

Statement for 2.2a  
(Core Competency Assessment)

UH Hilo assesses at least two core competencies yearly. The Assessment Support Committee, which falls under the UH Hilo Faculty Congress, is charged with cultivating assessment of core competencies in programs; members serve as second readers to validate scores, using rubrics that were developed by the faculty:

- [Written Communication Rubric](#) (includes Critical Thinking)
- [Oral Communication Rubric](#) (includes Critical Thinking)
- [Information Literacy Rubric](#) (includes Critical Thinking)
- [Quantitative Reasoning Rubric](#) (includes Critical Thinking)

On average, well over a hundred artifacts each year have been collected and evaluated, otherwise well over two hundred QR tests have been administered. Having two years’ worth of data allowed us to look at student performance over time. While these scores are not longitudinal (meaning they don’t track the same students over time), they do tell us what our students are accomplishing and where they seem to be struggling.

**TABLE 1.** *Below, Data for Written Communication & Critical Thinking.*<sup>1</sup>

Written Communication	Line of Reasoning (Critical Thinking)	Organization & Structure (Critical Thinking)	Content	Language & Grammar
AY 2013-2014 (n = 229)	2.7161	2.6914	2.7755	2.8536
AY 2017-2018 (n = 135)	2.8685	2.8929	2.8348	2.8736

In the AY 2013-2014 assessment of student written assignments revealed that students were performing well above minimal competency in articulating their own thoughts and arguments; those who struggled did so in terms of “maintaining a coherent argument or train of thought.”<sup>2</sup> In addition, the Committee reported to the Faculty Congress and to individual programs which participated that: “(1) paper quality seems directly tied to the coherency of the assignment—many papers that were found problematic were done in response to assignments that were vague or nebulously worded; and (2) there seemed to be varying standards of ‘quality’ information needed for assignments and that the usage of poor information coincided with uneven expectations for writing performance.” In addition to these general statements, teachers in the individual courses were given specific feedback regarding the

<sup>1</sup> Scale for Written Communication is (1) Beginning; (2) Emerging; (3) Competent; and (4) Advanced.

<sup>2</sup> For the full report on AY 2013-2014 Assessment Result, see [Analysis of Results for Written Communication, AY 2013-2014](#).

wording of assignments, the usefulness of multiple drafts, and suggestions about scaffolding assignments.

Scores for AY 2017-2018 were higher than in AY 2013-2014, especially for the categories associated with Critical Thinking. More teachers appeared to be using a wider array of techniques; there was also an increased usage of direct tutoring through Kilohana, the Academic Success Center. Interestingly, readers began to take note of some students struggling with secondary content, namely the use of Wikipedia and other unreliable sources of information.<sup>3</sup> This correlates to our AY 2015-2016 assessment of [Information Literacy](#), which revealed students seemingly less able to follow academic formats and skillfully integrate research and direct quotes. The members of the committee made the following observations in the first assessment of Information Literacy:

- Students don't appear to be evaluating the validity of sources. They don't appear to be able to locate the best sources of information and mainly relied on only on-line (web) non-academic sources;
- In cases where students do find appropriate sources, they exhibit difficulty synthesizing the information with their own train of thought or argument; Some papers read like "stacks of information"—students don't appear to be aware of how to use information meaningfully;
- Readers identified 25% of these papers plagiarizing passages directly from texts. Likewise in more than 50% of papers, there was a huge discrepancy in what was listed in the bibliography as opposed to what was actually cited in the body of the paper.
- What was a little troubling for readers was that the easiest skill, Documentation Conventions, which is simply following an academic format, was the skill most problematic for students.

At the same time UH Hilo was undertaking its first assessment of Information Literacy, the Department of English was experiencing problems with student performances on research. The instructors in ENG 100 (Freshman Composition) and ENG 100T (Freshman Composition with Tutorial) decided to deploy a reading text that gauges Lexile (reading ability). Tests were given to all students in ENG 100 and 100T in four separate semester—Fall 2013, Spring 2014, Fall 2014, and Spring 2015. The results are as follows:

**Table 2.** *Below*, Data for Reading Tests, 2013 to 2015

Semester	Total Number of Students	Number of Students Reading in the 1200s	Number of Students Reading Below 1200 (12 <sup>th</sup> grade)	Number of Students Reading Below 1000 (8th-9th grade)	Highest Score	Lowest Score
Fall 2013	249	65 (26%)	55 (22%)	21 (8%)	1600 (8)	810
Spring 2014	189	35 (18%)	57 (30%)	22 (11%)	1600 (11)	660

<sup>3</sup> For the full report on AY 2017-2018 Assessment Result, see [Analysis of Results for Written Communication, AY 2017-2018](#).

Fall 2014	221	45 (20%)	93 (42%)	27 (12%)	1600 (2)	880
Spring 2015	187	39 (20%)	105 (56%)	69 (36%)	1600 (3)	732

Given that between 8% to 36% were reading below the eighth to ninth grade levels was startling, especially when we compared average Lexile scores for textbooks used in popular General Education courses:

**Table 3.** *Below*, Lexile Grade Bands and Course Textbook Lexile

Grade 1	Grade 2	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	Grade 9	Grade 10	Grade 11-CCR
100-299	300-499	500-599	600-699	700-799	800-849	850-899	900-999	1000-1024	1025-1049	1050-1300
Course						Lexile score				
ENG 100						850				
PSY 100						850				
ENG 205						1150				
BUS 111						1230				
CHEM 124						1230				
ANTH 100						1270				
ACC 201						1320				
PHIL 100						1330				
POLS 101						1340				
SOC 100						1430				
HIST 151						1440				
KES 206						1520				

We triangulated these Lexile scores with direct assessment of student summaries based on a four-point rubric, with “3” representing competency, using two of the courses in the previous tables that are highlighted in pink. Chemistry faculty assessed two sections of CHEM 124L ( $n = 35$  students), with averages of 1.933 and 1.875 respectively. An accounting professor undertook a similar experiment in ACC 201 which resulted in a 1.5 average among 49 students. One section of ENG 100 ( $n = 13$ ) used two newspaper articles, one at LEXILE 1220 and another at 1490, with results (averages) of 1.26 and 1.30 respectively.

We are now heading into our second assessment of Information literacy for academic year 2020-2021. Depending on the results, we may opt to run reading tests again and to add academic literacy as a subcategory of this core competency.

Quantitative Reasoning was undertaken in AY 2014-2015 and in AY 2018-2019 but with a revised test. The main motivations to revise the AY 2014-2015 Quantitative Assessment was to design questions requiring the least amount of specific background knowledge and to move away from a True-False

answer system to better validate skills. As noted in the [AY 2015-2016 assessment report](#), it was difficult to reach conclusions in several areas as the correct response rate for Q3 was near 50%, which is one of the limitations for True-False. The revised AY 2018-2019 Quantitative Reasoning Assessment used revised visuals and multiple-choice answers.

**TABLE 4.** Below, Data for Quantitative Reasoning.

Academic Year	Visual Q1	Visual Q3	Calculations Q2 (Critical Thinking)	Calculations Q4 (Critical Thinking)
2014-2015 <i>n</i> = 402 (Junior, Senior)	73%	23%	44%	NA
2018-2019 <i>n</i> = 277 (Junior, Senior)	86%	84%	58%	40%

The AY 2014-2015 assessment found that a majority of students were able to identify and extract basic information from a graph (Q1), but struggled to utilize this data to infer conclusions about different scenarios with this data (Q2, Q3). This theme continued during the AY 2018-2019 assessment where a majority of students were generally able to obtain information from the visual sources (Q1, Q3), but only about half were able to correctly apply these values in their calculations and comparisons (Q2, Q4), the latter of which may be linked to an inability to read well. This was a problem we uncovered in Chemistry 124 (AY 2014-2015) that came on the heels of the Lexile tests in our freshman composition courses (ENG 100 and ENG 100T) discussed earlier. Speculatively, problems with reading comprehension may explain why some students struggled on the multi-part questions and analyses in both QR assessments—mistakes may be due to subtle misunderstandings of the questions, which were given to students as narratives. For example, comprehending the overall context of all questions and the difference between proportion and ratio was the key to performing well on these tests.

The following was reported to Faculty Congress: “It is clear students have a basic understanding of figures and calculations; what remains a challenge is seeking ways to improve student usage of numerical information when making inferences—which is a skill tied to critical thinking.” Because this test is “generic” in nature, it is not related to any particular discipline; thus, it may be contingent upon departments to develop their own definitions of Quantitative Reasoning and address what may be shortcomings in the major.

[Oral Communication](#) is another core competency that we have not had the opportunity to run more than once. In AY 2016-2017, 246 student presentations from 24 departments across the campus were evaluated, with the following results:

**Table 5.** *Below*, Data for Oral Communication

Data	Organization/Structure (Critical Thinking)	Content (Critical Thinking)	Language	Delivery
Valid (n)	246	246	246	246
Mean	3.41	3.34	3.36	3.20
Median	3.5	3.5	3	3

The overall averages were relatively high; part of the reason may be that assessments in general were undertaken by departments and thus these scores were not externally validated. Nevertheless, many departments responded when asked for feedback about the experience and how they intended to “close the loop,” including:

1. Have faculty assume more responsibility prior to the presentations, enabling students to benefit from instructor feedback;
2. Require oral presentation outlines beforehand;
3. One department, after viewing videotaped presentations, said it would meet with its teaching faculty to use the data for Delivery and Language to improve instruction in foreign language oral presentations;
4. “Develop a mechanism” of supporting majors needing additional help for their oral communication skills.
5. Create a “curriculum map” for required courses with oral communication content, to address weaknesses through “feedback and practice to improve skills”.
6. Incorporate the rubric into score sheets for oral presentation skills.
7. Improve training for senior seminar courses and emphasizing “Delivery” in particular.

Statement prepared by:

Seri I. Luangphinit, ALO

Brian Wissman, Chair of Mathematics

October 2020