

# General Education Assessment Report – CY 2019 with Appendices

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## General Education Assessment Summary Report—CY 2019

29 March 2020—A single swan graces Glimmerglass this damp, chilly morning, its large white body stark and captivating against the slate gray of water, the browns of dead and dormant shore plants, the darker empty branches of trees.

Like migrating birds, we return to and reflect upon the General Education Assessment Summary Report from CY 2016 with our summary report for CY 2019. A looking back will help us to better apprehend what has been accomplished with the gen ed assessment for CY 2019 and offer guidance as we move forward in our continuing efforts to use assessment to take the measure of and improve teaching and student learning.

The CY 2016 summary concluded with a section entitled “Moving Forward” that offered a number of things to bear in mind: they are

1. Please be sure to connect each section of the report: tool and measure leading to artifacts gathered and assessed, results analyzed, actions identified.
2. Please be sure to connect past assessments to present assessments and from there on to assessments yet to come. Let us make this a point of emphasis as we continue to refine our general education assessment practices: doing so will help shape conversations on teaching and learning and lead, one hopes, to increased student success meeting and exceeding the general education learning outcomes.
3. In addition to the particulars already noted, it bears repeating that whenever possible you should make your assessment instrument(s) an integral part of your course and the work you will have students produce in it. That will reduce an instructor’s work, of course, and it will also help to ensure that the assessment of learning outcomes is a vital part of the course.
4. Be sure to link your general education assessment cycle to your program review and assessment of learning outcomes in your major whenever possible. Thus, use your assessment of the critical thinking abilities of your major as part of your self-study.
5. Continue to look for efficiencies without cutting corners: a number of departments and programs located their critical thinking assessment in two courses, for instance, with one of the two learning outcomes in the category assessed in each course. Is it possible to locate those efforts in a single course? If so, is it wise to do so? Similarly, can a single assignment be used to generate the student work needed to assess how students have done on both critical thinking learning outcomes, for example, rather than just one of them?
6. Don’t lose sight of succession: rumbles become tremors become rents in the ground beneath your feet if chairs and directors don’t pass on to their successors the assessment system in place in the department or program and if assessment coordinators don’t provide their replacements with all that they need so that the assessment, be it of student learning in

general education courses or of student work speaking to learning outcomes of the major, has a minimum of bumps and cracks along its course.

Three years on and with a return in CY 2019 to the categories of Critical Thinking, Mathematics, Natural Sciences, and Social and Behavioral Sciences we see the following:

1. It is clear from the assessment reports that most department and programs are doing a fine job of making sure that the sections of completed report coheres: the analysis identifying both strengths and weaknesses in the student work collected is connected to the data and the assessment tool and measure and the actions to be taken are connected to what the analysis has revealed.

Those assessment reports suffering from a lack of coherence tended to come a cropper in the analysis, either because it was not fully and clearly linked to the data reported in the results field of the report or because there was little if any analysis to speak of. That is to say, one cannot speak to both strengths and weaknesses if the analysis and the data are not clearly linked and one cannot articulate actions to be taken if the analysis is wanting.

Given that we have devoted our professional lives to analysis and interpretation, this “problem” will vanish if we bear in mind both that the sections of the report need to cohere and that we are using assessment in the name and goal of improving teaching and, one hopes, student learning.

2. The strongest CY 2019 assessment reports did a fine job of positioning the CY 2019 results in relation to the CY 2016 assessment. For example, we see this in the COM 100 report, the CRW 405 report, and the French critical thinking report for the past calendar year. That said, we want to encourage departments and programs to make explicit in their reports the connection between the current reports and those submitted in previous years for the course. As noted three years ago, making the connections there to be made with past reports should help shape and direct your conversations about teaching, student learning, and assessment.

3. The assessment tool and measure section of the reports indicates that by and large departments and programs are doing a good job of embedding the assessment instruments in courses.

4. The assessment reports do not necessarily occasion comment concerning the relationship between what was being assessed for the purposes of student learning in general education categories and periodic Program Review, of course. That said, it remains the case that departments and programs should strive to find ways to link assessment done for courses in particular general education categories with the assessment of major learning outcomes and Program Review. This is obviously the case with the just completed assessment of critical thinking in and of your majors.

5. CY 2019 assessments also seem to indicate thoughtful search for and examination of efficiencies that can be used without cutting corners. This cuts both ways. The LIN 100 assessment, for example, revealed the need to “explore assessment tools that will allow us to

assess the two learning outcomes separately” in order to better take the measure of student learning in each of the social and behavioral sciences learning outcomes. That is to say, the program in this case recognized that in this case more was better.

6. Ahh succession, and more generally communication: an ever-present concern. The CY 2019 assessment makes clear that we must not lose sight of the need to plan ahead for changes in leadership, to have department and program assessment policies and procedures in place so that the change in leadership can be as seamless as possible, and to communicate those policies and procedures throughout the assessment cycle to all faculty and staff involved with the assessment of student learning.

There were hiccups in our CY 2019 general education assessment of course, and individual feedback memos to departments and programs have been used to point them out. In sum, then, strong work, necessary work has been done by you and your colleagues. For that, as always, thank you.

About that swan: it is still there down below, feeding, alone. If the past tells us anything, it shan't be alone for long. It will pair, other species will come, Glimmerglass' surface will harbor them all. Trees will bud, grass will green, we will come together again. Until then, stay safe, take care, be well, be kind.

## Appendix 1—Exemplary Reports

Here we include examples of reports from Chemistry, Communication, French, Geology, and Sociology.

# General Education Assessment Report -

Course: \_\_\_\_\_ CHE\_\_ 111\_\_\_\_\_

# of sections: \_\_\_\_\_ 5 \_\_\_\_\_ each year \_\_\_\_\_

Calendar Year: \_\_\_\_\_ 17,18,19 \_\_\_\_\_

General Education Category	<u>Learning Outcome</u>  Students will demonstrate	Information		Results <sup>1</sup>							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Mee Standa
			#	% <sup>2</sup>	#	%	#	%	#	%	#
Natural Science	understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis	Fall 2017	340	89	109	32	123	88	57	66	51 15
		Fall 2018	326	79	32	10	131	85	94	29	69 21
		Fall 2019	343	89	117	34	126	37	49	14	51 15
	application of scientific data, concepts, and models in one of the natural (or physical) sciences	Fall 2017	340	89	126	37	88	26	66	19	60 18
		Fall 2018	326	79	48	15	85	26	103	32	90 28
		Fall 2019	343	89	122	36	102	30	62	18	57 17

<sup>1</sup> Each student should be counted only once. If assessment has taken place across multiple sections, data should be aggregated for the purpose of this report.

<sup>2</sup> Number should represent percentage of the total students enrolled in the course.

**Assessment tool and measure** Did you use the assessment tool and measure identified in your assessment plan update? \_\_\_\_\_ Yes \_\_\_\_\_ No If No, please attach to this form a document indicating what you used instead and the rationale for doing so on.

**Briefly describe your method of analysis**

We used the Science Literacy Examination and used questions 3, 19, 21, 24, 28 to assess Item 2 and the remaining questions to assess Item 1.

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

Compared to the first time this test was given to the students in 2016, the number of students participating in the exam increased from 60% (2016) to 89% (2017), 79 (2018) and 89% (2019). The reason for the increase is that the exam was made a part of the lab required assignment for the students during the past three years.

Compared to 2016, the number of students who did not meet the expectations has decreased from 25% in 2016 to 15% in 2019, for learning outcome 1. Similar trend was observed for learning outcome 2, the percentage of students not meeting the expectations decreased from 30% in 2016 to 18% in 2019. Which shows an improvement in the students' understanding of the scientific method and application of scientific data in chemistry.

## General Education Assessment Report -

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.

We will keep introducing the concept of scientific method and help the students apply the method in the lab experiments, understanding the goal of the experiments (scientific question), method used to answer the question, hypotheses made, data collection and making conclusions. The students will be required to discuss these steps of the scientific method in their lab reports to improve their understanding of scientific method whenever applicable.

What has been learned that could be helpful to others as they conduct assessment of General Education:

Perhaps the main finding was that making the test as a required assignment has indeed increased the number of students participating in the exam.



General Education Category	<u>Learning Outcome</u>  Students will demonstrate	Informatio			Results <sup>1</sup>							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	% <sup>2</sup>	#	%	#	%	#	%	#	%
Social and Behavioral Sciences	understanding of the methods scientists use to explore social phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical and interpretive analysis	Spring 2019 & Fall 2019	290	66.7	215	74.1	46	15.9	9	3.1	19	6.6
	knowledge of the major concepts, models, and issues of at least one discipline in the social sciences	Spring 2019 & Fall 2019	290	66.7	N/A	N/A	256	88.2	N/A	N/A	34	11.8

<sup>1</sup> Each student should be counted only once. If assessment has taken place across multiple sections, data should be aggregated for the purpose of this report.

<sup>2</sup> Number should represent percentage of the total students enrolled in the course.

**Assessment tool and measure** Did you use the assessment tool and measure identified in your assessment plan update? X Yes \_\_\_\_\_ No If No, please attach to this form a document indicating what you used instead and the rationale for doing so on.

**Briefly describe your method of analysis**

The assessment conducted followed the previously outlined assessment plan. Students' responses to specific multiple-choice exam questions with only one correct answer (addressing the second learning outcome) and one of the major assignments students completed in COM 100 were assessed. To assess the first learning outcome, written assignment were examined for the purpose of this report asked students to read and summarize a published journal article in Communication using their own words and interpretations (i.e., Journal Dissection Assignment).

**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:** One of the major writing assignments in COM 100 (i.e., Journal Dissection Assignment) is specifically designed to facilitate students' understanding of methodologies social scientists use by asking them to, in their own words, summarize and make sense of an original published, peer-reviewed academic journal article in Communication. Overall, students were able to use the APA citation style, appropriately and correctly summarized the purpose and results of the study, identified research questions and hypotheses as well as the methodological approach (90% met or exceeded expectations). *Therefore, students in COM 100 consistently develop an understanding of and greater familiarity with social scientific methods and interpretative practices.* Thus, it can be concluded that students in COM 100 are provided with plenty of opportunities to engage with hypotheses/research questions and learn how they relate to the interpretation of the data found in social scientific research.

**Learning outcome 2:** A total of twelve multiple-choice questions (with four answer options of which only one was correct) were presented to students, who were tasked with identifying the correct response to each questions. The questions students were asked addressed a variety of key concepts, models, and theories in the Communication discipline. More specifically, exam questions focused on communication models, methods used in Communication (i.e., social science, interpretative, and critical), functions of verbal communication, cultural aspects of communication, group and relational communication concepts, verbal communication processes, and listening and perceptual processes. Given the multiple-choice format of the questions, frequencies were averaged across the twelve questions to arrive at the results reported above. Eighty-eight percent of the students were able to identify the correct responses to the questions, whereas merely twelve percent struggled with this task. No results have been recorded in the "exceeding standards" and "approaching standards" categories due to the multiple-choice nature of the data utilized for the assessment. In other words, for each of the questions students encountered, there was only one correct response, which is why the data show that standards were either met or there was a failure to meet said standards. *Overall, it can be concluded that students in COM 100 indeed gain knowledge of major concepts, models, and issues in a social science – namely the Communication discipline.* Due to the overwhelming number of correct responses, systematic challenges in students' understanding of major concepts can be ruled out.

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.

Generally, students in COM 100 demonstrated abilities related to understanding social scientific practices as well as learn about various key concepts and theories commonly used in the Communication discipline. Findings reported for the AY 2019 represent a substantial improvement from the results revealed during the last assessment (of the AY 2016), during which only 48% of the assessed students met or exceeded expectations. As a result of this notable progress, it can be concluded that course instructors utilized pedagogical methods and strategies that facilitated students' understanding of social scientific methodologies. Particularly, students improved their knowledge related to the use and function of hypotheses and research questions, which made them feel more at ease deciphering academic journal articles, more generally. COM 100 instructors spent additional time discussing how social scientific articles are structured and written, which further facilitated students' understanding and stimulate continued discussions of measurement, experimentation, and so forth. Thus, the COM 100 students whose work was assessed for this report demonstrate a understanding in this area, which serves as an excellent foundation for more advanced discussions in upper-division courses (such as COM 403 and others).

Additionally, COM 100 course instructors should continue to provide a general overview of the discipline as part of the course. Students' overwhelmingly correct responses to exam questions indicate that they gain familiarity with major concepts, theories, ideas commonly used in Communication throughout the course. These findings also demonstrate a high degree of consistency across assessment periods (i.e., AY 2016 and AY 2019) that produced nearly identical results. Therefore, instructors should continue to employ this broad approach when teaching COM 100.

What has been learned that could be helpful to others as they conduct assessment of General Education:

It would also be helpful to provide greater flexibility in how results are presented. While it is understandable that a common format presents clear advantages, the format does not lend itself to all types of data equally. For instance, for learning outcome number 2, the data presented in this report are based on multiple-choice questions (i.e., right vs. wrong responses). These types of data do not allow to be delineated according to the categories presented on this form (e.g., exceeding, meeting, approaching standards).

Course: FRE 417# of sections: 1Calendar Year: 2019

General Education Category	<u>Learning Outcome</u>  Students will	Information			Results <sup>1</sup>							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	% <sup>2</sup>	#	%	#	%	#	%	#	%
Critical Thinking	identify, analyze, and evaluate arguments as they occur in their own or others' work	Spring 2019	8	100	3	37.5	4	50	1	12.5	0	
	develop well-reasoned arguments	Spring 2019	8	100	5	62.5	2	25	1	12.5	0	

<sup>1</sup> Each student should be counted only once. If assessment has taken place across multiple sections, data should be aggregated for the purpose of this report.<sup>2</sup> Number should represent percentage of the total students enrolled in the course.

**Assessment tool and measure.** Did you use the assessment tool and measure identified in your assessment plan update?        Yes        No If No, please attach to this form a document indicating what you used instead and the rationale for doing so on.

**Briefly describe your method of analysis**

This assessment is based on an essay written by students in FRE 417 (French Novel of the 19<sup>th</sup> Century) in Spring 2019 (see Plan of November 2018). There was only one section of the course, with 8 enrolled students. All essays were assessed. The essays were reviewed separately by the two full-time French faculty (Drs. Giukin and Bertonneau) and a consensus was easily reached regarding the results for each student and each outcome. The SUNY rubric for Critical Thinking was used.

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

Learning Outcome One: Compared to the 2016 assessment, there was an increase in the total number of students who either exceeded or met the standard. Although there was a slight decrease in the percentage of those exceeding (from 42% to 37.5%), the increase in those meeting the standard was dramatic (from 28% to 50%). Only one student was assessed as approaching the standard. That student's essay identified the argument of the author in part, but the analysis contained many personal opinions and a lack of reference to sources. This student was only in her second year of university study at the time. Her French writing skills as well as her overall analytical skills must be given time to develop.

Learning Outcome Two: The total number of students who either exceeded or met the standard was up from 2016 (from 71.4% to 87.5%). The number of students who were only approaching also improved (down from 28% to 12.5%). The latter group again included the student who was only in her second year of university study. The essay stated a point of view but gave inadequate textual evidence and included many personal opinions.

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.

It was noted in 2016 that Learning Outcome One posed the greater challenge. The proposal in the 2016 report was three-fold: to pair students during the early stages of the essay preparation so that they could share and develop ideas with peers; to pair less advanced students with more advanced students with the expectation that the latter would model the process of analysis and argumentation; and to require multiple drafts of the essay in order to ensure that linguistic barriers do not inhibit clear thinking and expression.

All of the above were implemented. The 2019 results suggest that they were successful overall.

Nevertheless, as noted above, one second-year student was assessed as only Approaching for both Learning Outcomes. As it happens, this student was paired with two students who were ultimately assessed as Exceeding for both outcomes. While the effort to pair less advanced students with more advanced may well have helped some of the other students, it was not adequate to raise the level of this one student's analysis and argument. In this case, the result was not what was hoped for. Sometimes peers, especially if they are friends, are reluctant to critique another student's ideas. More instructor intervention is probably in order, to be done outside of the classroom and in private. Both of our faculty feel that the student's essay showed evidence of critical thinking, and we judge that the student's intermediate level of French skills might have kept her from fully developing and expressing her analysis.

What has been learned that could be helpful to others as they conduct assessment of General Education:

All of our MLL students do their reading, writing and discussion in a foreign language. Certainly, it is important for our fellow faculty members to recognize the challenge of that for the Critical Thinking assessment, and to consider offering extra language help to students who are not yet at the Advanced level of foreign language skills. Such extra help might also be something to consider for faculty outside our department who have non-native speakers of English in their courses.

Susan Bertonneau

January 15, 2020

# General Education Assessment Report -

Course: GEO 100-810

# of sections: 1

Calendar Year: 2019

General Education Category	<u>Learning Outcome</u>  Students will demonstrate	Information			Results <sup>1</sup>							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	% <sup>2</sup>	#	%	#	%	#	%	#	%
Natural Science	understanding of the methods scientists use to explore natural phenomena, including observation, hypothesis development, measurement and data collection, experimentation, evaluation of evidence, and employment of mathematical analysis	1	45	100	14	31	20	44	8	18	3	7
	application of scientific data, concepts, and models in one of the natural (or physical) sciences	1	45	100	16	36	22	49	5	11	2	4

<sup>1</sup> Each student should be counted only once. If assessment has taken place across multiple sections, data should be aggregated for the purpose of this report.

<sup>2</sup> Number should represent percentage of the total students enrolled in the course.

**Assessment tool and measure** Did you use the assessment tool and measure identified in your assessment plan update?        Yes        No If No, please attach to this form a document indicating what you used instead and the rationale for doing so on.

## Briefly describe your **method of analysis**

This assessment includes a quantitative analysis of a representative exam from the fall 2016 Physical Geology course. Ten questions were selected for each of the two learning outcomes above. Questions which best evaluated the learning outcomes were chosen.

## **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: For learning outcome #1, a greater percentage of students appeared to meet or exceed expectations in 2019 than in 2016, and the aims of this learning outcome appear to have been improved upon. The exam questions tested observation of natural phenomena and evaluation of evidence. The number of students exceeding standards is encouraging. However, about 25% of the students evaluated either approached or did not meet standards on questions which addressed learning outcome #1.

Learning outcome #2: For learning outcome #2, a similar result to Learning Outcome #1 is observed. The exam questions tested the students' ability to apply scientific concepts and models explored in class. In this case, 85% of students met or exceeded standards, slightly higher than for Learning Outcome #1. Only 15% approached or did not meet standards.

The slightly lower number of students meeting or approaching standards, although improved from 2016, remains slightly high. A number of factors are likely to have caused this. The percentage classes used for evaluation have a major influence on the distribution. We chose the following breakdown: Exceeding standards=80-100%, Meeting standards=70-80%, Approaching standards=60-70%, and Not Meeting standards=<60%. If exams are designed to be the most challenging part of the course then perhaps more students are meeting standards for learning outcome #1 and outcome #2, than what is reflected by this one exam. This would be consistent with the overall class scores which were above that of most exams. When looking at assignments and quizzes, those who approached or did not meet standards were slightly lower, leading to the conclusion that overall instruction regarding these learning outcomes has improved over the last several years collectively, with all elements of the course considered.

## General Education Assessment Report -

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.

In order to improve on the number of students who are approaching or not meeting standards, a wider variety of exam questions, activities, and assignments will be incorporated into the course in order to be more inclusive of learners of differing abilities.

What has been learned that could be helpful to others as they conduct assessment of General Education:

This assessment continues to suggest that exams alone are not a perfect representation of a student's ability to meet learning outcome #1 and #2. Students have different learning styles. Some take tests well, and others do not. Some perform much better on other forms of assessment.

Course: SOC 221# of sections: 1Calendar Year: 2019

General Education Category	<u>Learning Outcome</u>  Students will	Information			Results <sup>1</sup>							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	% <sup>2</sup>	#	%	#	%	#	%	#	%
Critical Thinking	identify, analyze, and evaluate arguments as they occur in their own or others' work	Spring 2019 Fall 2019	20	65%	4	13%	20	64%	5	17%	2	6%
	develop well-reasoned arguments	Spring 2019 Fall 2019	20	65%	4	13%	19	60%	5	17%	3	10%

<sup>1</sup> Each student should be counted only once. If assessment has taken place across multiple sections, data should be aggregated for the purpose of this report.<sup>2</sup> Number should represent percentage of the total students enrolled in the course.

**Assessment tool and measure** Did you use the assessment tool and measure identified in your assessment plan update?   X   Yes        No If No, please attach to this form a document indicating what you used instead and the rationale for doing so on.

#### Briefly describe your **method of analysis**

The assessment tool (research paper) identified in the Assessment Plan update was used. Each student wrote a research report of between 10 and 15 pages (typed, double-spaced) by analyzing the General Social Survey (GSS) 1972 – 2018 national data. The data file is readily available at the SDA (Survey Documentation Analysis) of University of California at Berkeley:

<https://sda.berkeley.edu/sdaweb/analysis/?jsessionid=4B31A15B6A6658D500E644AC8288DE20?dataset=gss18>. Each student chose one socially contentious issue, and constructed and tested three related hypotheses that encompassed a variety of competing viewpoints. The paper should be in the American Sociological Association (ASA) format. This includes citation format, inclusion of an abstract, etc. The report should include an Introduction, in which one describes one's theses, one's hypotheses and the sociological literature relevant to them, a Methods section, in which one describes one's research procedures in detail, a Results section, in which one discusses some expected and unexpected results, and a Discussion section in which one discusses the ramifications of one's research and acknowledge limits of one's procedures/positions.

For Learning Outcome #1, we use a modified version of the Critical Thinking Value Rubric

(<http://www.aacu.org/value/rubrics?CFID=25608554&CFTOKEN=40871718>). The first learning outcome is assessed under the following categories:

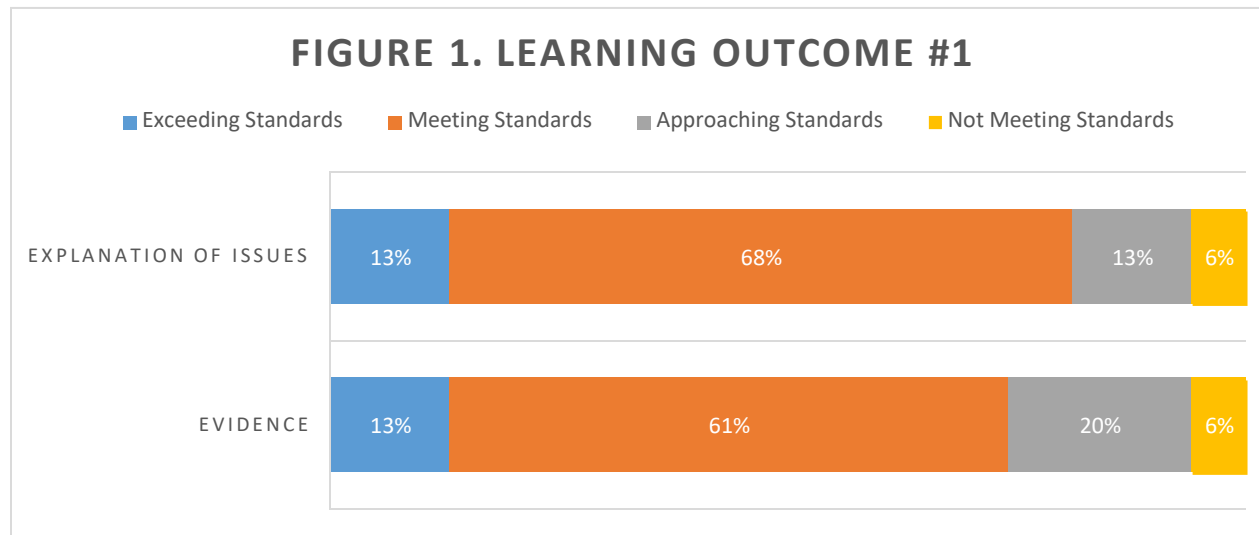
"Explanation of Issues" and "Evidence." For Learning Outcome #2, we use a modified version of the Critical Thinking Value Rubric

(<http://www.aacu.org/value/rubrics?CFID=25608554&CFTOKEN=40871718>). The second learning outcome is assessed under the following categories: "Student's Position" and "Conclusions and Related Outcomes."

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

**Learning Outcome One: students will identify, analyze, and evaluate arguments as they occur in their own or others' work**

The first learning outcome is assessed under the following categories: "Explanation of Issues" and "Evidence" as identified in the Assessment Plan update. Figures 1 below presents the percentage distribution of ratings for each critical thinking element of Learning Outcome #1. For "Explanation of Issues," most students (68 percent) belong to the category of "meeting standards" which means "Issue/problem to be considered critically is stated, described, and clarified so that understanding is not seriously impeded by omissions." For "Evidence," about 61 percent of students belong to the category of "meeting standards" which means "information is taken from source(s) with enough interpretation/evaluation to develop a coherent analysis or synthesis. Viewpoints of experts are subject to questioning." Overall, while student work samples were rated slightly lower in the area of "Evidence" than in the area of "Explanation of Issues," the difference between the two areas appears to be minimal. Nevertheless, we are concerned about 26% of the students who are either approaching or not meeting standards in the area of "Evidence." Basically, those students' critical thinking level is not sufficient enough to develop a coherent analysis or synthesis, and they tend to take viewpoints of others are taken as mostly fact, with little questioning.

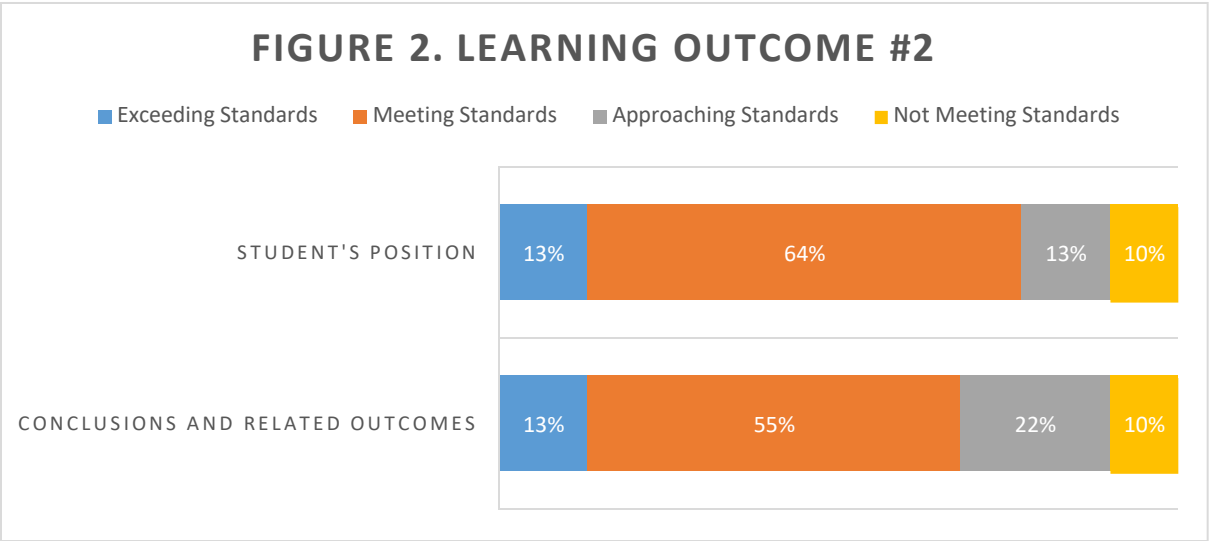




Analysis of results continues:

**Learning Outcome Two: students will develop well-reasoned arguments**

The second learning outcome is assessed under the following categories: “Student’s Position” and “Conclusions and Related Outcomes” as identified in the Assessment Plan update Figures 2 below presents the percentage distribution of ratings for each critical thinking element of Learning Outcome #2. For “Student’s Position,” most students (64 percent) belong to the category of “meeting standards” which means “specific position (perspective, thesis/hypothesis) takes into account the complexities of an issue. Limits of position (perspective, thesis/hypothesis) are partially acknowledged. Others' points of view are acknowledged within position (perspective, thesis/hypothesis).” For “Conclusions and Related Outcomes,” about 55 percent of students belong to the category of “meeting standards” which means “conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly.” Overall, while student work samples were rated slightly lower in the area of “Conclusions and Related Outcomes” than in the area of “Student’s Position,” once again, the difference between the two areas appears to be minimal. Once again, we are concerned about 32% of the students who are either “approaching standards” or “not meeting standards” in the area of “Conclusions and Related Outcomes.” These students’ conclusions are somewhat narrowly or inconsistently tied to information given and discussions on social consequences and implications are curtailed or oversimplified. For example, we see some students’ conclusions were basically repeating the same points made earlier, or even deviating from the main hypotheses set up earlier.



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.

When the data from the CY2019 critical thinking assessment is aggregated into a single critical thinking evaluation, about 73 to 77 percent of students are at least meeting standards. While these are respectful numbers, we are certainly interested in how we can further improve these percentages. Several suggestions include:

- We continue to modify assessment protocols. For example, we could add “Influence of Context and Assumptions” to Learning Outcome #1 to assess how students deal with things that are accepted as true without proof and how they evaluate the relevance of contexts. We believe this is particularly important in assessing students’ implicit biases that affect their understanding of the subject matter. This process is analogous to a pretest posttest design in an experiment.
- We continue to expand different assessment artifacts. For example, in addition to a traditional research paper format, we could utilize oral presentations, statistical reports using SPSS-X, short journal articles, etc.
- In retrospect, SOC 220 would have been a better choice for critical thinking assessment than SOC 221. We will elaborate this in what follows.

What has been learned that could be helpful to others as they conduct assessment of General Education:

We’ve been using exclusively SOC 490 (Senior Seminar) for critical thinking assessment, and this is our second time we use a 200-level class for that purpose. It is reasonable to believe that the level of expectations should be set separately for 200-level courses (mostly sophomores) and 400-level courses (mostly seniors). That is, we expect that in a 200-level class, a majority of the students demonstrate the level of “Milestone: Meeting Expectations and Approaching Expectations,” and in a 400-level class, a majority should demonstrate the level of “Milestone: Exceeding Expectations and Meeting Expectations.” We plan to go back to assess SOC 490 to establish whether or not there is a change in students’ critical thinking skills from students in the lower course levels compared to those in higher level courses.

Another helpful suggestion is to conduct assessment using SOC 220 (Intro to Research Methods) and compare the outcome to that of SOC 221 (Intro to Social Statistics). The reason for this comparison is that most students generally point to statistics course as one of the most anxiety-inducing courses in their degree requirement. So, it is plausible that some students might be just too overwhelmed by statistics anxiety to think critically. Although not scientifically tested, it appears that students tend to perform better in SOC 220 when taking both SOC 220 and SOC 221 simultaneously.

In sum, we have been assessing SOC 490 (Capstone Senior Seminar) simply because we believe that capstone projects are the most ideal ones in evaluating students’ critical thinking skills. For the CY2019 assessment, we assessed SOC 221 (Intro to Social Statistics) instead. The reason why we want to change where the artifacts of student work are to be collected is to assess changes and continuities in students’ critical thinking skills. That is, we believe that critical thinking skills are developed over the course of a student’s curriculum at SUNY-Oswego. By evaluating entry level (such as SOC 221 or SOC 220 as stated above) and exit level (such as SOC 490) artifacts of student work, we should be able to learn to what extent student skills in critical thinking are developed at SUNY-Oswego.

## Appendix 2—Insights

Here you will comments concerning communication and process, teaching and teaching supplements, and other advice, comments, and suggestions.

## Communication and Process

--One significant lesson we learned from our Department overview and also the issues we'd had in previous years with performance in our ANT 310 and 410 sequence is that we really needed to do a better job of linking those two courses, the Research Methods and CAPSTONE so that students would not be overwhelmed by the pressure of one large project (e.g. Grant,). We have found that in breaking down parts of the Grant that are required later, for example, using an Annotated Bibliography to help students get started on their "background research/lit. review" section of their grant was really helpful. Students were able to get feedback on parts of their grant prior to having to put together the entire project for a draft. This seemed to build confidence and also allowed them to mess up, some grades in early activities did not exceed or meet expectations, but averaged over the semester, showed great improvement.

--Our department has adopted the use of a single Google Form used for all assessment in our department that streamlines the collection of spreadsheets, instructor feedback and notes, and assignments used. This has been helpful in better understanding how assignments were implemented and what barriers both students and instructors faced.

--The Art Department has numerous degrees and tracks within those degrees that all require separate assessment. In an effort to streamline the process we have reorganized our 3 year assessment cycle to groups similar program goals of evaluation and analysis with Gen. Ed. Critical Thinking learning outcomes. We also shifted our program assessment schedule to align with the Gen Ed. calendar year assessment cycle. This has led to less duplication of work as well as more time to analyze the results and implement changes as a department. The Art department has decided that Critical Thinking would only be assessed in out 400 level senior capstones instead of 200, 300, and 400 level courses as has been the case in past assessments. This will provide an accurate assessment of student performance for GE Critical Thinking prior to graduation. However, all critical thinking assignments are still in place at the 200 and 300 level should issues at the 400 level need to be addressed earlier in the degree program during future assessments.

--Standardizing data collection at the end of every semester (when faculty are submitting final grading) avoids a great deal of hassle in trying to track down who taught what and when, and badgering faculty for their data submissions prior to the deadline.

We will be gathering the Gen Ed Assessment data in a Google Doc folder accessible to all department faculty to further streamline the data collection process.

--The more thorough the committee is with preparing the Assessment plan- the better the outcomes!

--When assessing multiple sections, ensure that specific directions are given and followed by each instructor in order to achieve consistency across sections. Follow-up emails and

reminders are also helpful to instructors who are involved in the assessment – especially if the measure will not be implemented until later in the semester.

--We have learned that monitoring and offering constructive feedback to students on a regular basis lead to a positive learning outcome. Each instructor in the CRJ 401 sections focus on creating an interactive environment and challenges students in all aspects of their learning. Also, we have found that students perform well when they feel supported and comfortable sharing their ideas in class.

--General education assessment should never stifle innovation in the classroom. This instructor chose a new type of project which can be risky but has the potential for great reward. While we are reporting a worse result for 2019 over 2016, we are looking at pedagogy that has great potential looking forward.

One thing that I learned was to regularly remind instructors of the assessment protocol during the semester that the assessment is being conducted. Although I worked with the instructor before the semester started to identify and strengthen an assignment for critical thinking (and critical thinking assessment) and also reminded them at the beginning of the semester to collect the artifacts from this assignment, the assignment did not end up being assigned to the class. Luckily, the instructor assigned a different assignment that required critical thinking and that worked well enough for assessment purposes but I realize now that this process needs to be regularly mentioned to keep the assessment on our busy faculty members' mental radar.

--We've been using exclusively SOC 490 (Senior Seminar) for critical thinking assessment, and this is our second time we use a 200-level class for that purpose. It is reasonable to believe that the level of expectations should be set separately for 200-level courses (mostly sophomores) and 400-level courses (mostly seniors). That is, we expect that in a 200-level class, a majority of the students demonstrate the level of "Milestone: Meeting Expectations and Approaching Expectations," and in a 400-level class, a majority should demonstrate the level of "Milestone: Exceeding Expectations and Meeting Expectations." We plan to go back to assess SOC 490 to establish whether or not there is a change in students' critical thinking skills from students in the lower course levels compared to those in higher level courses.

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In sum, we have been assessing SOC 490 (Capstone Senior Seminar) simply because we believe that capstone projects are the most ideal ones in evaluating students' critical thinking skills. For the CY2019 assessment, we assessed SOC 221 (Intro to Social Statistics) instead. The reason why we want to change where the artifacts of student work are to be collected is to

assess changes and continuities in students' critical thinking skills. That is, we believe that critical thinking skills are developed over the course of a student's curriculum at SUNY-Oswego. By evaluating entry level (such as SOC 221 or SOC 220 as stated above) and exit level (such as SOC 490) artifacts of student work, we should be able to learn to what extent student skills in critical thinking are developed at SUNY-Oswego.

--We found it helpful to assess students in lower and upper division courses to show data about students' performance at an entry point of the program and near program completion. The data shows some growth from the previous assessment in 2016 and student development within the program, however it has not been determined if the difference is significant or can be attributed to any changes in the program.

--The assessment was completed using standard course assignments and did not create additional work for faculty with the exception of scoring for the two rubrics as they graded the assignments.

It is challenging to get part time employees to participate fully in the assessments. Issues arose when adjuncts failed to have students complete the assignment when they were focusing on other course requirements.

--The analysis of this data has provided the CTE department with some feedback on the impact of VTP 307 in improving students' critical thinking skills. As far as it is practicable, studying entire population provides more generalizable findings rather than sampling. Again, incremental improvement of the course content based on students' feedback enhances the prospects of achieving the course's learning outcomes. The faculty is encouraged to conduct similar study to determine the progress of the students and self-reflect on them in order to understand the rationale behind the needed changes in their courses.

--We are working on streamlining the data reporting system, so that when faculty members submit their final grades, they will also enter the assessment data. This will cut down on the amount of time it will take to collect and analyze the information required for the reports.

--Based on our assessment results, we have found that the specific form of assessment can really impact the results, especially in recognizing the Exceeding Expectations category. For that reason, and especially in evaluating the conceptual learning of outcome two, essays and at least short answers should be considered for these courses in social sciences. We recognize that grading essays (even short ones) in 90+ exams is challenging, but there might be a way to incorporate this strategy into online prompts, etc. that will allow for easier assessments.

--New faculty members, both tenure-track and VAPs, offering Gen Ed courses should get special advising on course preparation and grading policies so that they can be better prepared in Gen Ed assessment documents.

--It is also very important that multiple sections of a course consider implementing similar strategies in their plan to assess learning objectives. As we ascertained, some minor differences

could later enhance pedagogical strategies, but it is also important that instructors work in conjunction on rubrics and defining expectations.

--Each instructor scheduled to teach the courses to be included in the assessment must be informed about it, so he/she is able to incorporate the assessment questions into the course planning. Moreover, the assessment components and the goals should be discussed regularly in the department meetings.

--A communication plan, with reminders, is important for data collection. We are missing a large section of data as the instructor forgot to include the questions in the final exam, and this omission was not discovered in time. We did consider, with full instructor cooperation, of adding on the questions as an additional assignment, but we were concerned about comparability. Going forward, the assessment coordinator will be sending a memo to the entire department with category, courses and point of data collection for each year. However, this is indicative of a larger institutional problem where assessment often falls to a few people. With one person guiding data collection, it is not at the forefront of other faculty, and omissions can happen easily, especially for embedded instruments at the end of the semester.

--Coordinate early and often with the instructors of courses to communicate goals and rationales.

--We were only able to assess two large sections of Intro this period due to a turnover in faculty who did not report their assessment findings. Thus, our consistent findings are limited to one section of instruction per semester. This is a problem that we should be able to avoid in the future with incoming new faculty.

### Teaching and Teaching Supplements

--For iterative assignments, which are generally considered best practices, it may be more effective to assess the course's ability to meet a learning outcome by showing where students were assessed on the first and last assignments in that iterative series.

--Instructors teaching large sections should share their experiences of assessing student work so as to provide insights into which tool/measure would be more appropriate to assess student learning outcomes and how to maintain consistency of such tool(s) and measures(s) among different instructors.

--The Art Department has learned that effective assessment prompts are absolutely important, but also, our students benefit from repetition of similar types of exercises in lower level courses. ART 471 is a capstone course for BA art history majors so the expectation is that they should be prepared to perform well on this assessment by the time the course is taken, which typically occurs in their final semester. Similarly, BFA Studio majors often take this course during their final semester, although it is not a senior capstone for those students. ART 353 must be taken prior to ART 471 for both sets of students. Because of the scaffolding of assignments in ART 353 and 471 as well

as between these two course more generally, the Art Department decided that Critical Thinking would only be assessed in our 400 level senior capstones, instead of 300 and 400 level courses as has been the case in past assessments. In doing so, the assessment results give us a clearer picture of student performance for GE Critical Thinking prior to graduation.

--In revising the assignment that I use to assess Learning Outcome 2, I made it both more detailed for the students and less onerous (for both them and for my grading of the assignment). While the assignment's expectations are increased, they now write four of these Expanded Critique assignments over the course of the semester, instead of doing one for every other student in the class (a total of 18). In letting the students write shorter, informal responses to 14 of the students in class, I have freed up time for them to do more in-depth work on the critiques required for the four members of their "workshop group." Because they still have to do four Expanded Critiques, spread out over the semester, the assignment remains iterative, and substantial feedback provided earlier in the semester leads to most students (70%) exceeding expectations by the end of the semester.

Bottom line: increased expectations on the assignment, but fewer iterations of it over the course of the semester (decreased from 18 to 4) has led to stronger work. Informal assignments continue to support the more formal critiques being assessed.

--The process of self-reflection and attention to detail has produced gratifying results, meaning that students who are non-majors are able to elevate their engagement and analysis far beyond what they presented in an initial draft. Several of the students who were assessed as 'meeting' or 'exceeding' expectations submitted early drafts which were very poor and in need of major revision. Guiding the students to make such revisions led to a greater investment in their final product.

--It's important to realize that students have different learning styles. Some take tests well, and others do not. Some perform much better on other forms of assessment, such as discussions or activities. Having a variety of forms of assessment in a course is paramount to student success.

--In future, speakers' covering topics that resonate more with the students' interests will be included to assess how they would perform their critical thinking objectives. One reason for this proposed change is that advanced and complicated topics covered by the speakers might fall beyond the comprehension of most of the students in the lower-division class.

--This assessment continues to suggest that exams alone are not a perfect representation of a student's ability to meet learning outcome #1 and #2. Students have different learning styles. Some take tests well, and others do not. Some perform much better on other forms of assessment.

--It is worth considering designing specific assessment questions that are less content based and try to target thinking progress beyond course material.



### Other Advice, Comments, and Suggestions

--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.

--As was mentioned in the last Social and Behavioral Science assessment, it's important to clearly define how the course will "demonstrate an understanding." "Understanding" can either refer to simply being able to identify a correct answer or it could mean applying knowledge learned to a new context. It seems that demonstrating higher-order thinking would be more beneficial to these general education assessments.

--If a course is used as a capstone for multiple majors, it may be useful to separate the data out by major to see if there are different results. For the Fall semester we implemented a Google Form in our department for faculty to submit their data. This includes a few questions about changes in the courses, issues or observations they made, and the assignment they used. This has been very helpful in organizing information and having some qualitative information to inform the quantitative.

--Professors should be open to critiquing and improving their own courses. In the case of CRW 401, I am always looking for ways to improve the class and this past Spring 2019, I made a dramatic decision to have the course focus on television pilot scripts in lieu of feature film scripts. I'm happy to say that this was a positive change.

Also, when planning a course and creating the syllabus, it's helpful to understand the assessments so that the necessary pedagogy can be incorporated. This is not to say that a professor should teach to the test, but that they should be aware of what's required.

--For others in CRW: Aesthetic understanding does not occur by sudden inspiration, or even over a single semester. Each of the Creative Writing genres has 3 classes, which build on each other. By gradually integrating the Learning Outcomes into each of the 3 classes in a given genre track, faculty can expect students to be comfortable with expressing and applying concepts.

--Emphasis needs to be made to the student as to the personal value of such reflection. They need to buy in or their reflections will be brief at best.

--For others in CRW: the way this has worked for my class is by making it a semester-long project that we return to periodically. Tackling it little by little, with class time devoted to helping them craft the statement, helped them succeed. On another front, however, several of the 408 students were taking two advanced CRW courses and had to therefore write TWO aesthetic statements.

Again, given that virtually everything they do is critical thinking, I'm not sure why we're required to add an extensive assignment on top of it.

--It's important to create continuity across different sections of a course teaching and measuring general education objectives. This requires time and collaboration among faculty and the department Chair.

--Having TK20 has been essential to the success of the department as it houses all of our assessment data and can be readily analyzed.

--If there was a problem with our assessment procedures, it should have been flagged when we submitted our plan in Fall 2018 -- actually earlier, since our planning began before that.

--The "Critical Thinking" component of capstone projects can be quite discipline-specific. In creative fields such as music, the main critical thinking component for most of our students' capstones lies not in evaluating arguments that appear in scholarship in the field, but in evaluating their own progress in realizing their creative vision. I would encourage the Gen Ed Council to bear in mind that critical thinking in the arts might be manifested differently from critical thinking in other fields.

--Giving students the power to be creative and to make their own aesthetic choices while also showing that they understand concepts is a powerful tool. The compositional process allows students to feel a sense of ownership and empowerment while they also show that they understand certain musical theoretical principles that they can implement them creatively in a composition. I heard quite a few times that students enjoyed these creative assignments more than any others in my theory class. Obviously too, I am interested in seeing students explore their creative side and want to encourage the creative process.

--Could this form be done electronically, in such a way that we could save it as we went along, and share easily with GE and faculty in draft and final form? That would help us a lot—thanks!

--All of our MLL students do their reading, writing and discussion in a foreign language. Certainly, it is important for our fellow faculty members to recognize the challenge of that for the Critical Thinking assessment, and to consider offering extra language help to students who are not yet at the Advanced level of foreign language skills. Such extra help might also be something to consider for faculty outside our department who have non-native speakers of English in their courses.

--Continually expose them to the ways of scientific reasoning. Experience!

--As natural scientists we tend to progress through a course sequentially addressing detailed topics. We might consider more general approach to process and application, and fewer specific topic areas.

--Natural science courses remain difficult for non-science majors. It may be useful for more general education courses to include critical thinking, reasoning, analysis and application in their courses.

--Perhaps the main finding was that making the test as a required assignment has indeed increased the number of students participating in the exam.

--This is a course taken not only by HDV majors as a major requirement, but also HDV minors, Education majors, Criminal Justice majors, and other programs have it as either an elective or a cognate course. This diversity of students taking the course tends to mean that students from other programs are perhaps less prepared than HDV students for the scientific aspects of the material covered. It is difficult to effectively teach such complex material at several different levels of familiarity simultaneously, without teaching beyond the capacities of some, or boring those who are more advanced in their comprehension.

--It would also be helpful to provide greater flexibility in how results are presented. While it is understandable that a common format presents clear advantages, the format does not lend itself to all types of data equally. For instance, for learning outcome number 2, the data presented in this report are based on multiple-choice questions (i.e., right vs. wrong responses). These types of data do not allow to be delineated according to the categories presented on this form (e.g., exceeding, meeting, approaching standards).

--Some instrument consistency is not always possible, but helpful in trying to compare over 3-year periods.

--We learned from this assessment exercise that students are challenged in understanding the thinking and reasoning behind key syntactic concepts, even though they know what these concepts are and can tell you when asked. We also learned that they are limited by their writing ability to explain what they understand. All this suggests that assessments that focus on having students memorize and regurgitate what is taught to them are not sufficient at getting at what students really struggle with. Students need to be asked to apply what they learn and explain via more open-ended assessments their understanding of these concepts. Moreover, professors in different disciplines need to teach how to write in their respective disciplines. If linguistics students struggle with writing in linguistics, it is very likely that students in other majors struggle with writing in these other disciplines as well.

Appendix 3—CY 2016 & CY 2019 comparison: aggregated results by category

<b>Critical Thinking LO #1</b>		<b># assessed</b>	<b>exceeding</b>	<b>meeting</b>	<b>approaching</b>	<b>not meeting</b>
CY 2016		1823	682 (37.4%)	770 (42.2%)	248 (13.6%)	123 (6.8%)
CY 2019		1837	758 (41.3%)	735 (40%)	226 (12.3%)	118 (6.4%)
<b>Critical Thinking LO #2</b>		<b># assessed</b>	<b>exceeding</b>	<b>meeting</b>	<b>approaching</b>	<b>not meeting</b>
CY 2016		1858	675 (36.3%)	785 (42.2%)	263 (14.2%)	135 (7.3%)
CY 2019		1855	744 (40.1%)	712 (38.4%)	269 (14.5%)	125 (6.7%)*
<b>Natural Sciences LO #1</b>		<b># assessed</b>	<b>exceeding</b>	<b>meeting</b>	<b>approaching</b>	<b>not meeting</b>
CY 2016		825	250 (30.3%)	248 (30.1%)	204 (24.7%)	123 (14.9%)
CY 2019		984	277 (28.2%)	353 (35.9%)	212 (21.5%)	142 (14.4%)
<b>Natural Sciences LO #2</b>		<b># assessed</b>	<b>exceeding</b>	<b>meeting</b>	<b>approaching</b>	<b>not meeting</b>
CY 2016		788	242 (30.7%)	246 (31.2%)	174 (22.1%)	126 (16%)
CY 2019		967	253.5 (26.2%)	329.5 (34.1%)	210 (21.7%)	174 (18%)
<b>Social and Behavioral Sciences LO #1</b>		<b># assessed</b>	<b>exceeding</b>	<b>meeting</b>	<b>approaching</b>	<b>not meeting</b>
CY 2016		3158	1460 (46.2%)	989 (31.3%)	347 (11%)	362 (11.5%)
CY 2019		2821	1461 (51.8%)	915 (32.4%)	230 (8.2%)	214 (7.6%)*
<b>Social and Behavioral Sciences LO #2</b>		<b># assessed</b>	<b>exceeding</b>	<b>meeting</b>	<b>approaching</b>	<b>not meeting</b>
CY 2016		3075	1255 (40.8%)	1186 (38.6%)	431 (14%)	203 (6.6%)
CY 2019		2820	1211 (42.9%)	1108 (39.3%)	249 (8.8%)	252 (8.9%)

Percentages are rounded. \* indicates the data set slightly corrupted (summing).