Critical Thinking
Institutional Assessment Report

2019-2020*

Core Competency/Area	Critical Thinking (ILO and WSCUC Core Competency)
Assessment Project Name	Critical Thinking Assessment Project
Assessment Cycle Year	2019-2020
Person Submitting Report	Alan Rosenfeld
Date Report Submitted	November 2021

**This project was delayed due to the COVID-19 pandemic and the ensuing departure of the Director of Assessment. Although the majority of student artifacts were collected during the 2019-2020 academic year, the rubric based assessment of those artifacts did not occur until 2021.*

Overview

The University of Hawai‘i – West O‘ahu (UH West O‘ahu) is committed to improving educational effectiveness through assessment projects that involve the work of faculty, staff, and students. Campus-wide assessment projects target WASC Senior College and University Commission (WSCUC) Core Competencies, and draw on the protocols, rubrics, and processes outlined by the AAC&U VALUE Institute and other similar assessment organizations. Further, these projects take into account national standards and best practices not only for assessment, but also for evaluating how students meet WSCUC Core Competencies and what professional learning could support faculty and staff in strengthening their teaching approaches and practices.

As a result of this commitment, **the present report shares key findings, individual course assessments, and recommendations for the teaching of Critical Thinking in AY 2019-20**. Critical Thinking constitutes Institutional Learning Outcome #3 for UH West O‘ahu as well as one of the five WSCUC Core Competencies.

Critical Thinking Learning Outcome

One of the WSCUC Core Competencies is Critical Thinking. WSCUC Criteria for Review (CFR) 2.2a specifies that undergraduate programs must “ensure the development of core competencies which includes critical thinking.” Further, CFR 2.2a requires that an institution

explain learning outcomes in relation to those core competencies and demonstrate the extent to which those outcomes are achieved.

At UH West O‘ahu Institutional Learning Outcomes (ILOs) directly flow from the WSCUC Core Competencies. ILO 3: Critical Thinking is defined as the “demonstrat[ion] of critical skills by applying information to make well-reasoned arguments and/or solve a problem. As documented in the institution’s General Catalog, the ILO of Critical Thinking entails “using research, knowledge, math, data, ideas, concepts, theories, or other information to reason or solve a problem logically.”

In addition to serving as an ILO, Critical Thinking, in various forms, exists as an explicit Degree Learning Outcome (DLO) in four (4) of UH West O‘ahu’s nine (9) degree programs:

Degree Program	DLO #	DLO Content
Business Administration	1	Demonstrate **critical thinking**, research and communication skills as applied to organizations.
Education	5	Understand how to connect concepts and use differing perspectives to engage learners in **critical thinking**, creativity, and collaborative problem solving related to authentic local and global issues
Public Administration	1	Demonstrate **critical thinking**, research, and communication skills as applied to the public and private sectors.
Social Sciences	5	**Critical thinking** about the knowledge, theories, literature or methods of a Social Sciences discipline.

UH West O‘ahu’s other five (5) degrees feature DLOs that align with the Critical Thinking ILO and treat particular aspects of critical thinking, such as ethics and research analysis. For example, DLO #4 of the B.S. in Cybersecurity focuses on “ethical and legal issues in the global cyber environment,” while DLO #3 in the B.A. in Creative Media establishes a goal of making “sound ethical and legal decisions in creating and using creative media” and the Bachelor of Applied Science contains a DLO focusing on “ethical issues relevant to managers and practitioners in applied sciences.” In terms of research analysis skills, DLO #2 of the B.S. in Natural Science measures students’ ability to “find, read, and critically review scientific literature,” while DLO #6 of the B.A. in Humanities asks students to “analyze research questions, problems, and issues,” and DLO #3 of the aforementioned Applied Science degree prompts students to “analyze scientific results, using quantitative and qualitative techniques.” In this sense, critical thinking—in its various facets—is a core skill at UH West O‘ahu that cuts across disciplines to permeate the curriculum. Every degree program has established at least one DLO that aligns with the WSCUC Core Competency and ILO of Critical Thinking.

Assessment Cycle and Process

The assessment cycle for Critical Thinking was impacted by employee turnover, health-related leaves, the onset of the coronavirus pandemic, and institutional funding challenges resulting from the pandemic-induced (dramatic) decline in state revenue generation and budget allocations. As with other learning outcomes, assessment representatives from each of the academic divisions worked with their faculty during the 2019-2020 academic year to identify courses to participate in the assessment project, using curriculum maps to determine the appropriate competency level (e.g., introduce, reinforce, master) for each participating course. However, although several hundred student artifacts were collected during AY 2019-2020 and made available to the Director of Assessment, the rubric-based assessment of a subset of those artifacts did not occur until the summer of 2021. Furthermore, since the volume and utility of student artifact contributions varied significantly from one degree program to the next, select division chairs were tasked once more to collect and submit artifacts during the Fall 2020 semester in order to fill anticipated gaps and provide balance to the larger assessment project.

The rubric-based assessment of student artifacts was conducted by an ad hoc Critical Thinking Assessment Team consisting of faculty members supported by the Office of the Vice Chancellor for Academic Affairs and led by the Campus Assessment Coordinator, using an adapted version of the AAC&U's Critical Thinking VALUE rubric. While the UH West O'ahu adaptation (found below) also contained four (4) levels, it featured only three (3) dimensions rather than the five (5) found in the AAC&U version: (a) evidence, (b) influence, and (c) conclusions. The number of artifacts initially submitted varied tremendously from one degree program to the next. In order to make the project manageable and provide balance across degree programs, the faculty Critical Thinking assessment team therefore selected a sample of 137 student artifacts emanating from forty (40) course sections stretching across all nine (9) degrees.

UH West O'ahu's Critical Thinking Assessment Rubric

	Highly Proficient	Proficient	Developing	Benchmark
	4	3	2	1
Evidence: Selecting and using information to investigate a point of view or conclusion	Information is taken from source(s) with enough interpretation/ evaluation to develop a comprehensive analysis or synthesis.	Information is taken from source(s) with enough interpretation/ evaluation to develop a coherent analysis or synthesis.	Information is taken from source(s) with some interpretation/ evaluation, but not enough to develop a coherent analysis or synthesis.	Information is taken from source(s) without any interpretation/ evaluation.
	Viewpoints of experts are questioned thoroughly.	Viewpoints of experts are subject to questioning.	Viewpoints of experts are taken as mostly fact, with little questioning.	Viewpoints of experts are taken as fact, without question.
Influence of context and assumptions	Thoroughly (systematically and methodically) analyzes own and others' assumptions and carefully evaluates the relevance of contexts when presenting a position.	Identifies own and others' assumptions and several relevant contexts when presenting a position.	Questions some assumptions. Identifies several relevant contexts when presenting a position. May be more aware of others' assumptions than one's own (or vice versa).	Shows an emerging awareness of present assumptions (sometimes labels assertions as assumptions). Begins to identify some contexts when presenting a position.
Conclusions and related outcomes (implications and consequences)	Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order.	Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.	Conclusion is logically tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly.	Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are oversimplified.

Table 1: 2019-2021 Assessment Cycle

Date(s)	Activities	Description
September 2019	Committee Established	Assessment Committee established, with course release allocations provided to instructional faculty members. Director of Assessment tasked with leading the committee.
October – November 2019	Rubric Design	Review and revision of Critical Thinking assessment rubric.
October 2019 – February 2020	Class Selection	Curriculum maps used to identify which classes will generate student artifacts and which level of competency each participating class will be assigned to.
December	Artifact Submission	Assessment representatives collected and

Date(s)	Activities	Description
2019 – February 2020		submitted student artifacts from their respective degrees or assigned areas of purview. Submissions included Creative Media, Public Administration, Business Administration (partial), and Natural Science (partial).
January – February 2020	Ratings	Based on evaluation of curriculum maps, committee members determined which classes would fit into each rating (i.e., level of mastery): introduce, reinforce, master.
March 2020	COVID outbreak	Committee operations largely ceased for the remainder of the academic year.
November 2020	Campus Assessment Coordinator Appointment	Rebecca Romine appointed Campus Assessment Coordinator on November 16, 2020, following the November 1 departure of the Director of Assessment. Due to COVID-related budget constraints, no course release compensation provided to committee members by OVCAA.
November – December 2020	Artifact Submission	Renewed effort to collect/submit student artifacts for Critical Thinking LO in degree programs and/or levels of mastery that were missing or under-represented in prior year's collection efforts (e.g., Humanities and additional artifacts from Natural Sciences and Public Administration).
May – July 2021	Assessment Website	Redesign and launch of new Campus Assessment Website (https://westoahu.hawaii.edu/assessment/).
July – August 2021	Rubric-Based Assessment	Appointment of faculty Critical Thinking Assessment Team, with stipend compensation. Completion of rubric-based evaluation of student artifacts.
October-November 2021	Assessment Report	Drafting and finalization of Critical Thinking Institutional Assessment Report, which will be posted on new Campus Assessment Website.

2019-2020 Assessment Committee Members

- Sharon Valente, Director of Assessment
- Katrina Abes, Student Affairs
- Olivia George, Mathematics, Natural and Health Sciences
- Sharla Hanaoka, Creative Media
- Mark Hopper, Social Sciences
- Michiko Joseph, Library Services
- Lisa Rosenlee and Sa‘ili Lilomaiava-Doktor, Humanities
- Yasmine Romero, Writing (Humanities)
- Rebecca Romine, General Education (Mathematics, Natural and Health Sciences)
- Jonathan Schwartz, Education
- Lisa Spencer, Public Administration
- Eric Wen, Business

2021 Critical Thinking Assessment Team

- Rebecca Romine, Campus Assessment Coordinator
- Mark Hopper, Social Sciences
- Yasmine Romero, Humanities
- Megan Ross, Mathematics, Natural and Health Sciences

Key Findings

1) Overall ILO Progress:
   As hoped and expected, students made significant overall progress in the three (3) measured dimensions of critical thinking as they advanced from the “introduce” to “reinforce” to “master” levels. While student artifacts at the first level generated a total average score of 5.98 on a 12-point scale, student artifacts from the second level received an average score 6.96 and artifacts from the third and most advanced level produced an average score of 9.18 on that same scale.

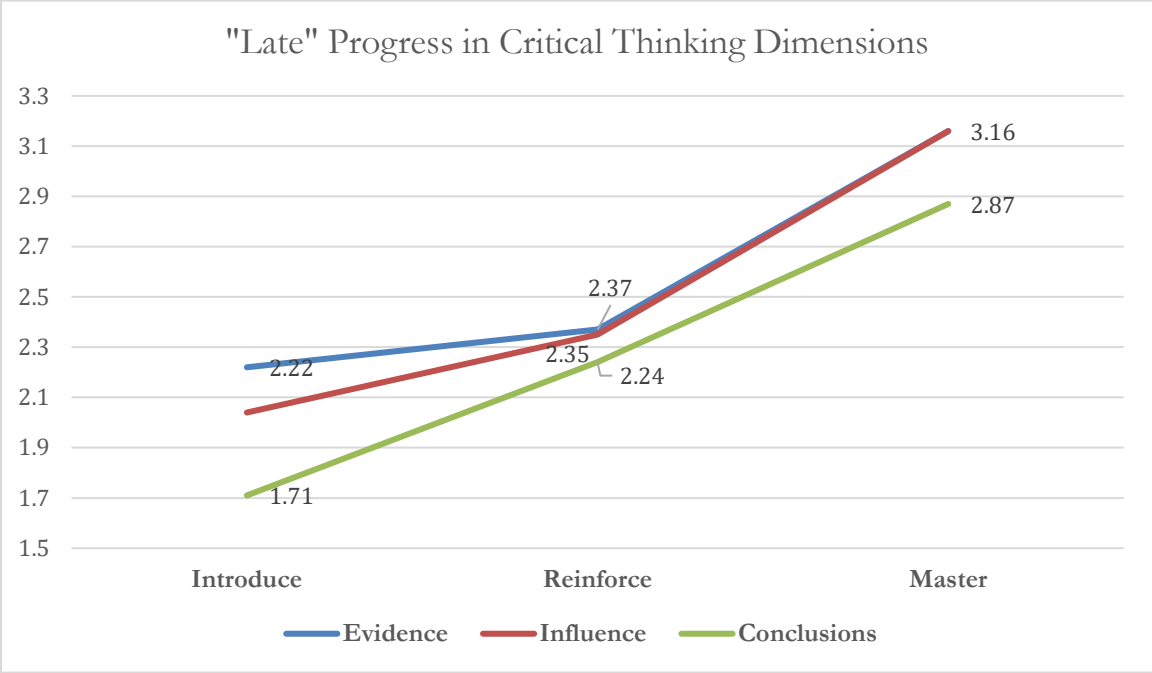
2) Progress in Each Rubric Dimension:
   As discussed above, the critical thinking rubric called for the evaluation of artifacts in three (3) dimensions: (a) evidence, (b) influence, and (c) conclusions. The dimension of “evidence” centers on the students’ selection and use of information, stressing the appropriateness of sources as well as critical engagement with different viewpoints. In this area, average student scores rose from 2.22 at the “introduce” level to 2.37 at the “reinforce” level before jumping to 3.16 (on a 4-point scale) at the “master” level. The dimension of “influence” focuses on the role of context and assumptions, prompting

students to analyze personal assumptions and those of others while evaluating the relevance of context before arriving at conclusions. Progress was noteworthy in this dimension as well, with students moving from an average score of 2.04 at the "introduce" level to 2.35 at the "reinforce" level and an identical 3.16 at the "master" level. Finally, the dimension of "conclusions" examines implications and outcomes of the students' analyses, with the hope and expectation that those conclusions (a) are logical, (b) reflect informed evaluations, and (c) demonstrate an ability to prioritize evidence and perspectives. A slightly different pattern of progress emerged in this dimension as students displayed a more balanced rate of advancement as opposed to a more pronounced jump at the "master" level. In this case, the average score moved from just 1.71 at the "introduce" level to 2.24 at the "reinforce" level and 2.87 in courses designated at the "master" level.

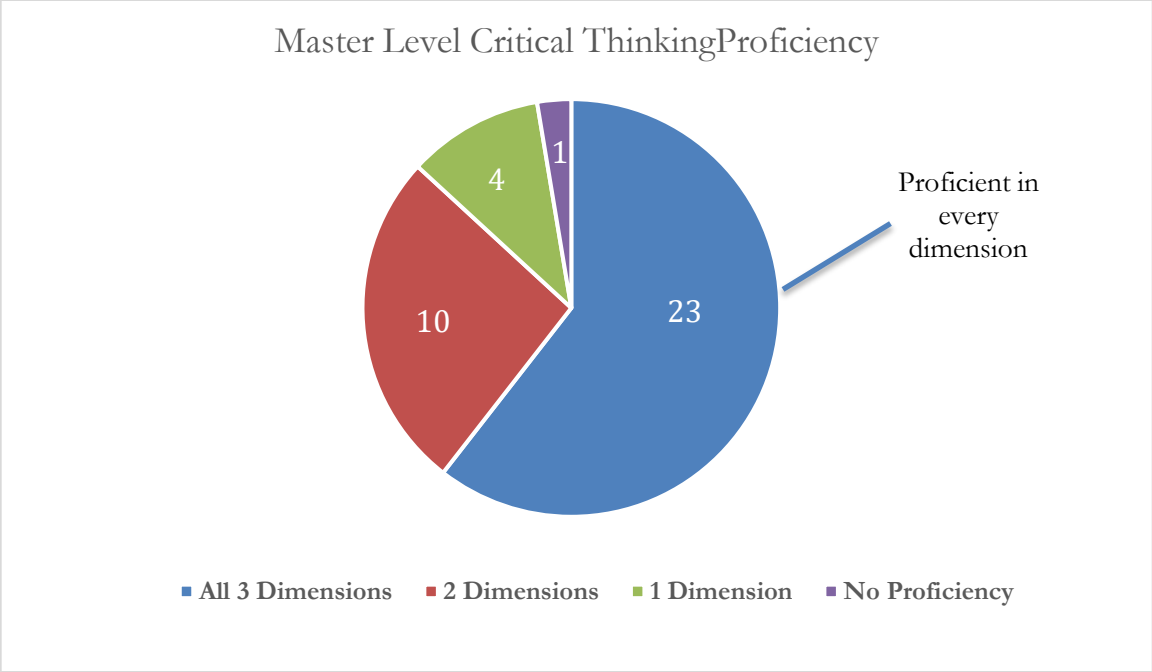
3) Areas of Strength and Weakness:
Students demonstrated the highest level of proficiency in the dimension of "evidence," although the gap between that and the other two dimensions narrowed as students advanced through the levels of competence. While students at the "introduce" level earned an average score of 2.22 for "evidence," compared with 2.04 for "influence," those averages were identical at the "master level"—3.16 (on a 4-point scale). Similarly, while the average rating for "evidence" (2.22) exceeded that for "conclusions" (1.71) by 0.51 points at the "introduce" level, the gap actually narrowed to 0.29 points at the mastery level (3.16 vs 2.87). The fact that the assessment data revealed such significant progress in the weakest dimension certainly constituted one encouraging finding. Interestingly, students at the "master" level were most likely to produce work that reached a level of either "proficient" or "highly proficient" in the dimension of "influence," which was the case for thirty-seven (37) out of the thirty-eight (38) artifacts evaluated (97.4%). Finally, having completed the evaluation process, the Critical Thinking Assessment Team reported that one additional area of weakness was that a majority of students lacked the ability to synthesize the material, and that reflection and inclusion of individual interpretation was lacking.

4) "Late" Progress:
Average total student scores experienced a much more significant increase between the "reinforce" and "master" levels than between the "introduce" and "reinforce" levels: +2.22 vs. +0.98 on a 12-point scale. (Average total student scores at the three (3) levels were 5.98, 6.96, and 9.18.) Interestingly, the same pattern emerged for each dimension, with the most extreme example found in the dimension of "evidence," for which average scores increased by just 0.15 points (from 2.22 to 2.37) from the "introduce" to "reinforce" levels before shooting up an additional 0.79 points (from 2.37 to 3.16) at the "master" level. Although the slate of "master" level courses participating in this

assessment project included a disproportionate number of senior capstone courses, the "reinforce" level included a far larger number of upper-division courses than 200-level courses. This suggests that the jump in progress cannot simply be dismissed as a byproduct of the course selection and certainly constitutes a phenomenon that should be examined and considered more deeply in the subsequent assessment cycle.



5) Proficiency of the Majority:
While achievement was far from universal, the majority of students whose work was evaluated displayed evidence of achieving the desired level of proficiency in each dimension by the time they reached the "master" level. Twenty-three (23) of the thirty-eight (38) samples (60.5%) assessed at the master level were rated as either "proficient" or "highly proficient" (based on the rubric above) in *all three dimensions*. Thirty-three (33) out of thirty-eight (38) students (86.8%) reached proficiency in at least two (2) of the three (3) dimensions. Of the remaining five (5) students, four (4) achieved proficiency in one dimension while only a single student failed to reach that level in any of the dimensions.



6) Process-Based Challenges and Limitations:
In addition to the abovementioned challenges, this assessment project was hampered by a lack of clear directions from the Director of Assessment in the earlier stages, which resulted in the generation and submission of artifacts unsuited for evaluation, such as tables or figures lacking the explanatory context need for assessment team members to make meaning of them. The Critical Thinking Assessment Team established in 2021 was limited in terms of the number of members and the breadth of those members' disciplinary expertise. As a result, each artifact was only evaluated by a single rater, who oftentimes lacked knowledge of the discipline and/or content in question. Finally, since the artifact submissions rarely included an assignment prompt or an overview of the assignment's purpose, the raters often struggled to situate individual artifacts within a larger context.

Recommendations

As discussed above, the onset of the coronavirus pandemic (and ensuing statewide budgetary crisis) followed by the subsequent departure of UH West O'ahu's Director of Assessment hampered the timely execution of Critical Thinking assessment. Nevertheless, it is a testament to the professionalism and perseverance of our faculty that this crucial project was eventually seen through to its conclusion. Moving forward, UH West O'ahu will be transitioning to a multi-year assessment process that was approved by Vice Chancellor for Academic Affairs Jeffrey Moniz in September 2021. Under this revised process, the assessment of a particular learning outcome will

take place over a period of three years, with year one dedicated to planning and assessment, year two focused on review and reporting, and year three set aside for change implementation. Most importantly, this new process will help ensure that assessment data becomes more formative by explicitly dedicating an entire year for faculty members to analyze the assessment reports and use the data to inform and improve practice. Additionally, the revisions are intended to provide faculty with more time to develop a sound process at the outset of each LO cycle, so that many of the recommendations listed below can be properly addressed.

1) In the future, it will be essential for the Director of Assessment (or Campus Assessment Coordinator) to provide clear instructions to faculty indicating the type of assignment that would be appropriate for the assessment of the outcome in question. Faculty will also require information on how to design assignments for assessment of core competencies across the curriculum. This should occur in year one of the newly-designed three-year assessment cycle.
2) It would be preferential to assign two raters for each set of student artifacts and it is essential to hold norming sessions to strengthen inter-rater reliability and ensure that faculty raters are equipped with the skills and expectations they need to execute their tasks effectively.
3) It would be most beneficial to have each academic division's faculty rate its own critical thinking artifacts in the future, as there can be benefit to having an artifact being rated by someone that understands the terminology in which it was written and the concepts that are commonplace to the discipline in question.
4) Assessment processes and procedures need to be organized at both the Assessment Committee level and division level, with the campus-wide Assessment Committee focusing on ILOs (and General Education Learning Outcomes) and each academic division concentrating on the corresponding Degree Learning Outcomes. Rubrics should be consistent across divisions in terms of the number of levels and dimensions, in order to yield data that is comparable across degree programs.
5) Training and professional learning on critical thinking and critical thinking assessment in particular should be provided on a regular basis.