

## General Education Assessment Report

One section of Cog356, offered during the spring 2019 semester, was used to collect the data for this **Cognitive Science Program** assessment of critical thinking.

The assessment tool and measure identified in the **Cognitive Science Program** assessment plan update was used.

General Education Category	Learning Outcome	Information				Results						
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	%	#	%	#	%	#	%	#	%
Critical Thinking	Students will identify, analyze, and evaluate arguments as they occur in their own and others's work	Spring 2019	6	46	1	17	4	67	1	17	0	0
	Students will develop well reasoned arguments	Spring 2019	5	39	3	60	1	20	1	20	0	0

Briefly describe your **method of analysis**.

Of the 13 students enrolled in the spring 2019 section of the Cog356 course in which the data was collected, 6 were cognitive science majors. All six of these students are represented in the results for the first outcome. Only five of the six are represented in the results for the second objective. At present, there are roughly two dozen cognitive science majors. The students wrote an essay corresponding to each of the two outcomes, except for the one student who didn't participate in writing the essay for the second outcome. For the essay corresponding to the first outcome, the quality of student performance was measured for each of the four elements of the required rubric. These values were then averaged, and the result mapped onto exceeding or meeting or approaching or not meeting standards. For the essay corresponding to the second objective, the quality of student performance was measured for each of the three objectives of the required rubric. These values were then averaged, and the result mapped onto exceeding or meeting or approaching or not meeting standards.

**Analysis of Results:** Please be sure to address each learning outcome and both strengths and weaknesses revealed by the assessment, if any.

**Learning outcome 1 "Argument Analysis"** Generally speaking, the students seem to be able to identify the premises and the conclusion of an argument, critically consider the plausibility of the premises, and say a little something about the inferential reasoning used to obtain the conclusion from the premises. That said, the precision of expression with which the students identify, question, and discuss the elements of the argument and the process of inference is, too often, wanting.

**Learning outcome 2 "Argument Construction"** The students impressed me with their apparent enthusiasm for constructing their argument. I enjoyed reading these essays, perhaps because they mindfully, methodically addressed the three components of the given rubric, and did so in fairly compelling ways. My principle concern is that they occasionally appear to enjoy exploring "broader relevance" to the point where I think they lose focus on the essence of their argument.

**Action to be taken:** Please indicate the connection between the assessment findings and the proposed action(s); if no action is to be taken, please indicate why you think none is necessary.

Based on the analysis of results presented in the previous box, it seems reasonable to suggest two modest actions that could help with the framing of critical thinking in the minds of our students and the consolidation of their critical thinking skills.

First, we will remind faculty teaching our introductory courses (Cog166 "Introduction to Cognitive Science" and Cog266 "Brains, Minds, and Consciousness") that at least some explicit emphasis on thinking critically is warranted in those courses. Both Cog166 and Cog266 afford ample opportunity not only for talking about the mechanisms of critical thinking, but also about the fascinating phenomenon of why so many people apparently fail to value critical thinking to the point where they at least occasionally believe just what they want to believe even if it is inconsistent with compelling arguments grounded in sound data.

Second, while the assessment activity seems to serve its purpose, namely as a vehicle for performing assessment, it also affords a golden opportunity for something more. It might be worthwhile to collectively, as a class, analyze the work that selected students produce in the course of completing the activity. Since the activity focuses the mind on critical thinking, it presents an enticing post-facto opportunity to clarify some ideas pertaining to critical thinking. We plan to explore this opportunity.

What has been learned that could be helpful to others as they conduct assessment of general education?

Conceptualizing critical thinking as a **metacognitive** activity, with all that the word entails, not only adds significant perspective to the art and practice of critical thinking, but also makes the enterprise more fun to think about and assess.