions assessed for Critical Thinking: (1) Conceptualization of Issues; (2) Conclusions; (3) Evidence; (4) Questioning Viewpoints; and (5) Influence of Context and Assumptions.

Section II: Assessing GE ILOs

Process

In the Fall 2022, all faculty who taught courses semester mapped to the Critical Thinking GEILO were asked to assess a sample of their students' work related to one or more of the associated dimensions. This means that faculty may have assessed as few as one or as many as five dimensions. Faculty members assessed 1,808 students across 114 course sections. These assessments were broken down by student demographics, and statistics based on fewer than 10 students were suppressed.

Rubrics

Rubrics were used to assess each dimension for a given GEILO on the following rating scale:

Meets outcome
Outcome nearly met
Outcome not met
No submission

The Critical Thinking rubrics, developed by the Learning Outcomes Subcommittee, were adapted from the *Critical Thinking Group* and the *Association of American Colleges & Universities VALUE* rubrics (see *Appendix A* for the full rubrics).

Faculty were asked to apply the rubrics to an assignment, test, or discussion that captured the students' ability to meet a dimension of the outcome. Faculty members had the option of assessing one or more of the dimensions within a given GEILO, but were asked to use each rubric only one time per student per course (i.e., a student should only be assessed once per dimension within that course). Rubrics for each GEILO were available within Canvas, and faculty manually entered the scores for each assessment into the rubric.

Section III: Critical Thinking

There are five dimensions for Critical Thinking: Conceptualization of Issues, Conclusions, Evidence, Questioning Viewpoints, and Influence of Context and Assumptions (see *Appendix A*). Because faculty selected the number of dimensions they assessed, not all students were assessed on all dimensions and students were duplicated across dimensions. Figure 1 shows the percentage of students who were assessed on one or more dimensions. The majority (66.5%) of students were assessed on only one dimension (see *Figure 1*).

Figure 1. *Distribution of Students Assessed for Critical Thinking by Number of Dimensions*

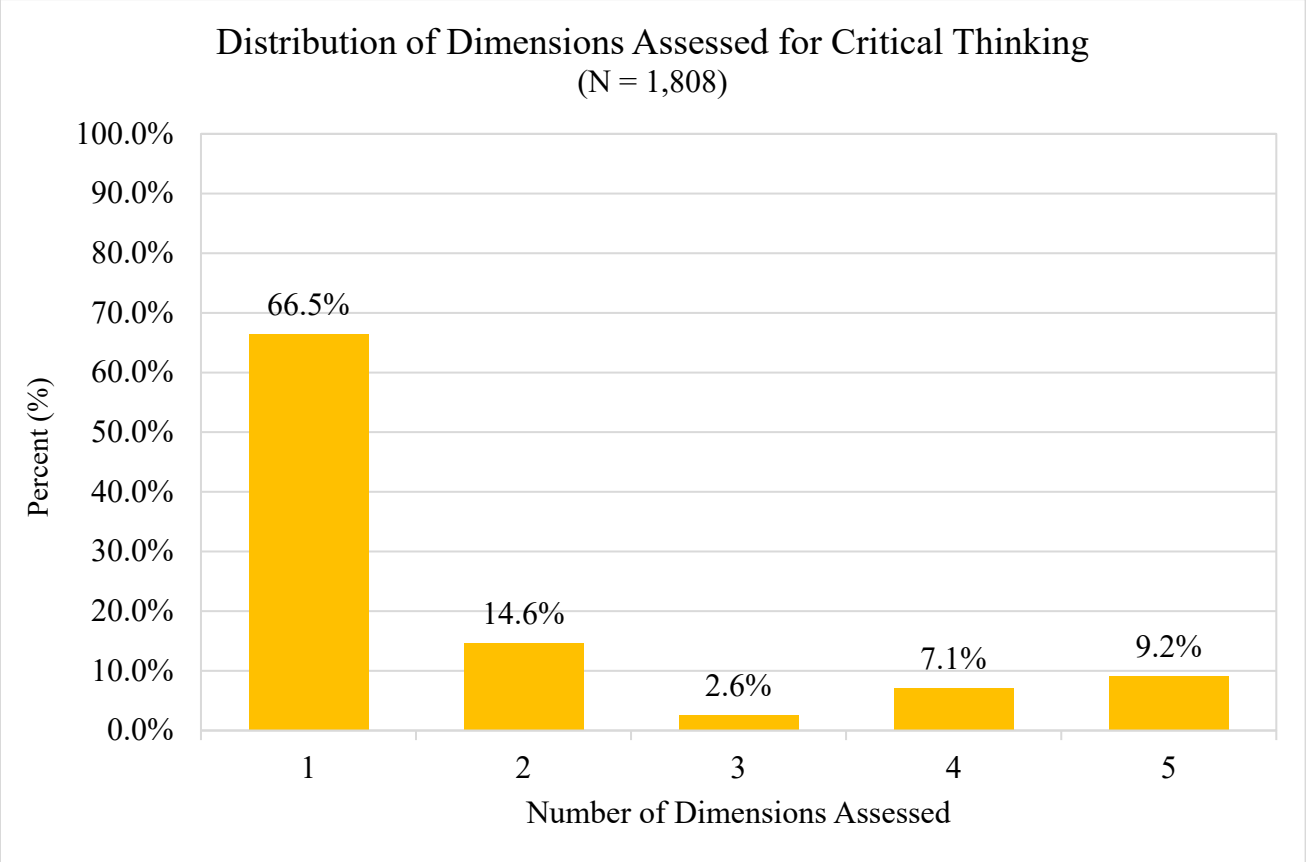


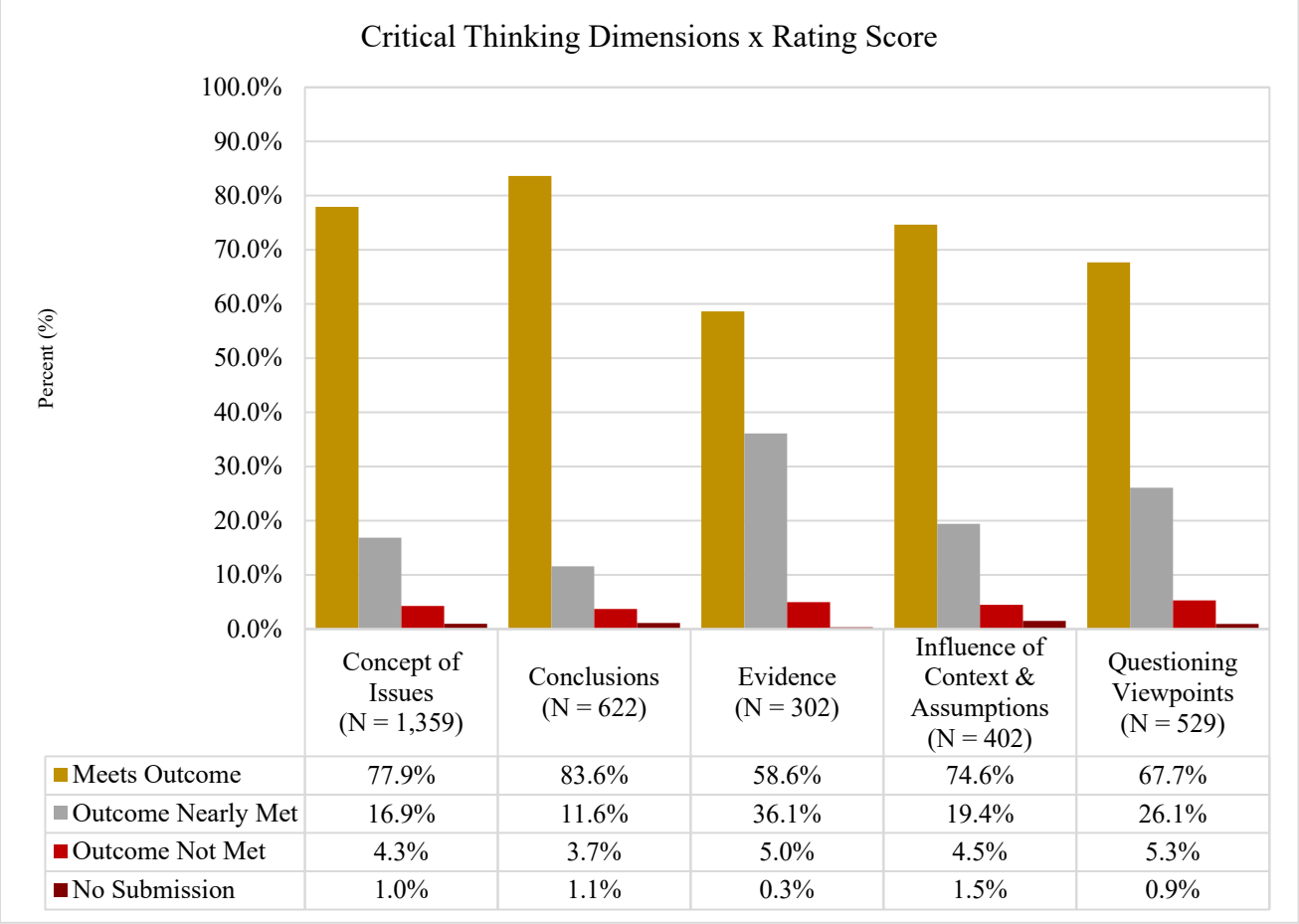
Table 2 provides the number of assessments per dimension of Critical Thinking. The most frequently assessed dimension was Conceptualization of Issues (1,359 assessments) followed by Conclusions (622 assessments). These represent 75.2% and 34.4% of students who were assessed on Critical Thinking. The least frequently assessed dimension was Evidence (302 assessments) which represents 16.7% of assessed students.

Table 2. *Number of Assessments for Critical Thinking by Dimension*

ILO	Learning Outcome Dimension	# Assessed
Critical Thinking	Conceptualization of Issues	1,359
	Conclusions	622
	Evidence	302
	Influence of Context & Assumptions	402
	Questioning Viewpoints	529
	Total Assessments of Critical Thinking Dimensions	**3,214**

For each Critical Thinking dimension, most students were rated as Meets Outcome (see *Figure 2*).

Figure 2. *Distribution of Students Assessed for Critical Thinking by Number of Dimensions*



Student Characteristics

Overall, students assessed on the Critical Thinking learning outcome were more likely to be female (58.4%), to be between the ages of 18-24 (68.8%), and to be Hispanic (52.1%).

Table 3. *Critical Thinking Assessments by Student Characteristics*

	Assessments	
Characteristic	#	%
Gender		
Female	1,055	58.4%
Male	730	40.4%
Non-binary	5	0.3%
Unknown	18	1.0%
Age Group		
17 and Under	115	6.4%
18-24	1,243	68.8%
25-29	176	9.7%
30-39	174	9.6%
40-49	58	3.2%
50-64	42	2.3%
Race and Ethnicity		
American Indian/Alaska Native	7	0.4%
Asian	75	4.1%
Black or African American	44	2.4%
Filipino	47	2.6%
Hispanic	942	52.1%
Native Hawaiian/Pacific Islander	4	0.2%
White	559	30.9%
Two or More Races	113	6.3%
Unknown	17	0.9%
Total	**1,808**	**100.0%**

Source: PAL PeopleSoft

Table 4 shows that across dimensions, a higher percentage of female students received a score of Meets Outcome compared to male students.

Table 4. *Percent of Students who Met Outcome by Dimension and Gender*

	Dimension									
	Conceptualization of Issues		Conclusions		Evidence		Influence of Context & Assumptions		Questioning Viewpoints	
Gender	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome
Female	764	79.6%	369	86.4%	171	63.7%	218	79.4%	297	71.0%
Male	579	76.2%	247	79.8%	127	52.8%	179	69.8%	225	64.0%
Non-binary	N<10	N<10	-	-	N<10	N<10	N<10	N<10	N<10	N<10
Unknown	13	61.5%	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10
Total Assessments	**1,359**	**77.9%**	**622**	**83.6%**	**302**	**58.6%**	**402**	**74.6%**	**529**	**67.7%**

Source: Pal PeopleSoft

Table 5 presents the percentage of students by age group who received a score of Meets Outcome.

Table 5. *Percent of Students who Met Outcome by Dimension and Age*

	Dimension									
	Conceptualization of Issues		Conclusions		Evidence		Influence of Context & Assumptions		Questioning Viewpoints	
Age Group	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome
17 and Under	110	89.1%	64	84.4%	41	87.8%	19	84.2%	21	76.2%
18-24	955	75.7%	403	80.4%	201	50.7%	281	71.2%	376	66.5%
25-29	115	77.4%	58	93.1%	24	58.3%	41	82.9%	59	76.3%
30-39	115	84.3%	59	89.8%	19	52.6%	35	74.3%	46	63.0%
40-49	37	75.7%	19	94.7%	11	90.9%	14	85.7%	16	50.0%
50 & Over	27	88.9%	19	89.5%	N<10	N<10	12	100.0%	11	90.9%
Total Assessments	**1,359**	**77.9%**	**622**	**83.6%**	**302**	**58.6%**	**402**	**74.6%**	**529**	**67.7%**

Source: Pal PeopleSoft

Table 6 presents the percentage of students by race and ethnicity who received a score of Meets Outcome.

Table 6. *Percent of Students who Met Outcome by Dimension and Race and Ethnicity*

	Dimension									
	Conceptualization of Issues		Conclusions		Evidence		Influence of Context & Assumptions		Questioning Viewpoints	
Race and Ethnicity	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome	# Assessed	% Meets Outcome
American Indian / Alaska Native	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10
Asian	66	74.2%	36	83.3%	27	70.4%	24	87.5%	19	73.7%
Black or African American	30	70.0%	13	84.6%	N<10	N<10	11	72.7%	15	80.0%
Filipino	34	79.4%	16	81.3%	N<10	N<10	17	82.4%	20	65.0%
Hispanic	703	75.7%	301	80.4%	143	51.0%	178	71.3%	271	63.5%
Native Hawaiian/Pacific Islander	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10
White	420	81.9%	200	88.0%	94	66.0%	140	76.4%	167	73.7%
Two or More Races	84	81.0%	45	84.4%	22	68.2%	26	76.9%	29	69.0%
Unknown	13	84.6%	N<10	N<10	N<10	N<10	N<10	N<10	N<10	N<10
Total Assessments	**1,359**	**77.9%**	**622**	**83.6%**	**302**	**58.6%**	**402**	**74.6%**	**529**	**67.7%**

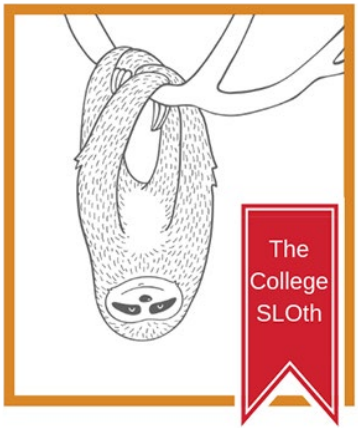
Source: Pal PeopleSoft

Section V: Summary

In Fall 2022, as part of the three-year cycle, Palomar College assessed the Critical Thinking institutional learning outcome.

The following are some key summaries of the data:

- A total of 1,808 students were assessed on Critical Thinking with the majority (66.5%) being assessed on only one dimension.
- Across dimensions, there were 3,214 assessments. The most frequently assessed dimensions were Conceptualization of Issues (42.3%) followed by Conclusions (19.4%).
- Across the five assessed dimensions, most students were rated as "Meets Outcome."
- Assessed students were more likely to be female (58.4%), to be between the ages of 18-24 (68.8%), and to be Hispanic (52.1%).
- Across dimensions, higher proportions of female students were assessed as Meets Outcome compared to male students.



Critical Thinking

Definition:

Critical thinking is a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion. - AACU

According to the Foundation for Critical Thinking, “Critical thinking is the intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. ” At Palomar College, we also believe critical thinking involves the development of open- mindedness, and the identification of assumptions and implications and awareness of one’s own biases.

RUBRICS for the 5 Dimensions of the Critical Thinking Outcome

Select one or more of these rubrics to assess the dimensions of critical thinking. **Add the rubric to the assignment, test, or discussion that best captures students’ ability to demonstrate the specific dimension. Please use each rubric no more than once per course.**

Dimension	Meets outcome (5)	Outcome nearly met (3)	Outcome not met (1)	No Submission (0)
Conceptualization of issues	Issue/Problem/ Interpretation to be considered is stated or demonstrated clearly, delivering relevant information when necessary for full understanding.	Statement of the issue/problem/ interpretation was attempted, but understanding appears impeded based on omissions and/or imprecision.	Issue/Problem/ Interpretation was not attempted or was clearly misunderstood	

Dimension	Meets outcome (5)	Outcome nearly met (3)	Outcome not met (1)	No Submission (0)
Conclusions	Conclusions clearly follow in a logical manner from premised and supporting ideas with no omissions and logical flaws. The relationship between premises and conclusions is clearly demonstrated.	Conclusions are derived in a somewhat logical fashion from premised and supporting ideas, but with significant omissions and/or logical flaws. The relationship between premises and conclusions is not well-demonstrated.	Conclusions and/or premises are missing and/or unclear.	

Dimension	Meets outcome (5)	Outcome nearly met (3)	Outcome not met (1)	No Submission (0)
Evidence	Selects relevant sources that strengthen the credibility and/or authority of the points/conclusion because the sources are of such high quality according to the standards of the assignment/discipline.	Selects relevant sources that do not strengthen the credibility and/or authority of points/ conclusion because the sources are of poor quality according to the standards of the assignment/discipline.	Selects sources that are not relevant to the issue and/or are of such poor quality according to the standards of the assignment/discipline that they weaken the credibility and/or authority of the points/conclusions.	

Dimension	Meets outcome (5)	Outcome nearly met (3)	Outcome not met (1)	No Submission (0)
Questioning viewpoints	Personal viewpoints take into account the complexities of an issue and those of sources and authorities and are questioned thoroughly and acknowledged within student's position.	Personal viewpoints are simplistic and obvious and those of sources and authorities are taken mostly as fact, with little questioning.	Personal viewpoints are missing and/or unclear and those of sources and authorities are taken as fact, without question.	

Dimension	Meets outcome (5)	Outcome nearly met (3)	Outcome not met (1)	No Submission (0)
Influence of context and assumptions	Identifies own and others' assumptions and relevant context(s) when presenting a position.	Begins to identify relevant context(s) when presenting a position. Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions).	Influence of context and relevant assumptions are missing and/or unclear.	

Definitions and rubric dimensions adapted from the Critical Thinking Group and the Association of American Colleges & University VALUE rubrics