

GEC Learning Outcomes (GLOs) Assessment Critical Thinking– Aggregate Results

Assessment Type: GEC

Year/Term: AY18

Course: CHEM 205

Learning Outcome: Critical Thinking

Assessment Method/Tool: Common Rubric-EPCC

Measurement Scale: 3-1

Sample Size: 63

	Proficient (# of students %)		Adequate (# of students %)		Developing (# of students %)	
Identifies and explains Issues	19	30%	26	41%	18	29%
Recognizes contexts and assumptions	9	14%	32	51%	22	35%
Acknowledges multiple perspectives or multiple approaches to problem solving.	44	70%	18	29%	1	1%
Effectively evaluates evidence to reach conclusions	18	29%	34	54%	11	17%
Median % (based on 63 student sample size)		30%		47%		23%

Benchmark:

85%

Institutional benchmark goal for median percentage of students to meet “Proficient” or “Adequate” levels in the GEC

Median % Achieving Benchmark:

77%

median percentage of students meeting “Adequate” or “Proficient” levels

Closing the Loop:

Results Summary:

Seventy-seven percent of students were adequate or proficient in Critical Thinking categories. Students excelled at acknowledging multiple perspectives or approaches to problem solving, where 99% scored proficient or adequate. By far the weakest category was recognizing context and assumptions, where only 65% of students achieved adequate or proficient scores.

Accountability:

Several variables contributed to both student success and shortcomings. Some of these are particular to the class being evaluated. This year's class excelled in more qualitative aspects of the class, and the problem used to evaluate the highest scoring category was more qualitative in nature. On the other hand, this year's class had greater struggles with quantitative problems, and the lowest scoring category involved a quantitative problem.

Beyond the strengths of the class as a whole, aspects of instruction also influenced the class performance. Supplements were provided in some instances to help students overcome deficiencies in their mathematical skills, but these were provided through an informal avenue and assignments to address deficiencies in student preparedness were not required. Additionally, assignments are not currently all aligned to support student success in critical thinking.

Action Plan:

In order to help students perform better with respect to critical thinking, the following changes will be implemented. First, additional, required assignments will be prepared to reinforce basic math skills relevant to the subject matter. In addition, homework assignments will be revised to more consciously address critical thinking skills. In revising these assignments, more emphasis will be placed on scaffolding content to build towards critical thinking. Assignments will also increase focus on context and assumptions relevant to problems in order to help students improve their abilities to identify these issues.

Program faculty should discuss issues associated with recognizing contexts and support for weak quantitative skills, perhaps identifying sound practices for addressing them.