

# University Summary Report: Critical Thinking Assessment of Student Learning for Graduate Programs

December 16, 2020, version 1

## INTRODUCTION

**Special Note about COVID-19:** It is important to note that a significant amount of the work referenced in this report was completed during the COVID-19 pandemic that began in the Spring of 2020 and continued in the Fall of 2020 when this report was written. This includes the collection, assessment, and analysis of student work in college discussions, and implementing college and University changes - all of which were impacted to some degree. While a moderate amount of assessment work was delayed one term, assessment efforts moved forward. The Educational Effectiveness Committee, along with other academic committees such as CAPR and the ILO Subcommittee, supported ongoing reflection about student learning for mindful, flexible, and nimble decision making during this dynamic period. Additionally, teaching, learning, and assessment discussions and decision-making related to diversity, inclusion, and social justice issues were a critical part of academic assessment during this time.

### Purpose

[Institutional Learning Outcomes \(ILOs\)](#) are those learning outcomes that are expected of every graduate of the institution, both undergraduate and graduate, and are closely aligned with [General Education](#) requirements. ILO Assessment follows the [ILO Long Term Assessment Plan](#) which aligns the assessment schedule for undergraduate, graduate, and the [GE Long-term Assessment Plan](#).

Following the schedule for the [ILO Long Term Assessment Plan](#), Cal State East Bay has gathered recent student learning data to support the assessment of the University's Critical Thinking Institutional Learning Outcome. These data are intended to provide additional context for existing academic review discussions, analysis, and decision making to improve student learning.

### Overview of Critical Thinking

Graduate students would be expected to have mastered general critical thinking skills as part of their undergraduate degree. Critical thinking goals in graduate programs would then be aimed at developing and mastering discipline-specific skills such as assessing the reliability of information in an applied context, drawing upon past clinical experiences to solve patient problems, defining the needs of the target audience to improve communication strategies, or

using a deliberate approach to evaluating and strengthening options for teaching reading. Development of these discipline-specific critical thinking skills is completed within major courses in a student's degree major. Students who have not mastered general critical thinking skills prior to admission may address that deficiency by completing courses which fulfill the undergraduate GE Area C4 Arts/Humanities and D4 Social Sciences coursework or by completing major-specific courses incorporating critical thinking in programs where those courses are available.

## METHODS

CSUEB Academic Senate policy requires that each graduate program align to at least two university ILOs, as specified in the ILO Long-Term Assessment Plan. All graduate programs have submitted ILO-PLO mappings to indicate the ILOs to which they would align, and these alignments are available on the College assessment web pages.

There is wide variation in the goals of the various graduate programs with respect to the Critical Thinking ILO (e.g., evaluation of the range of information producers and stakeholders for educational issues vs. demonstration of the understanding and application of communication research methods.) In addition, some programs are subject to outside accreditation organizations which specify their own criteria and rubrics for assessing critical thinking skills. As a result, each aligned graduate program was asked to specify a rubric to be used to assess the Critical Thinking ILO. Programs could choose to use the university rubric developed to assess undergraduate work, modify the university rubric, develop their own discipline-specific rubric, or use a rubric specified by an outside accrediting agency. This process is in contrast to the assessment of ILOs in the undergraduate programs where a common university rubric is used to assess all undergraduate work across all programs for each ILO.

Each aligned graduate program identified one or more graduate courses in which the ILO was to be assessed, and the instructor of the course was asked to identify or develop an assignment that could be effectively used for assessment purposes. Individual programs decided how many samples they would gather in each assessed course and also identified faculty members responsible for applying the specified rubrics to generate the assessment data. The results of the assessment efforts were provided in each program's annual report to the Academic Senate [Committee on Academic Planning and Review \(CAPR\)](#) and to the [Office of Graduate Studies](#).

### **Assessment of Graduate Level ILO Critical Thinking Student Work 2019- 2020**

Seventeen of the thirty-five graduate programs at CSUEB chose to align one or more of their Program Learning Outcomes with the Critical Thinking ILO and hence participated in assessment of that ILO in 2019-2020. Programs from all four of the CSUEB colleges were represented.

Table 1. Numbers of programs aligned by college for Critical Thinking ILO 2019-20.

<b>College</b>	<b>Programs Represented</b>	<b># Programs Aligned to Written Communication ILO</b>
CBE	Accountancy	1
CEAS	Counseling – Marriage and Family Therapy concentration Educational Leadership (EdD) Educational Technology Reading and Literacy Hospitality, Recreation, and Tourism Kinesiology	6
CLASS	Communication Healthcare Administration History Music Public Administration Social Work Speech Language Pathology	7
CSCI	Biological Sciences Environmental Geosciences Nursing	3

No common process was specified for collecting or assessing data. Again, some programs were subject to assessment requirements from outside accrediting organizations. Others intended to gather data from small available samples of students completing theses, or from courses with large enrollment and multiple sections. As a result, each program was asked to specify their own assessment process and describe the process when reporting their results. Some programs assessed assignments from all students in an assessed class, and others chose a small number randomly. Most programs used a single assessor to assess each assignment.

## **RESULTS**

### **Assessment of Graduate Level ILO Critical Thinking Student Work 2019-2020**

#### **Student Performance**

The results of the assessment from each graduate program were specified based upon the rubric that they used. Four programs used the university ILO rubric for assessing undergraduate programs and one used a modified version of the university rubric. The remainder developed

their own rubrics or used the ones required by their accrediting bodies. The variations in rubric criteria and the number of criteria may exemplify wide variation in the outcomes specified by the graduate programs at CSUEB in terms of critical thinking skills or may be the result of discipline-specific terminology and proposed assessment methods in specifying those outcomes.

Table 2. Characterization of Rubrics for Critical Thinking ILO Assessment

College	Program	Rubric	# Criteria	Scale
CBE				
	Accountancy	Discipline-specific	4	0-8
CEAS				
	Counseling- Marriage and Family Therapy concentration	Accrediting Organization	7	1-5
	Educational Leadership (EdD)	Discipline-specific	2	1-4
	Educational Technology	Discipline-specific	6	1-3
	Reading and Literacy	Discipline-specific	5	1-4
	Hospitality, Recreation, and Leisure	University	6	1-4
	Kinesiology	University	6	1-4
CLASS				
	Communication	University	6	1-4
	Healthcare Administration	Discipline-specific	1	1-3
	History	University (modified)	6	1-4
	Music	Discipline-specific	6	1-4
	Public Administration	Discipline-specific	2	1-4
	Social Work	Accrediting Organization	1	1-100
	Speech Language Pathology	University	6	1-4
CSCI				
	Biological Sciences	Discipline-specific	6	1-4
	Environmental Geosciences	Discipline-specific	N/A	N/A
	Nursing	Discipline-specific	4	0-8

Given the variation in criteria used for assessment, direct comparison is problematic. That said, all programs have a common goal of measuring various aspects of proficiency in critical thinking skills. As such, there appears to be a degree of commonality in the criteria with many programs using at least a number of criteria similar to the university rubric criteria. In the absence of a mapping from discipline-specific criteria to university rubric criteria, which might allow for detailed comparisons on a per-criteria basis, a rough comparison was completed using the following method. Scores were averaged across criteria on a per-program basis, rescaled to a 1-4 scale, and then averaged across all programs in a college, and finally across all programs in the university. One might interpret these numbers as estimates of how programs themselves see the proficiency levels of their students, where various programs may hold different expectations as to the manner in which proficiency may be demonstrated by their students.

The results of the assessment of critical thinking performance for the Critical Thinking ILO on a per-program basis ranged between 3.21 to 3.91 on a 1-4 scale. The interpretation of the ranking values for the university rubric is given below. Only one program from CBE was aligned to the Critical Thinking ILO, and so those results have not been shown in the College view for confidentiality reasons.

Table 3. Average score on all Critical Thinking criteria on scale of 1-4

	<b>University</b>	<b>CBE</b>	<b>CEAS</b>	<b>CLASS</b>	<b>CSCI</b>
<b>Average score</b>	3.54	Withheld due to low N	3.61	3.63	3.29

**1 – Major Gaps      2 – Some Gaps      3 – Competent      4 – Fully Competent**

Perhaps more useful are some themes that emerged throughout the ILO assessment reports.

- Most programs were satisfied with the critical thinking proficiency of their students across most of the criteria that they assessed.
- Several programs identified one or two criteria in which their students struggled to show proficiency, where the criteria of concern varied with the program. In most cases, the programs suggested concrete plans for addressing the concerns, many of which were already in the process of being implemented.
- In all cases, programs which identified concerns specified that those concerns could and would be addressed within the programs themselves. This is in contrast to comments made when reviewing results of the Written Communication ILO assessment from 2018-2019 where many programs suggested solutions that would need to be implemented at the University level.

### **Program Feedback Highlights for Critical Thinking**

Highlights of feedback from programs which aligned to the Critical Thinking ILO, taken from their ILO assessment reports, included:

#### **Example Successes**

- “... there is a significant improvement from the results of summer 2020 compared to 2016 on learning objective 2A. ... This improvement in assessment result is due to the instructor taking improvement actions in this course by taking students through each project by guiding students with hands-on analysis for each project.”
- “It is encouraging to see high scores in Use of Evidence and Alternative Viewpoints as this reflects our Department’s push for the use of evidence to support their topics and having them thinking broadly across the subdisciplines to further their understanding. For several students, establishing a case for their topic based on the current literature as well as drawing implications from study findings were in need of improvement.”
- “Students generally demonstrated systematic approaches to clinical diagnosis and treatment, using client-specific information and content knowledge in the field to make appropriate decisions in assessment and intervention.”
- “All met or exceeded expectations with respect to explaining their issues and research topic, use of evidence, context and assumptions, alternative viewpoints.”

### **Example Challenges**

- “With a highly diverse student population, we have some students whose primary language is not English and they might not be able to express their viewpoints and to cite evidence in clear academic language. This could be why we have some scores of 2s in use of evidence and alternative viewpoints.”
- “One important finding is that most students struggle with APA formatting, despite explicit instruction and access to multiple online resources. The program will need to reevaluate how APA is presented; a competency-based module may be in order.”
- “... scores indicate there is room for improvement across each of the four criteria (see Instrument). These can be addressed through curricular and co-curricular efforts.”
- “While the majority of students performed well on this assignment and all students passed comprehensive exams, there are indicators that our students continue to need explicit clinical instruction and practice in critical thinking as applied to clinical decision-making.”

### **STUDENT LIFE AT CSUEB IN 2019-2020**

The [University Summary Report](#) on Critical Thinking assessment includes extensive information regarding the impact of COVID-19, the resulting quarantine, the Black Lives Matter movement and other social justice movements on the well-being and mental state of CSUEB students. Graduate students underwent the same stressors as CSUEB university students as a whole. In addition, due to the larger proportion of graduate students who are international, they also were subjected to uncertainties regarding visa status and international travel, and possible racial discrimination. Graduate students are more likely to be the heads of households and to hold full-time jobs, leading to greater consequences if their employment was reduced or eliminated. Finally, graduate students are more likely to be conducting research than undergraduates. As almost all lab-based research and research that was to be conducted in the field was suspended for the last half of Spring 2020, many graduate students were unable to complete capstone course requirements.

CSUEB faculty and staff were greatly impacted and affected by COVID-19 and social justice movements as well, both personally, and in their efforts to support CSUEB students. The fact that all programs completed assessment activities in the face of these challenges reflects the importance the university attaches to the assessment process and the dedication of the faculty and staff personnel.

### **PROCESS CONSIDERATIONS FOR FUTURE GRADUATE PROGRAM ILO ASSESSMENT CYCLES**

In discussions with Educational Effectiveness Committee (EEC) members, and the Dean of Academic Programs and Services, it became clear that it would be advantageous to refine some processes regarding the reporting of ILO assessment data to the Committee on Academic Programs and Resources (CAPR). Some of the issues that could be clarified include:

- Specifying responsibility for ensuring that program annual reports are submitted to CAPR by the due date.
- Specifying responsibility for ensuring that program annual reports contain the required ILO assessment results.
- For programs undergoing five-year review, who are eligible to submit truncated annual reports, that those reports include ILO assessment results.
- For programs which are accredited by discipline-specific accreditation organizations, that a clear mapping of accreditation organization assessment criteria to university ILO criteria be supplied.

In addition, while CAPR has specified a [long-term schedule](#) for ILO assessment, most programs do not follow this schedule and use their own assessment schedule or one specified by their accreditation organization. This often results in programs assessing both their own PLO and an unrelated university ILO in one year. In some cases, due to the confusion, programs have failed to assess and collect the assessment data needed for ILO assessment. If program and CAPR schedules were synchronized, there would be less opportunity for error and hopefully less work to complete. It might be useful for CAPR to recommend that programs match their assessment schedules to the CAPR schedule to the extent possible.

## DISCUSSIONS

### SUGGESTIONS FOR COLLEGE AND GRADUATE ADVISORY COUNCIL DISCUSSIONS

#### **Role of ILO Subcommittee**

The ILO Subcommittee will review calibration results and faculty feedback in order to recommend potential changes to the Critical Thinking ILO Rubric and the ILO Assessment process for undergraduate work. Graduate programs currently using the university rubrics may then decide whether to adopt any proposed changes or move to a discipline-specific rubric.

#### **Graduate Advisory Council meetings**

Discussion of ILO assessment results will be placed on the agenda for the Spring 2021 Graduate Advisory Council meetings. Graduate coordinators will be asked to review results and discuss changes made to improve students learning, as well as evaluating the assessment process in order to add meaning to the results and help to improve processes for future assessment cycles.

#### **College/Unit Discussions**

Led by associate deans, each college/unit will decide their own approach to reviewing results and conducting discussions generally following the schedules outlined in ILO Long Term Assessment Plan and EEC Communication Plan focused on discussions in fall of 2020 and implementation in Spring 2021. This includes reviewing those results that add meaning to their discussions about improving student performance in Critical Thinking skills.

### **Support for College and Graduate Advisory Council Discussions**

Please see University Summary Report for contacts and potential meeting format. Possible additional graduate-specific discussion questions include:

1. How do results of graduate assessment compare to undergraduate assessment in departments with both undergraduate and graduate programs? Were results as expected?
2. Were there commonalities between programs in areas of student proficiency or gaps? Can common solutions for addressing gaps be suggested?
3. What is the importance of each criteria within a rubric? Should weights be assigned?
4. Are expectations for proficiency for similar criteria different between programs or colleges? Should they be?
5. Which critical thinking interventions are working well, and which are not, for graduate students in particular?
6. What else can be done to improve critical thinking skills?