

General Education Assessment Report--CY 2022 with appendices

Table of Contents

Summary Report	3
Appendix 1: Exemplary Reports	5
COM 100	
GEO 100	
LIT 311	
MAT 208	
Appendix 2: Insights	14
Appendix 3: Calendar Year Comparisons	22

General Education Assessment Summary Report--CY 2022

As Lakers, here where winds regularly barrel through our Oswego campus, we long for fair winds and following seas, for ease of travel. Winds both literal and figural are on my mind today: small wonder that, what with our university having been buffeted by the pandemic, what with the challenges that have come with new students arriving having spent some portion of their high school education in online or hybrid learning environments, what with a decline in undergraduate enrollment, what with staffing shortages.

We weather winds if our vessel is sound and if we take care that it remains so. CY 2022 reports make clear that such is the case with the assessment of student learning in your general education courses and in the infused competencies of computer and information literacy and critical thinking in your programs. In the nine years since we shifted to a calendar year general education assessment cycle, you have crafted and refined your assessment practices in the service of teaching and student learning. Because of what you have built and maintained, individually and collectively, assessment results have remained consistent or shown improvement over those nine years. Thus, for example, the percentage of students producing work that was either meeting or exceeding in the category of critical thinking rose from 81.3% to 84.5% for the first learning outcome and from 78.5% to 85% for the second learning outcome.

The majority of assessment reports both feature internal coherence and make clear your positioning of the CY 2022 report in relation to earlier assessment reports. That is, the report sections are clearly and appropriately connected and the findings and actions to be taken are linked to what previous assessment reports revealed. This suturing is a feature of mature and meaningful assessment of student learning.

The majority of your reports also offer clear and compelling evidence of the willingness to revisit assignments and rubrics, processes and procedures, and in-class efforts geared at helping students be in the best position to demonstrate what they have learned.

Your CY 2022 assessment reports also indicate that revising our sampling size protocols to lighten your assessment load did not have a negative impact on what the assessment revealed and what steps are to be taken in light of what you have learned.

Oswego winds are constant and their direction not always favorable. It is when winds are against us that it bears remembering that canoeists have been known to remark that headwinds build muscle. While ease of effort is preferred, putting in some hard work in order to get where you want to go is not only necessary now and again but will make you stronger. So it is with your assessment practices. In particular, as was noted in the CY 2016 assessment report summary, General Education Council and Assessment Advisory Committee members "think it wise for you to offer a succinct statement of the tool and measure used. If you used the tool and measure noted in the assessment plan update submitted prior to the calendar year when the assessment took place, feel free to cut and paste from assessment plan update to

assessment report." Doing so not only more explicitly links assessment plan to report, it also enables the report to serve as a richer archive for you and your colleagues as you work to strengthen your teaching and improve student learning. Please do bear in mind that the richness of detail that we are encouraging you to provide is for your sake and benefit.

General Education Council and Assessment Advisory Committee also have some work to do to make sure our practices and procedures remain sound. In particular, we need to continue reviewing and revising our assessment plan update and assessment report forms so that they can be of best use to you and your colleagues. For instance, a thought or three concerning the method of analysis section of the assessment report is warranted given the range of responses you are providing.

Finally, although noted in previous summary reports, it is worth reminding you to keep succession in mind as you move forward. Doing so will enable you to avoid having to scramble to conduct and complete your assessment labors because a new chair or assessment point person was not brought up to speed regarding deadlines and procedures. What is more, making sure the hand off is done and done well be another instance of the suturing that will help your assessment efforts be as beneficial as possible to you, your colleagues, and your students. Just as better communication between past chairs, directors, and/or assessment coordinators and those that take their place can only help you continue your good work, so too is reaching out to the General Education Director with questions, comments, and concerns as they arise.

We'll gather next month, 16 May, at Rice Creek Field Station for our annual gen ed assessment retreat: more on that to follow, of course. Here's hoping for fair winds, warmth, and sunshine.

Appendix 1: Exemplary Reports

Here we include reports from Communication Studies, Curriculum and Instruction, Geology, and Mathematics

Course(s):COM 100

of sections: 1 Section COM 100-800 (148 students)

Calendar Year: Spring 2022

General Education Category	<u>Learning Outcome</u> Students will demonstrate	Information			Results ¹							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	% ²	#	%	#	%	#	%	#	%
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 2022	148	100%	130	87.8	2	1.3	0	0	16	10.8
	knowledge of the major concepts, models, and issues of at least one discipline in the social sciences	Spring 2022	148	100%	148	100	0	0	0	0	0	0

¹ 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.

² 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**

Students completed the Journal Article Analysis Assignment described in the assessment materials. Students read the article and identified the key components of a scholarly journal article. The purpose of this exercise is to familiarize students with journal articles and better understand the methods used by social scientists and how research findings are presented. Things like being able to identify structure, knowing where to find key information, and interpreting information were emphasized.

Students ended the course with a Final Exam which included 10 key questions as outlined in the assessment materials. The questions were chosen to show/test knowledge of the major concepts, models, and issues covered in the introduction to communication studies.

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

The results suggest that the students are able to correctly identify key components of a scholarly journal article. They demonstrated they are capable of breaking a journal article down to key components and find specific information within articles. Additionally, they were able to differentiate between different approaches to studying communication. Many students taking COM 100 in the Spring Semester have at least one semester of university experience and this may also contribute to their competence in this area. The majority of students met or exceeded standards. Of the 16 who did not meet standards, 14 did not complete the assignment and/or missed the deadline.

The results suggest that students are able to correctly answer key questions about the field of communication. These 10 questions covered key concepts and so perhaps it is both encouraging, and to be expected, that so many students answered them correctly. The percent of students who got each question correct are as follows: Q1: 97.16, Q2: 95.74, Q3: 97.16, Q4: 91.48, Q5: 85.81, Q6: 90.78, Q7:84.39, Q8:77.30, Q9: 100.00, Q10: 85.10. Overall all students took the final exam, and met or exceeded expectations on each of the 10 questions.

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.

Instructors have paid special attention to the Journal Article Assignment and ensuring that students are introduced to and familiarized with journal article conventions. This continues to be an important part of COM 100. It may prove to be even more essential in the Fall Semesters, as that is when more 1st year, 1st semester students are enrolled in the course. When the course is taught in Spring the likelihood that students approach this portion of the course and this assignment with experience is much higher. For students who are new to Communication Studies and/or new to higher education attention to learning how to glean information from, and become familiar with the conventions of journal articles is a key skill. Some students feel very intimidated by the nature of this kind of publication and demystifying it is important. This assignment and instruction beforehand prove to be a solid exercise. It has been used in past evaluations and given that this is a necessary skill set, ought to remain a COM 100 assignment and tool for evaluation.

The Exam Questions showed the student had a solid grasp on these concepts. The exam questions chosen are very clear questions and this no doubt contributes to students mastering them well (they are not designed to be especially tricky or confusing). Regardless, the questions cover a broad section of the course, and students show they are completing the course with a solid handle on these key areas. The exam questions have been the same for other evaluations and it may prove useful to continue using them for comparison reasons.

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

Many students are unfamiliar with or intimidated by journal articles and other publications in the field of communication. Special instruction on how to approach and dissect these texts proves to help students understand and be able to articulate their understanding. Continuing to keep this assignment and this introduction to literature is key to allowing students to start doing their own research in the field. The text for this course does not cover this material so new instructors should be informed about this assignment and perhaps be given materials (a previous version of the text for instance) to help ensure that all COM 100 students have this necessary introduction.

Course(s): GEO 100 # of sections: 1 Calendar Year: 2022

General Education Category	<u>Learning Outcome</u> Students will demonstrate	Information				Results ¹							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards		
			#	% ²	#	%	#	%	#	%	#	%	
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 2022	60	100	37	62	10	17	6	10	7	11	
	application of scientific data, concepts, and models in one of the natural (or physical) sciences	Fall 2022	60	100	47	78	5	8	5	8	3	6	

¹ 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.

² 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 two assignments laid out in the plan were used to address learning outcomes. Students were evaluated per the criteria based on their correct answers on each assignment.

Analysis of results Please be sure to address each learning outcome and both strengths and weaknesses revealed by the assessment, if any. Students appeared to do much better on the “qualitative” questions, where they were asked to identify a rock or a feature around campus (learning outcome 2). Students did slightly worse on the more “quantitative” questions, where they were asked to read a plot, interpret a map, or make a calculation (learning outcome 1). I have found this to be similar in prior semesters, although slightly more students did better with quantitative work this time around than in prior semesters, which is encouraging.

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.

Clearly, quantitative thinking remains an issue for a lot of students, and this should be addressed by having more assignments and course work where quantitative thinking is required. I also plan to have students work together on these assignments, at least a few of them, so that they can build their confidence with working with quantitative data and concepts. Many have very little experience with this, particularly if they are not in a STEM major, but it's an important skill to hone regardless.

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

There is a wide range of ability in a general education class in terms of conceptualizing and working with quantitative information. It would be ideal to be able to relate quantitative tasks to real world situations, or to pair them with qualitative analyses, so that students who are not quantitative thinkers may be able to conceptualize things a bit more easily.

Course(s): LIT 311# of sections: 1Calendar Year: fall 2022

General Education Category	<u>Learning Outcome</u> Students will	Information			Results ¹							
		Semester(s) of data collection	Students Assessed		Exceeding Standards		Meeting Standards		Approaching Standards		Not Meeting Standards	
			#	% ²	#	%	#	%	#	%	#	%
Critical Thinking	identify, analyze, and evaluate arguments as they occur in their own or others' work	Fall 2022	21	100%	9	43%	7	33%	5	24%	0	0
	develop well-reasoned arguments		21	100%	11	52%	8	38%	2	10%	0	0

¹ 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.² 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

Students responded to a prompt with a written essay. Essays were analyzed using a rubric to address the critical thinking criteria. The professor reviewed each section of the rubric thoroughly and kept that open as a split-screen alongside the student's paper I was reading. I scanned the paper first, searching for proper organization and to see if main points were addressed. The professor also checked for grammar and punctuation. Finally, the professor reviewed the rubric again and matched up appropriate areas of the paper to what items were met in regard to points allotted for the final grade.

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

L1: Most (76%) students met or exceeded the expectations. A majority of the students were able to identify, analyze, and evaluate the argument(s) in the article they read. Students were strong in identifying the argument, distinguishing the arguments conclusion, and strongest in assessing whether the argument's premises provide sufficient logical support for the conclusion. The weakest area was assessing the reasonableness of the premises. This last area showed overall weakness in clarity. Proper and important connections were made between the arguments and viewpoints to logical support and the conclusion.

L2: Most students (90%) of students met or exceeded expectations. Students were able to develop well-reasoned arguments. Providing an argument and describing relevance, significance of context, and/or reasoning to a novel problem were very strong and very clearly stated in just about every paper. The weakest area was in clearly identifying some qualifications or objections or points of view. The students were proficient in stating relevant and correct arguments but not as proficient in the clarity of supporting an opposing argument or alternative point of view

Since 2018, the professors in LIT 311 added additional instructional supports for writing. They used a graphic organizer to scaffold the students' understanding prior to the writing assignment. This approach continues with new adjuncts.

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.

Most students are meeting the standards. Professors will continue to use the instructional strategies and supports instituted. They will also discuss with the students the benefits of raising alternate points of views or objections when making a claim and justifying their own positions in defense of those views as a way to strengthen their argumentative writing. In addition, any students that show signs of struggling with writing will also be referred to the writing center for additional support.

L1: In class, the professor reviewed Emily Hanford's podcast and we had very thorough discussions about and the relevance to the shift in literacy instruction. In the future, the professor will work on incorporating more "practice for clarity" in our discussions – possibly with a small writing activity or group discussions and submissions.

L2: Much like for L1, the professor would take time to practice incorporating and communicating clarity when trying to approach an idea from an argument or alternative view point.

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

We continue to create collaborations across this course. We recognize the effect of the pandemic on student learning. The professor of Fall 2022 identified the following as helpful information:

1) the citation, grammar and punctuation skills shown by most students in L1 papers submitted were below expectations for college level learners. Perhaps because of the pandemic and online learning. However, the professor conducted a mini-lesson on writing expectations at the college level (and how they grow in graduate school) and to not ignore a re-read and thorough review by a friend or peer; which led to 2) students have missed the last few years of formal writing instruction, likely due to Covid shutdowns and remote learning. Most of these students were in their senior year of high school when the huge shift in learning changed to be mostly remote. The instructor noticed significant improvement of these areas when reading papers for L2 (after the mini lesson).

Course: MAT 208 # of sections: 4 Calendar Year: 2022/23

Knowledge and Skills Areas / Competencies	<u>Learning Outcome</u> Students will demonstrate the ability to	Information			Results ¹			
		Semester(s) of data collection	Students Assessed		# Exceeding Standards	# Meeting Standards	# Approaching Standards	# Not Meeting Standards
			#	% ²				
Mathematics	#1 interpret and draw inferences from mathematical models such as formulas, graphs, tables, and schematics	Fall 2022	91	100	3	11	51	26
	#2 represent mathematical information symbolically, visually, numerically and verbally	Fall 2022	91	100	39	17	21	14
	#3 employ quantitative methods such as, arithmetic, algebra, geometry, or statistics to solve problems	Fall 2022	91	100	13	21	25	32
	#4 estimate and check mathematical results for reasonableness	Fall 2022	91	100	11	23	23	34
	#5 recognize the limits of mathematical and statistical methods	Fall 2022	91	100	21	28	16	26

¹ 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.² 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 our rationale for doing so.

Briefly describe your method of analysis

Selected question from the final exam were assessed. The learning outcomes were categorized by percentage of available points earned: 90+ exceeding standards, 70-90% meeting standards, 40-70% approaching standards, and < 40% 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.

Two factors that influenced the results above are hypothesized forthwith, both of which the data testify to: a) the more a question resembles a familiar assigned homework problem from the textbook / online homework system (WebAssign), the better students performed and b) how theoretical or practical a question is also influenced how well students answered. Indeed, it seems like hardly anyone recognized the important details in LO1, and while this topic is certainly covered in the course and corresponding homework and classwork problems are assigned, no questions in the textbook or WebAssign closely resembled the particular details of LO1. Also, LO1 was the most theoretical, relying on pure calculus theory. The question students did best on was LO2, which was quite straightforward and didn't require any deep concepts, and it matched the form of all the other questions of its kind from the textbook / WebAssign. Questions 3 and 4 were not the deepest theoretical topics in the course, but these questions did require an intellectual maneuver that probably played a part in the mixed results. Some, but not all, of the corresponding questions from the textbook / WebAssign had the same form and semblance as these learning objective questions. LO5 seems like a straightforward question, and it is bothersome that students didn't perform better than they did. Again, students may have been on the lookout only for questions of a certain form, but a slight deviation from expectations produced mixed results.

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.

The results for LO1 are rather disturbing, and it begs the question: Do these students really need such theory? And considering the quantity of curriculum, students may feel it is not worthwhile putting much effort and study into theory that only constitutes one question on the Final Exam and won't appear in their future careers anyway. Of course, as is common in math classes, the subject matter tests a student's conceptual, logical, and theoretical abilities and aptitude, and these are important faculties to develop --regardless of whether a concept appears in the "real world." Also too, calculus has been a main part of MAT 208, and we want to offer an attractive, rigorous, academically respectable course, so if curriculum points are removed this should be done sparingly, with careful regard and discussion among the Department of Mathematics as well as the School of Business.

We also want our students to learn the material, and not just look for homework patterns to replicate on exams. While there is no cure-all remedy for this, one strategy may be to consider a new textbook, one which offers a more diverse variety of problems, forcing students more towards needing to learn the material and not become accustomed to certain forms for the homework problems.

What has been learned that could be helpful to others as they conduct assessment of General Education:
Having multiple opinions and perspectives has been very helpful.

Appendix 2: Insights

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

Insights

Communication and process

--AMS is experimenting here with using something like the model of “small major assessment” developed by CLAS to introduce a cyclical approach that hopes to overcome the “apples-to-apples” issues that are a persistent challenge for small interdisciplinary programs.

--For the 2022 assessment cycle we sorted and analyzed data by major as well as by the program area. We also implemented the use of a google survey form allowing faculty to not only upload data and assignment information and offer comments that might address various concerns such as why students did not meet expectations. This was how we dealt with data for this assessment cycle and found this was very helpful in organizing information and having some qualitative information to inform the quantitative. We will continue this going forward.

--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 primary lesson is to work with instructors who might teaching the course. We have five different instructors who teach the class and it takes a lot of planning and early discussions as well as regular reminders to ensure that the assessment is completed. We did not get results from all sections, which is why only 4 were assessed, but it was enough to reach the number required. If there is more than one faculty teaching the course, regular and frequent updates and reminders are important.

--We revised our critical thinking infusion plan in 2021 to address dissatisfaction some of our faculty had with the measure we were previously using to assess LO 1. The new infusion plan and shared assignment for LO 1 came from a CRW faculty brainstorming meeting and was agreed upon by all the genre track leaders. The previous assessment measure had been selected by just the program director and assessment coordinator. There were still some challenges with conducting the assessment -- the SUNY rubric just doesn't map well to what we do in CRW, despite the fact that our students are regularly engaging in higher-level critical thinking -- but for the first time there was no faculty pushback over the process. This insight isn't a surprising one, but worth remembering: measures that are proposed and agreed upon by the faculty involved tend to have better buy-in.

--The quality of the rubrics used in the data collection provides the CTE department with useful feedback on the impact of CTE 309 (a prerequisite course of CTE department) in improving students' critical thinking skills. Studying the population provides more generalizable findings rather than sampling which introduces sampling errors that could affect the study's findings. Again, continuous improvement of the content of the rubrics based on students' feedback enhances the prospects of collecting valid data for improving the course's learning outcomes.

--In the future, I would do the assessment as soon as the course ends so that I ensure I still have access to all the data I need.

--One thing we realized is that the change of academic year to calendar year (a change since the last assessment cycle) does affect our assessment somewhat in these categories. Our MUS 496 course (Capstone) runs throughout the academic year. Students take 496 in the fall and then finish their capstones in the spring. These are generally the same students in both classes so there is some continuity with size of class and directions/assignments given.

Now that we are in calendar years- we are assessing two different groups of seniors- those finishing the capstone process (reflection paper) and another group who is beginning the capstone process. The reflection paper is discussed in the fall and assigned for the following spring. It is difficult to correlate the success of the paper and the instructions/rubric given when we are essentially receiving the finished assignment from a different group of students to whom it was given? Does that make sense?

--In this case the evaluation using individual questions was not as reflective of my observation of student learning this term when compared with prior terms and modifications in the course. Over all grades and scores have improved with the introduction of regular quizzes but this outcome is not well reflected in this assessment.

--Based on our assessment results, we have found that our graded essay assignments for outcome two throughout the semester was more helpful for improving student performance. We found that those who showed up, did much better than previously. We also found more attendance issues than before and missed work, and we are planning on changing some of our class structures to improve engagement socially in the hopes that it will lead to improved attendance.

--Based on our assessment results, we have found that our online modality has now had more steadily improving student performance than previous semesters. In cases where student engagement was a factor, the online modality flexibility appeared to work better for some students. We cannot ignore that at least this time students who are choosing to take that modality did better (it does not mean that all students would do so if forced online again). As with our other 100 level sections, we are considering how to build better community cohorts. The poster symposium is one activity in ANT 112 that seems to work, so we are considering how to implement this program for more sections.

--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.

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, there were pedagogical differences in how exams were given to classes. Hence, the online section has essay-based exams and thus did not include the questions in the planned assessment. It is important that instructors work in conjunction on rubrics and defining expectations.

--When the instrument is pushed through the LMS (two different ones in 2022), there needs to be more attention given to the form of output and how this will map into the required reporting. The

assessment coordinator was not careful about this. While the item analysis data does not map well to the required table, it does provide useful information.

--In this case, the item analysis from Blackboard when questions were randomized was less than was desired. This was an online only assessment, so the decision was made to randomize the questions (and multiple choice options) to minimize any sharing of questions between students. We should have good experience with Brightspace by the time this assessment has to be repeated, so consideration will be given to the best method of presentation to maximize the utility of item analysis using that LMS.

Teaching and teaching supplements

--In general we have seen improved student performance after adjusting the timing and scaffolding of assignments. Our use of a brief survey that faculty submit with their assignment/ assessment data continues to be very helpful in capturing qualitative information.

--To assess learning outcome one the students were given a critical thinking assignment for which they wrote critical analysis on a published article in their field of research, demonstrating their abilities to evaluate the arguments and premises presented by other researchers by identifying the problem/question they are trying to solve/answer and their hypothesis, and by evaluating the scientific methods they propose.

To assess learning outcome two, the students were assigned to write a research paper in which they develop well-reasoned arguments by defining the problem they are attempting to solve by doing their research and expressing their hypothesis and methods where they take their own experimental data and develop well-reasoned arguments.

We believe the instruments used are quite useful in assessing the critical thinking skills of the students and others may use similar instruments, if applicable.

--We have also reached the conclusion that students are effective in developing their own arguments but may need more practice in evaluating other's work. As this assessment asks both about their own and others' work, it makes assessment a bit more complicated as they are often doing one: either creating their own work *or* assessing others. Finding an appropriate and meaningful tool of assessment is especially important in order to assess for all parts of these learning objectives.

--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.

--We continue to create collaborations across this course. We recognize the effect of the pandemic on student learning. The professor of Fall 2022 identified the following as helpful information:

1) The citation, grammar and punctuation skills shown by most students were below expectations for college level learners. Perhaps because of the pandemic and on line learning .. However, the

professor conducted a mini lesson on writing expectations at the college level (and how they grow in graduate school} and to not ignore a re-read and thorough review by a friend or peer; which led to 2), students. have missed the last few years of formal writing instruction, likely due Covid shutdowns and remote learning. Most of these students were in their senior year of high school when the huge shift in learning changed to be mostly remote. The instructor noticed significant 'improvement of these areas when reading papers for L2 (after the mini lesson).

--We recognize that in the field of education and for future teachers, collaborative learning is crucial for our candidates. We expect our candidates to think holistically about these critical thinking issues. It is 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.

--It is our belief that repeated use of short assignments with a clear and specific focus is needed to develop a student's ability to communicate in a foreign language. While it is challenging to express critical thinking in one's native tongue, achieving it in a second language is even more difficult. As a result, small preparatory steps are required during the semester, with clear targets and goals, to prepare the students for attaining that higher level of expression.

I also recommend, especially in literature/culture courses, allowing reading academic articles in English or the native language of the speaker in order to (1) acquire the information in the most efficient manner, and (2) to support one's thinking abilities. We must use all means (and the most efficient) to advance students' knowledge and develop critical thinking skills which will later be transferred into the target language.

--For one, providing students with the resources to help enhance their understanding of what higher order questioning contains would be helpful in providing students with the opportunities to identify, analyze, and evaluate arguments. Often times students are required to critically evaluate and synthesize information yet are never taught how to actually do so. Requiring each student to participate in questioning during presentations is a great skill to develop. Being able to ask good questions allows one to be able to dig deeper into a topic to develop well-reasoned arguments by synthesizing and critically evaluating what is being asked.

--In this introductory newswriting and reporting course, students are given various professional-life scenarios to hone their newswriting skills. Making them write news stories based on speeches helps them learn listening and note-taking skills, which is a must for their future careers. Thus, including speeches that are relevant, contextual, well-reasoned with data and evidence will strengthen their listening and note-taking skills.

--We have always understood that we couldn't just assign writing for LIN 400 (but in all our other courses, too) and have always taken pains to provide instruction, and these days, we realize we have to slow down and go through things more closely and jettison some other things that are nice to do, but they only help the very best students. All the students benefit from us *slowing down*.

--Use various types of practices and examples to expose students the ways of critical thinking.

Semester end presentations are a way to encourage the students develop interpersonal skills. When the presentations are coupled with a large percentage of their grades student benefit greatly.

--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. Brightspace's ability to "view statistics" on a particular rubric can make this much easier.

--I learned about the importance of including class projects that facilitate intercultural communication in an instructional setting where diversity is a reality. Contextualizing approaches to language and culture help students to understand the material and develop levels of criticality and reflexivity that are essential in today's world. The idea is not only complete in-class tasks but learn how to navigate our reality and take some political or civic action when it is needed.

--There is a wide range of ability in a general education class in terms of conceptualizing and working with quantitative information. It would be ideal to be able to relate quantitative tasks to real world situations, or to pair them with qualitative analyses, so that students who are not quantitative thinkers may be able to conceptualize things a bit more easily.

--Science can be difficult to learn for non-science majors. They need examples which incorporate the reasoning or thought process for developing hypotheses and formulating experiments. Make sure to be aware of exam questions that students consistently perform poorly on. These questions are mostly the ones which involve scientific reasoning and interpreting a graph. Knowledge of these questions allows for the making of adjustments to your teaching methods, especially, in the areas where students consistently have difficulty.

--We have learned that the test can be conveniently given to the students on Brightspace and it is easy for the instructors to conduct it online without taking class time.

--Start exposing students to real world examples that could be complicated early on during the semester.

--Many students are unfamiliar with or intimidated by journal articles and other publications in the field of communication. Special instruction on how to approach and dissect these texts proves to help students understand and be able to articulate their understanding. Continuing to keep this assignment and this introduction to literature is key to allowing students to start doing their own research in the field. The text for this course does not cover this material so new instructors should be informed about this assignment and perhaps be given materials (a previous version of the text for instance) to help ensure that all COM 100 students have this necessary introduction.

Other advice, comments, and suggestions

--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 had to require 310 (to do well in 410). Our program redesign was warranted; in removing 410 (only) for the minor, and having minors take 310 instead. This should improve outcomes for our minors and majors in critical thinking within our discipline as they will have better preparation for their high impact assignments. We found that CAPSTONE for minors, generally, requires more prep work than is typically feasible to build into the minors without also requiring research methods that helps them identify meaningful projects.

Note: we keep getting unlucky in the years in which we evaluate these. This semester I have a more usual number (14) so bear in mind that our years tend to go "high" then "low" in student numbers. Perhaps these numbers will stabilize in a few years, hard to guess at this point. But it can really impact our analysis.

--We learned that the following idea, which we presented three years ago in this box, is even more valuable than we thought. 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.

--General education assessment should never stifle innovation in the classroom. In 2019, this instructor chose a new type of project which can be risky but has the potential for great reward. While we reported a worse result for 2019 over 2016, by 2022, reflection and revision on this type of activity has led to much-improved experiences.

--Independent studies like this lend themselves well to assessments of critical thinking. It was clear to all students that they were to work toward both these learning outcomes, which made our job assessing their learning on these outcomes relatively easy.

--We suggest that changing a major every two years is not ideal if your goal is to assess courses and promote student learning. We also recommend that faculty in those departments where reading and interpreting texts/artifacts is not central to their mission celebrate their good fortune. Teaching history in an increasingly post-literate nation is both challenging and frustrating.

--When developing a new degree program with new core courses, be sure to use a backward design process to help develop assessments that align with learning outcomes. Also, pilot assessments in the beginning and use the data immediately to modify the assessments, rubrics, and directions.

--We designed our methods courses to incorporate both learning outcomes throughout course assessments. This provides students with opportunities to use evaluation, analysis, and reasoning skills through a variety of modalities and demonstrate core competencies through overall course performance. Faculty in other departments may consider this approach for both flexibility- and ease-of assessment.

Because the courses in the HDV methods sequence are holistic, we use a straightforward assessment system which considers students' overall course performance by grade. This

streamlines the system and does not require faculty to report information because we can simply use grade distributions.

--Some problems have no easy solutions – we continue to work on them.

--It is a tedious process that results in very little useful information.

--Having multiple opinions and perspectives has been very helpful.

--We have no recommendations in general, as to the assessment of General Education, though we approve of and support the recent decision to move to a four-year general education assessment cycle.

--Continuous review of everything including we do, from the professor's general attitude toward the students, willingness and ability to help them, and ability to connect with them about personal issues, as well as advisement issues and academic issues. We think we have to be "on the students' side"- not by letting them get away with not doing work, but by adjusting what we do to meet them where they are. It's a tough place to be but it's a more honest and useful stance to take than we did before.

--I am wondering if others are experiencing challenges with previously effective assignments based on the skills gaps we are seeing in the current student population. To the extent this is true, I think others may be facing a similar issue with assignments that require a kind of skill not technically required by the learning outcome possibly undermining students' ability to meet or exceed standards.

--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.

Appendix 3: CY assessment comparisons

Appendix 3—CY comparisons: aggregated results by category

Critical Thinking LO #1 # assessed exceeding meeting approaching not meeting

Students will identify, analyze, and evaluate arguments as they occur in their own or others' work.

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%)
CY 2022	890	416 (46.7%)	336 (37.8%)	98 (11 %)	40 (4.5%)

Critical Thinking LO #2 # assessed exceeding meeting approaching not meeting

Students will develop well-reasoned arguments.

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%)*
CY 2022	892	412 (46.2%)	346 (38.8%)	96 (10.8%)	38 (4.2%)

Natural Sciences LO #1 # assessed exceeding meeting approaching not meeting
Students will demonstrate 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.

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%)
CY 2022	747	291 (38.9%)	206 (27.6%)	134 (17.9%)	116 (15.5%)

Natural Sciences LO #2 # assessed exceeding meeting approaching not meeting

Students will demonstrate application of scientific data, concepts, and models in one of the natural sciences.

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%)
CY 2022*	740	272 (36.7%)	195 (26.4%)	126 (17%)	147 (19.9%)

Social and Behavioral Sciences LO #1

Students will demonstrate understanding of the methods social 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.

	# assessed	exceeding	meeting	approaching	not meeting
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%)*
CY 2022	1829	802 (43.8%)	735 (40.2%)	138 (7.5%)	154 (8.4%)

Social and Behavioral Sciences LO #2

Students will demonstrate knowledge of major concepts, models and issues of at least one discipline in the social sciences.

	# assessed	exceeding	meeting	approaching	not meeting
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%)
CY 2022	1803	732 (40.6%)	767 (42.5%)	152 (8.4%)	152 (8.4%)

Mathematics LO#1

Students will demonstrate the ability to interpret and draw inferences from mathematical models such as formulas, graphs, tables and schematics.

	# assessed	exceeding	meeting	approaching	not meeting
CY 2019	651 (628 for LO#5)	175 (26.9%)	147 (22.6%)	178 (27.3%)	151 (23.2%)
CY 2022	454 (269 for LO#5)	137 (30.2%)	69 (15.2%)	122 (26.9%)	126 (27.8%)

Mathematics LO#2

Students will demonstrate the ability to represent mathematical information symbolically, visually, numerically, and verbally.

	# assessed	exceeding	meeting	approaching	not meeting
CY 2019	651	265 (40.7%)	51 (7.8%)	116 (17.8%)	219 (33.6%)
CY 2022	454	215 (47.4%)	65 (14.3%)	64 (14.1%)	110 (24.2%)

Mathematics LO#3

Students will demonstrate the ability to employ quantitative methods such as arithmetic, algebra, geometry, or statistics to solve problems.

	# assessed	exceeding	meeting	approaching	not meeting
CY 2019	651	191 (29.3%)	131 (20.1%)	125 (19.2%)	204 (31.3%)
CY 2022	454	243 (37.3%)	106 (16.3%)	142 (21.8%)	160 (24.6%)

Mathematics LO#4

Students will demonstrate the ability to estimate and check mathematical results for reasonableness.

	# assessed	exceeding	meeting	approaching	not meeting
CY 2019	651	243 (37.3%)	106 (16.3%)	142 (21.8%)	160 (24.6%)
CY 2022	454	187 (41.2%)	75 (16.5%)	73 (16.1%)	119 (26.2%)

Mathematics LO#5

Students will demonstrate the ability to recognize the limits of mathematical and statistical methods.

	# assessed	exceeding	meeting	approaching	not meeting
CY 2019	628	105 (16.7%)	148 (23.6%)	223 (35.5%)	152 (24.2%)
CY 2022	269	86 (31.9%)	64 (23.8%)	40 (14.9%)	79 (29.4%)

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