

## Department/Program of Study Learning Outcomes Assessment Report

Assessment Cycle	2021-2022
Department/Program	General Education
Date of Committee Approval	October 28, 2022
Name of Submitter	Scott Waalkes, Director of General Education

Dates of data distribution and meetings: 09-02-22, 9-09-22, 9-16-22, 9-30-22, 10-07-22, and 10-28-22

*The General Education Committee met on the dates above to discuss and interpret the results reported below. The Committee approved the text of this report on October 28, 2022.*

Participants in these meetings were the members of the General Education Committee:

- Scott Waalkes, Chair
- Julia Frankland, Business & Technologies
- Sheri Hartman, Nursing
- Kate Huisinga, Natural Sciences
- Andy Reynolds, Social Work
- Nancy Varian, Education

### 1. Program-Level Report

#### **Mission Statement:**

The mission of General Education is to develop wise and thoughtful students who are broadly educated in the liberal arts as well as in Christian scriptures and traditions to serve as faithful agents of transformation in the communities in which they live and work.

#### **Program Goals:**

As an academic institution in the Christian tradition of the Evangelical Friends Church, Malone is committed to intellectual enrichment in the context of Christian faith. We strive to provide an education that produces graduates with a love of truth and a vibrant, mature faith. Our intent is that students attain the wisdom, knowledge, and skills necessary to serve, engage, and transform the communities in which they live and work. To this end, we provide context in which to pursue the following educational goals:

- To help students understand the challenges, complexities, and opportunities of our changing world
- To help students cultivate critical and creative thinking, problem solving, and skillful interaction with knowledge and ideas
- To help students communicate effectively in multiple contexts
- To help students gain a grounding in Christian scriptures and tradition, and to provide them with additional opportunities for growth in self-knowledge and knowledge of God

**Program Learning Outcomes:** The following Student Learning Outcomes (SLOs) are used to assess student learning:

**A. Students will understand theories and cultural influences that have shaped the world.**

For example, students will articulate social and intellectual traditions influencing American cultures and demonstrate the ability to engage constructively with diverse cultures.

**B. Students will think critically and creatively.**

For example, students will gather and assess the relevance of information, demonstrate the ability to use key methods of inquiry to gain understanding of content (scientific method, qualitative, quantitative), be able to integrate Christian faith with disciplinary knowledge, and develop multiple approaches to problems.

**C. Students will communicate effectively in multiple contexts.**

That is, students will be able to express ideas with clarity, read and listen to the ideas of others with understanding and discernment, and engage in rhetorically effective communication.

**D. Students will understand the foundations of the Christian faith and the role of service to the church, community, and world and apply this knowledge to ethical and social issues.**

**Key Strengths and Challenges in Program Learning Outcomes (PLOs)**

Key Type	PLO (Students will be able to...)
Strength (as identified in 2019-20 Assessment Report)	Students will understand theories and cultural influences that have shaped the world. For example, students will . . . demonstrate the ability to engage constructively with diverse cultures (SLO A).
Strength (as identified in 2020-21 PLO Report)	Students will understand the foundations of the Christian faith and the role of service to the church, community, and world and apply this knowledge to ethical and social issues (SLO D).
CHALLENGE (earlier, ongoing, and potentially acute in the future)	Students will think critically and creatively (SLO B).
CHALLENGE (earlier, ongoing, and potentially acute in the future)	Students will communicate effectively in multiple contexts (SLO C).

## 2. Key challenges in program-level learning outcomes that we have responded to in the recent past

We dealt with earlier challenges in promoting critical and creative thinking and effective communication, just as we continue to work these perennial challenges.

- An Earlier Challenge: One challenge that previous Directors and Committees identified in years past was a weakness in quantitative reasoning and critical thinking as demonstrated specifically on the performance task on the College Learning Assessment-Plus (CLA+) exam. Committee members and the Directors realized that students had never been asked to perform a similar task before. The Committee responded by creating an embedded Quantitative Literacy performance task, and we did see improving results on two indirect measures of quantitative literacy, along with steady performance on the standardized CLA+ exam.
- An Ongoing and Chronic Challenge: We also know that we face perennial challenges in developing students in critical thinking, quantitative reasoning, and effective communication. Results reported below demonstrate the continued need for vigilance.
- A Potentially Acute Challenge: Given COVID and recent budget constraints, we anticipate increased challenges raised by a greater reliance on adjuncts, including possible effects on student learning, specifically:
  - Challenges in writing instruction with a greater reliance on adjuncts for all English courses (both ENG 145, Principles of Composition and ENG 200, Literature in Society)
  - Challenges in teaching critical thinking with a greater reliance on adjuncts in most Philosophy courses, as well as in other areas of the curriculum.

Results reported below suggest that we should work to reinforce specific critical thinking practices (SLO B) and improve writing across the curriculum (SLO C) in the future revision of the Gen Ed curriculum.

## 3. Identify and describe the one best example of “closing the loop” from “Step 0” (our response to the Earlier Challenge)

Responding to earlier data on issues with Quantitative Literacy, in August 2015, the General Education Committee piloted a new Quantitative Literacy Performance Task that all sections in the “Understanding Persons in Society” menu (ECON 202, Principles of Macroeconomics; PSYC 121, Introduction to Psychology; and SOC 201, Introduction to Sociology) required of all students. That task was later simplified under the direction of Dr. Julia Frankland, the primary instructor in ECON 202 and a longtime member of this Committee. We believe that both the old and new data-informed measures contributed to a trend of improvement on two indirect measures of quantitative literacy on our three most recent administrations of the National Survey of Student Engagement (NSSE) on campus. For details on data, see section 7 of this report.

In the rest of this report, we look to the future as we delve into both direct and indirect measures that identify SLOs B (critical and creative thinking) and C (effective communication) as ongoing and potentially acute challenges in the future.

#### 4. The exact wording of the specific PLOs identified as Ongoing and Potentially Acute Challenges:

**SLO B. Students will think critically and creatively.** For example, students will gather and assess the relevance of information, demonstrate the ability to use key methods of inquiry to gain understanding of content (scientific method, qualitative, quantitative), be able to integrate Christian faith with disciplinary knowledge, and develop multiple approaches to problems.

- Measured directly by comparisons between First-year and Senior student scores on “Total Score” and “Analysis and Problem Solving” subscore of the Collegiate Learning Assessment-Plus (CLA+)
- Measured indirectly by comparisons between First-year and Senior student responses on NSSE items 2a, 2d, 2f, 2g, 4b-4e, 6a, 6b, 6c, 9a, 9c, 18c, 18d, 18i

**SLO C. Students will communicate effectively in multiple contexts.** That is, students will be able to express ideas with clarity, read and listen to the ideas of others with understanding and discernment, and engage in rhetorically effective communication.

- Measured directly by the “Total Score,” “Writing Effectiveness,” and the “Writing Mechanics” scores on the Collegiate Learning Assessment-Plus (CLA+)
- Measured indirectly by comparisons between First-year and Senior student responses on NSSE items 18a and 18b.

#### 5. Brief summary of the evidence used to identify these PLOs as Ongoing and Acute Challenges:

In keeping with our ongoing assessment plans, we reviewed two bodies of evidence: *Direct measures* from the Collegiate Learning Assessment-Plus (CLA+) data collected in 2021-22 from Malone first-year students and Malone seniors, along with *Indirect measures* from the National Survey of Student Engagement Spring 2021 administration at Malone. Both feature in our current assessment plans.

The CLA+ is a national measure of critical thinking and problem solving. The Performance Task section puts students in a realistic scenario, such as running a political campaign, addressing an ecological problem, or curating a museum exhibit. Students are presented with a variety of documents, stories, charts, graphs, and information in a “document library.” To perform well they must select and evaluate information and create a coherent written response in which they support conclusions with evidence from the document library. Performance Task responses also yield two writing subscores: one on Writing Effectiveness and one on Writing Mechanics.

The other section, Selected-Response Questions, measures student performance in the areas of “scientific and quantitative reasoning,” “critical reading and evaluation,” and “logical fallacies and questionable

assumptions.” Although it utilizes a multiple-choice format, the questions refer to a small document library. Scores on this section, combined with the Performance-Task score, yield a Total Score.

When comparing Seniors’ Total Score results to those of First-Year students on this assessment, we hope to see higher scores from the Seniors. We also hope to find our Seniors scoring similarly to Seniors in the CLA+’s Institutional Sample on specific measures. Specifically, we rely on five key benchmarks named in the [2018-19 General Education Student Learning Outcomes Assessment Report](#):

1. The Malone Senior average mastery level on the Total Score should be “Proficient” or better
2. The Malone Senior percentile ranks should be at or above the 50th percentile for Total Score
3. Malone Senior metrics should be higher than Malone First-Year metrics
4. Malone Senior or Difference metrics should be higher than corresponding Institutional Sample metrics
5. The precise magnitude of effects should not be over-interpreted due to the small size of the Malone sample (and the corresponding wide confidence intervals)

Applying these benchmarking criteria, the results from the CLA+ ([summarized on a 2-page Google Doc available at this link](#)) suggest that we are generally meeting expectations for success on both SLO B, Critical and Creative Thinking, and SLO C, Effective Communication. However, we can also observe some areas for improvement. Specifically, the scores from our sample of Senior students met expectations on eight measures, while falling short on Writing Effectiveness and Writing Mechanics, but only in relation to the Institutional Sample maintained by the CLA+ administration (see Table 1).

Put differently, our Senior students generally outperform First-year students at significant levels on both critical thinking and writing, but they under-perform on writing compared to the much-larger benchmark provided by the Institutional Sample of results from 157 representative institutions that administered the CLA+ in 2013-14. Table 1 below summarizes these results.

**Table 1. Summary of Direct-Measure Findings from Malone’s Collegiate Learning Assessment-Plus (CLA+), 2021-22**

<b><u>Student Learning Outcome (SLO)</u></b>	<b><u>Evidence</u></b>	<b><u>Criterion for Success</u></b>	<b><u>Result</u></b>
B: Critical & Creative Thinking  -and-  C: Communicate Effectively	Direct measure: CLA+ Total Score	The Malone Senior average mastery level should be “Proficient” or better	<b>Met</b>
B: Critical & Creative Thinking	Direct measure: CLA+ Total Score	The Malone Senior percentile ranks should be at or above the 50th	<b>Met</b> (with average Malone Senior Total Score greater than or equal to average scores at <b>65%</b> of Seniors at

-and- C: Communicate Effectively		percentile for Total Score	all CLA+ institutions) and <b>Improved</b> from 2019 level (was 53% in '19)
B: Critical & Creative Thinking -and- C: Communicate Effectively	Direct measure: CLA+ Total Score	Malone Senior metrics should be higher than Malone First-Year metrics	<b>Met</b> (30% of Malone first-year students "Proficient" or above vs. 63% of Malone Seniors in '22)***  ***Significant at $p < .001$ level in a chi-square test
B: Critical & Creative Thinking -and- C: Communicate Effectively	Direct measure: CLA+ Total Score	Effect sizes should show Seniors at higher levels than First-year students. Effect sizes of 0.8 or greater are considered a large effect size. However, we should interpret these effect sizes with some caution given our small numbers.	<b>Met</b> (effect size was 1.1, a large effect size)
B: Critical & Creative Thinking	Direct Measure: Analysis and Problem-Solving Sub-Score on the Performance Task	Malone Senior metrics should be higher than Malone First-Year metrics	<b>Met</b> (19% of First-Years scored "4" or above vs. 33% of Malone Seniors in '22)*  * significant at $p < .05$ level in a chi-square test
B: Critical & Creative Thinking	Direct Measure: Analysis and Problem-Solving Sub-Score on the Performance Task	Malone Senior metrics should be higher than Institutional Sample metrics	Not met (41% of Institutional Sample Seniors scored "4" or above vs. 34% of Malone Seniors in '22), but this difference is not statistically significant at the $p < .05$ level in a chi-square test.
C. Communicate Effectively	Direct Measure: Writing Effectiveness Sub-Score on the Performance Task	Malone Senior metrics should be higher than Malone First-Year metrics	<b>Met</b> (39% of Malone Seniors scored "4" or above vs. 19% of First-year students)**  **Significant at $p < .01$ level in a chi-square test

C. Communicate Effectively	Direct Measure: Writing Mechanics Sub-Score on the Performance Task	Malone Senior metrics should be higher than Malone First-Year metrics	<b>Met</b> (42% of Malone Seniors scored “4” or above vs. 21% of Malone First-year students)**  **Significant at $p < .01$ level in a chi-square test
C. Communicate Effectively	Direct Measure: Writing Mechanics Sub-Score on the Performance Task	Malone Senior metrics should be higher than Malone First-Year metrics	<b>Met</b> (42% of Malone Seniors scored “4” or above vs. 21% of Malone First-year students)**  **Significant at $p < .01$ level in a chi-square test
C. Communicate Effectively	Direct Measure: Writing Effectiveness Sub-Score on the Performance Task	Malone Senior metrics should be higher than Institutional Sample metrics	<b>Not met</b> (39% of Malone Seniors scored “4” or above vs. 46% of Institutional Sample Seniors)**  **Significant at $p < .01$ level in a chi-square test
C. Communicate Effectively	Direct Measure: Writing Mechanics Sub-Score on the Performance Task	Malone Senior metrics should be higher than Institutional Sample metrics	<b>Not met</b> (42% of Malone Seniors scored “4” or above vs. 64% of Institutional Sample Seniors)**  **Significant at $p < .01$ level in a chi-square test

The Committee reviewed the CLA+ data summarized in Table 1 at its meeting on September 9, 2022 and made the following observations:

- While we are grateful to meet our internal benchmarks (for example, seeing our Seniors score Proficient or better on the overall score and Seniors scoring higher than first-year students), other measures suggest areas for improvement especially in Writing Effectively (SLO C), notably when we compare to the Institutional Sample composed of 157 other institutions that gave the CLA in 2013-14.
- While a higher percentage of Malone Seniors scored at levels above their first-year peers, we are not matching the percentage of Seniors scoring “4 or above” in the Institutional Sample kept by the CLA+ on both Writing Effectiveness and Writing Mechanics (SLO C).
- The results suggest that we consider specific measures to improve writing skills across the curriculum. If we have to prioritize, we might want to focus on writing mechanics.
- What effects did the pandemic have on these results? This remains an open question.
- Current writing instruction at Malone: The Director checked with the English Department Chair (S. Jensen) about their use of common rubrics and training of adjunct instructors, and their Chair

shared Syllabus Guides used for both ENG 145, English Composition; and ENG 200, Literature in Society. No common rubrics are used and no graders review student writing outside of course instructors. However, essays from GEN 100 and GEN 460 are compared in the bi-annual May Assessment Day to assess the quality of student writing directly. In May 2022, we found that 89% of Seniors met our expectations for writing effectiveness (see Figure 1 below).

- Questions arose about the validity of the small sample: the distribution of Malone Senior scores on Writing Mechanics (see Table 2) suggests that we had a preponderance of mediocre scores (with 58% of Seniors at the “3” level, when “4” or above is our target). We are also heartened by the fact that none of the seniors were at the “1” or “2” level, whereas 5% of Seniors in the comparative Institutional Sample did score 1s or 2s (as shown in Table 2).

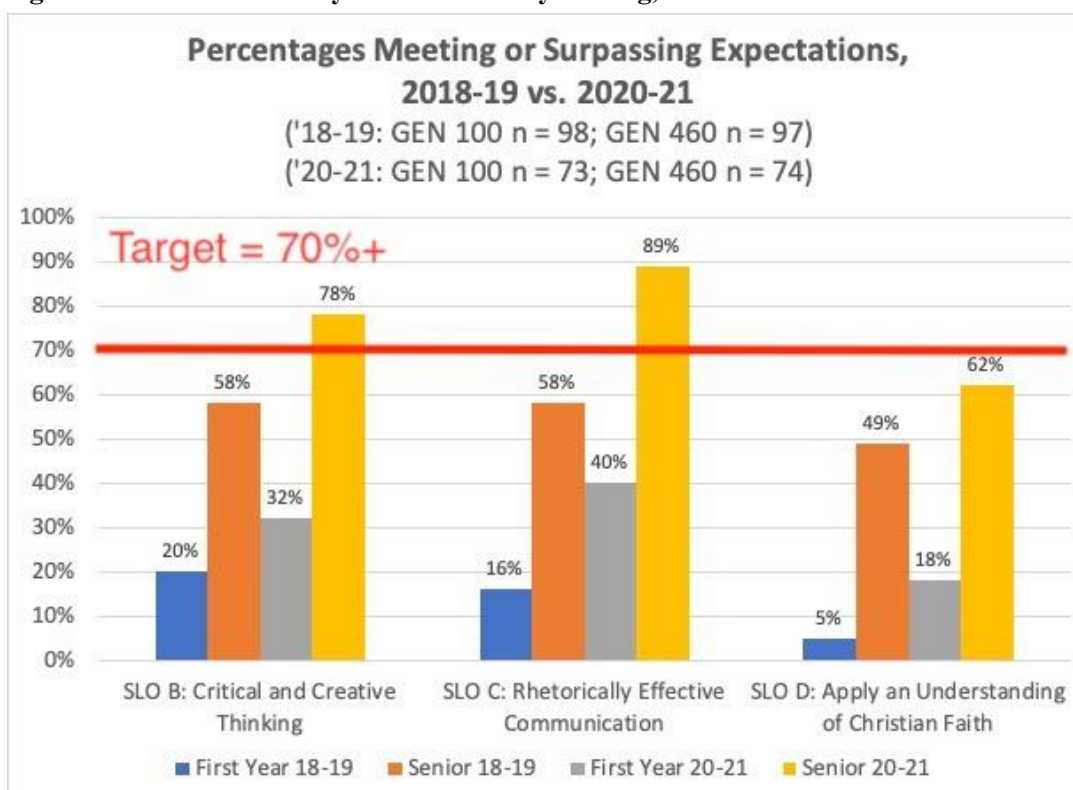
**Table 2. Distribution of Performance Task Subscore on Writing Mechanics in 2021-2022 CLA+**

	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>
Malone First Year	0%	9%	70%	21%	0%	0%
Malone Senior	0%	0%	58%	30%	12%	0%
Institutional Sample Senior	1%	4%	33%	54%	9%	1%

- Historical Context: Malone Seniors also performed at a level lower on Writing Effectiveness than the Institutional Sample on the 2019 CLA+, but the difference then was significant only at the  $p < .05$  level. The Malone Seniors in 2019 actually performed better than the Institutional Sample on Writing Mechanics. Granting that we must not over-generalize from small sample sizes (with 37 Seniors taking the CLA+ in May 2019 and 33 Seniors taking it in May 2022), we have little doubt that concrete efforts to improve writing mechanics across the curriculum are warranted.
- Interestingly, results from our May 2021 Assessment Day, reported last year in our 2020-21 report, showed that 89% of our sample seniors met or exceeded the expectations in rhetorically effective writing (SLO C) on our direct-measure essay, which was a statistically significant improvement over seniors’ performance in 2018-19 (See Figure 1).



**Figure 1. Results from May Assessment Day Coding, 2018-19 vs. 2020-21**



- However, this is an internally developed rubric coded by our own faculty. When we compare our student sample to the nationally representative Institutional Sample on a more rhetorically difficult performance task (on the CLA+), we find our seniors performing less well.
- Finally, how might the elimination of the writing intensive course, that was part of the original Gen Ed curriculum approved in 2006, affect writing outcomes? Would a newly reinforced focus on Writing Across the Curriculum help in a future revision?

The other set of evidence that we reviewed came from the National Survey of Student Engagement (NSSE). More complete data from both the 2018 and 2021 administration of [NSSE on Malone's campus can be conveniently viewed on the spreadsheet available at this link](#).

Our 2018-2019 SLO Assessment Report outlined five Criteria for Success (Benchmarks) in interpreting evidence from the National Survey of Student Engagement (NSSE), and they are as follows:

- Strength if Malone Seniors scored 7+ percentage points higher than Malone First-Year Students or if Malone Seniors scored 7+ percentage points higher than CCCU Seniors
- Weakness if Malone Seniors scored 7+ percentage points below CCCU Seniors
- Weakness if Malone Senior responses were below 60%
- Differences from -6% to +6% were interpreted as neutral or adequate, due to sampling error rates.
- Interpretation focuses on clear Strengths and Weaknesses.

Table 3 (below) summarizes the main findings from applying these criteria to the 2021 data, which offer a wide variety of concrete, albeit indirect measures of SLO B: Critical Thinking and SLO C: Effective

Communication. As the color coding indicates, we found eight strengths showing 7%+ higher levels for Malone Seniors compared to Malone First-year students, along with nine weaknesses where Malone Seniors were not only 7%+ lower than CCCU Seniors, but also where six of those lower levels were calculated by NSSE to be statistically significant.

**Table 3. Summary of Indirect-Measure Findings from Malone’s Administration of the National Survey of Student Engagement (NSSE) 2021**

<b><u>Student Learning Outcome</u></b>	<b><u>Evidence</u></b>	<b><u>Strength or Weakness</u></b> *=significant at .05 level **=significant at .01 level ***=significant at .001 level	<b><u>Results (Percentages “Often” and “Very Often” or “Quite a Bit” and “Very Much”)</u></b>
B: Critical & Creative Thinking	Indirect measure: NSSE scores on 2f, “[During the current school year] <b>Learned something that changed the way you understand an issue or concept ‘Often’ and ‘Very Often’</b> ”	Strength Relative to First-Year	Malone First-years: 64% (n=102) Malone Seniors: 72% (n=102) CCCU Seniors: 73% (n=6,245)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 4b, “[During the current school year <b>coursework emphasized] Applying facts, theories, or methods to practical problems or new situations ‘Quite a Bit’ and ‘Very Much’</b> ”	Strength relative to First- Year	Malone First-years: 64% (n=102) Malone Seniors: 73% (n=97) CCCU Seniors: 79% (n=5,992)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 4e, “[During the current school year, <b>how much has your coursework emphasized] Forming a new idea or understanding from various pieces of information ‘Quite a Bit’ and ‘Very Much’</b> ”	Strength relative to First-Year	Malone First-years: 60% (n=100) Malone Seniors: 71% (n=97) CCCU Seniors: 75% (n=5,558)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 18c, “[How much has your experience at this institution contributed to your]Thinking <b>Critically and Analytically ‘Quite a Bit’ and ‘Very Much’</b> ”	Strength relative to First- Year	Malone First-years: 66% (n=96) Malone Seniors: 87% (n=90) CCCU Seniors: 88% (n=5,365)

B.Critical & Creative Thinking	Indirect measure: NSSE scores on 18d, “[How much has your experience at this institution contributed to your] Analyzing Numerical and Statistical Information ‘Quite a Bit’ and ‘Very Much’”	Strength relative to First-Year Weakness: Malone Senior Responses below 60%	Malone First-years: 36% (n=95) Malone Seniors: 43% (n=90) CCCU Seniors: 58% (n=5,356)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 18i, “[How much has your experience at this institution contributed to your] Solving complex real-world problems ‘Quite a Bit’ and ‘Very Much’”	Strength relative to First-Year	Malone First-years: 47% (n=96) Malone Seniors: 66% (n=89) CCCU Seniors: 67% (n=5,358)
C. Communicate Effectively	Indirect measure: NSSE scores on 18a, “[How much has your experience at this institution contributed to your] Writing clearly and effectively ‘Quite a Bit’ and ‘Very Much’”	Strength relative to First-Year	Malone First-years: 58% (n=96) Malone Seniors: 71% (n=90) CCCU Seniors: 77% (n=5,363)
C. Communicate Effectively	Indirect measure: NSSE scores on 18b, “[How much has your experience at this institution contributed to your] Speaking clearly and effectively ‘Quite a Bit’ and ‘Very Much’”	Strength relative to First-Year Weakness relative to CCCU [but not statistically significant]	Malone First-years: 59% (n=96) Malone Seniors: 67% (n=88) CCCU Seniors: 74% (n=5,358)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 9a, [During the current school year about how often have you] “Identified key information from reading assignments ‘Often’ and ‘Very Often’”	Neutral	Malone First-years: 72% Malone Seniors: 77% CCCU Seniors: 82%
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 9c, “[During the current school year about how often have you] Summarized what you learned in class or from course materials ‘Often’ and ‘Very Often’”	Neutral	Malone First-years: 58% Malone Seniors: 62% CCCU Seniors: 66%
B: Critical & Creative Thinking	Indirect measure: NSSE scores on 2a, “[During the current school year] Combined ideas from different courses when completing assignments ‘Often’ and ‘Very Often’”	Weakness relative to CCCU [not statistically significant]	Malone First-years: 54% Malone Seniors: 60% CCCU Seniors: 69%
B.Critical & Creative	Indirect measure: NSSE scores on 6a, “[During the current school year about	Weakness relative to CCCU	Malone First-years: 40% Malone Seniors: 43%

Thinking	<b>how often have you] Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.) ‘Often’ and ‘Very Often’”</b>	[not statistically significant]  Weakness: Malone Senior Respondents below 60%	CCCU Seniors: 50%
B: Critical & Creative Thinking	Indirect measure: NSSE scores on 2d, <b>“[During the current school year] Examined the strengths and weaknesses of your own views on a topic or interest ‘Often’ and ‘Very Often’”</b>	Weakness relative to First-Year  Weakness relative to CCCU* [p<.05]	Malone First-years: 68% (n=105) Malone Seniors: 61% (n=107) CCCU Seniors: 72% (n=6,224)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 4c, <b>“[During the current school year, how much has your coursework emphasized] Analyzing an idea, experience, or line of reasoning in depth by examining its parts ‘Quite a Bit’ and ‘Very Much’”</b>	Weakness relative to CCCU* [p<.05]	Malone First-years: 64% (n=100) Malone Seniors: 69% (n=97) CCCU Seniors: 76% (n=5,873)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 6b, <b>“[During the current school year about how often have you] Used numerical information to examine a real-world problem or issue (Unemployment, climate change, public ...) ‘Often’ and ‘Very Often’</b>	Weakness relative to CCCU* [p<.05]  Weakness: Malone Senior Respondents below 60%	Malone First-years: 30% (n=99) Malone Seniors: 33% (n=92) CCCU Seniors: 43% (n=5,165)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 6c, <b>“[During the current school year about how often have you] Evaluated what others have concluded from numerical information ‘Often’ and ‘Very Often’”</b>	Weakness relative to CCCU* [p<.05]  Weakness: Malone Senior Responses below 60%	Malone First-years: 30% (n=99) Malone Seniors: 34% (n=92) CCCU Seniors: 43% (n=5,606)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 2g, <b>“[During the current school year] Connected ideas from your courses to your prior experiences and knowledge ‘Often’ and ‘Very Often’”</b>	Weakness relative to CCCU** [p<.01]	Malone First-years: 77% (n=103) Malone Seniors: 75% (n=101) CCCU Seniors: 86% (n=6,053)
B.Critical & Creative Thinking	Indirect measure: NSSE scores on 4d, <b>“[During the current school year, how much has your coursework emphasized] Evaluating a point of view, decision, or information source ‘Quite a Bit’ and ‘Very Much’”</b>	Weakness relative to CCCU*** [p<.001]	Malone First-years: 66% (n=101) Malone Seniors: 62% (n=107) CCCU Seniors: 75% (n=5,853)

To summarize the **strengths**, during the current school year when NSSE was taken (Spring '21), Malone seniors were more likely than Malone First-year students in the current school year

- To have **“Learned something that changed the way [they] understand an issue or concept** ‘Often’ or ‘Very Often’ (First-year=64%, Seniors=72%)
- To have had coursework that emphasized **“Applying facts, theories, or methods to practical problems or new situations”** ‘Quite a Bit’ or ‘Very Much’ (First-year=64%, Seniors=73%)
- To have had coursework that emphasized **“Forming a new idea or understanding from various pieces of information”** ‘Quite a Bit’ or ‘Very Much’ (First-year=60%, Seniors=71%)
- To have had coursework that emphasized **“Thinking Critically and Analytically”** ‘Quite a Bit’ and ‘Very Much’ (First-year=69%, Seniors=87%)
- To have had coursework that emphasized **“Analyzing Numerical and Statistical Information”** ‘Quite a Bit’ or ‘Very Much’ (First-year=36%, Seniors=53%)
- To have had coursework that emphasized **“Solving complex real-world problems”** ‘Quite a Bit’ or ‘Very Much’ (First-year=47%, Seniors=66%)
- To have had coursework that emphasized **“Writing clearly and effectively”** ‘Quite a Bit’ or ‘Very Much’ (First-year=58%, Seniors=71%), and
- To have had coursework that emphasized **“Speaking clearly and effectively”** ‘Quite a Bit’ and ‘Very Much’ (First-year=59%, Seniors=67%).

In terms of **significant weaknesses (p<.05)**, Malone Seniors were less likely than CCCU Seniors in the current school year

- To have **“Examined the strengths and weaknesses of [their] own views on a topic or interest”** ‘Often’ and ‘Very Often’ (Malone Seniors=61%, CCCU Seniors=72%)
- To have had coursework that emphasized **“Analyzing an idea, experience, or line of reasoning in depth by examining its parts”** ‘Quite a Bit’ and ‘Very Much’ (Malone Seniors=69%, CCCU Seniors=76%)
- To have **“Reached conclusions based on [their] own analysis of numerical information (numbers, graphs, statistics, etc.)”** ‘Often’ and ‘Very Often’ (Malone Seniors=43%, CCCU Seniors=50%)
- To have **“Used numerical information to examine a real-world problem or issue (Unemployment, climate change, public ...)”** ‘Often’ and ‘Very Often’ (Malone Seniors=33%, CCCU Seniors=43%)
- To have **“Evaluated what others have concluded from numerical information”** ‘Often’ or ‘Very Often’ (Malone Seniors=34%, CCCU Seniors=43%), and
- To have had coursework that emphasized **“Speaking clearly and effectively”** ‘Quite a Bit’ and ‘Very Much’ (Malone Seniors=67%, CCCU Seniors=74%).

A **more statistically significant weakness (p<.01)** emerged as Malone Seniors were less likely in the current school year to have **“Connected ideas from [their] courses to [their] prior experiences and knowledge”** ‘Often’ and ‘Very Often’ (Malone Seniors=75%, CCCU Seniors=86%).

And the **most significant difference**, statistically speaking (at the p=.001 level), came in Malone Seniors (62%) differing from CCCU Seniors (75%) when asked how much their coursework in the current school year emphasized **“Evaluating a point of view, decision, or information source”** ‘Quite a Bit’ and ‘Very Much’.”

Lest we be accused of reading too much into these results, we compared Malone Seniors’ scores to CCCU Seniors’ scores on these same measures in 2014 and 2018 to gain some historical insight. In 2018, our

Seniors' scores did not differ significantly from CCCU Senior scores on *any* of the measures flagged as weaknesses here. In 2014, our Seniors were statistically significantly lower *only* on the question of how often in the current school year they "evaluated what others have concluded from numerical information," This was *not* the case in 2018 but was again in 2021.

The Committee reviewed the NSSE data summarized in Table 2 at its meeting on September 16, 2022 and again on at its meeting on October 7, 2022, and made the following observations informed by the data:

- To what extent did the pandemic affect results for Malone seniors responding in Spring 2021? Given the constraints of Hy-flex instruction in that year--and the disruption halfway through the spring semester of their junior year--was there a chance that students perceived lower learning outcomes on the various measures on NSSE? Was their learning experience truly affected?
- Was pandemic fatigue compounded by weariness among senior students in their final semester, many of whom would be interviewing or focusing on internships?
- Sampling issues: Given the small sample size (around 100 Malone students), we should not over-interpret these results, as a few student responses can change the results significantly. In our Committee meeting, we discussed the demographic makeup of the Malone sample. Did we have more non-traditional, fully online students in 2021 in the sample compared to 2014 and 2018? Or were there more students coming in with advanced credits from AP, dual enrollment, or College Credit Plus that might affect their answers? Unfortunately, NSSE does not provide detailed demographic information or breakdowns of different majors on Malone's respondents, so we aren't able to answer these questions.
- However, we were able to check and see if the percentage of seniors in the sample failed to complete the entire survey (using the partial completion rate provided by NSSE, as shown in Table 4 below).

**Table 4. Partial Completions of the NSSE at Malone, 2014, 2018, and 2021**

<u>Year</u>	<u>First years</u>	<u>Seniors</u>
2014	10.5% (9/85)	13% (18/143)
2018	17% (20/120 )	10% (9/93)
2021	16.5% (18/109)	18% (19/108)

- The increase in partial completions from 10% in 2018 to 18% in 2021 offers evidence for COVID fatigue among seniors.
- In support of this interpretation, we also explored three anomalous instances where Seniors did worse than first-year students by comparing to the 2018 results. Did 2018 seniors do worse than first-year students as 2021 Seniors did on these three key measures when compared to their first-year colleagues?

We found a similar pattern on only the following measure, supporting our overall impression that 2021 seniors sagged on the survey more than 2018 seniors:

- “[During the current school year, how much has your coursework emphasized] Evaluating a point of view, decision, or information source” quite a bit or very much?
  - 2021: 62% of Malone seniors < 66% of Malone first-year students
  - 2018: 71% of Malone seniors < 75% of Malone first-year students
  - Similar pattern between 2018 and 2021.

By contrast, 2018 seniors did better than first-year students, as we would expect on two measures:

- “[During the current school year] Connected ideas from your courses to your prior experiences and knowledge” often or very often?
  - 2021: 75% of Malone seniors < . 77% of Malone first-year students
  - 2018: 86% of Malone seniors > . 78% of Malone first-year students
- “[During the current school year] Examined the strengths and weaknesses of your own views on a topic or interest ‘Often’ or ‘Very Often’”
  - 2021: 61% of Malone seniors < . 68% of Malone first-year students
  - 2018: 73% of Malone seniors > . 69% of Malone first year students

Based on this review of the data, we drew the following conclusions.

#### **Committee Discussions and Conclusions from the NSSE Data:**

1. Anything faculty can do to improve critical thinking activities is encouraged.
2. It is possible that freshmen are rating these activities higher because of GEN 100 activities like “Take a Stand” exercises that are fresh on their minds.
3. The pandemic had an effect on students and faculty. In addition, a higher percentage of students “zooming” into class, which reduces interaction, which was still the case in the Spring ‘21 semester.
4. Therefore, results should not be over-interpreted.
5. Still, we believe that these results should only reinforce our efforts to pursue revision of the Gen Ed curriculum and reinvigoration of efforts to promote critical thinking across the Gen Ed curriculum.

#### **6. Action Steps to address the Ongoing and Potentially Acute Challenges and Ways to Close the Loop in the Future?**

- Data-informed ways to improve on SLO B, Critical and Creative Thinking (starting with the most significant):
  - From the indirect-measure NSSE 2021 data, instructors in GEN 460 courses might consider ways to encourage students to “connect ideas from [their] courses to [their] prior experiences and knowledge.”
  - From the same data, GEN 460 courses might consider implementing an assignment on “Evaluating a point of view, decision, or information source.”
  - In addition, a series of specific critical-thinking practices surveyed on the NSSE might also be considered in multiple Gen Ed courses, including having students
    - Examine “the strengths and weaknesses of [their] own views on a topic or interest”
    - Analyze “an idea, experience, or line of reasoning in depth by examining its parts”
    - Reach “conclusions based on [their] own analysis of numerical information”
    - Use “numerical information to examine a real-world problem or issue”
    - Evaluate “what others have concluded from numerical information”
- Data-informed ways to improve on SLO C, Effective Communication:
  - From the indirect-measure NSSE 2021 data, GEN 460 courses might consider including assignments that emphasize “Speaking clearly and effectively”
  - From the direct-measure CLA+ data, we believe that promoting writing effectiveness and writing mechanics across the curriculum should be a key aim guiding the upcoming revision of the Gen Ed curriculum.

### **7. An evaluation of whether or not the action has resulted in improvement to student learning with respect to the specific PLO identified as a challenge:**

As noted above in Section 3, data from the 2014 administration at Malone showed our Seniors to be lower at statistically significant levels compared to CCCU institutions on two questions related to quantitative reasoning:

- 6.c. “[During the current school year about how often have you] Evaluated what others have concluded from numerical information ‘Often’ or ‘Very Often’”
  - In 2014, the mean for Malone Seniors was lower than for CCCU Seniors at a statistically significant level of  $p < .05$ .
  - **In 2018, there was no statistically significant difference on this measure between Malone and CCCU Seniors.**
  - In 2021, the mean for Malone Seniors on this measure was again lower than for CCCU Seniors at a statistically significant level of  $p < .05$ .
- 17/18d. “[How much has your experience at this institution contributed to your] Analyzing Numerical and Statistical Information ‘Quite a Bit’ or ‘Very Much’”
  - In 2014, the mean for Malone Seniors was lower than for CCCU Seniors at a statistically significant level of  $p < .001$  (highly significant).



- **In both 2018 and 2021, there was no statistically significant difference on this measure between Malone and CCCU Seniors.**

From the overall patterns between 2014, 2018, and 2021, we conclude that we made improvements on quantitative literacy that can be partially attributed to the implementation of the Quantitative Literacy Performance Task starting in 2015, which was embedded in all Understanding Persons in Society courses (ECON 202, Principles of Macroeconomics, PSYC 121, Intro to Psychology, and SOC 201, Intro to Sociology). Since all students are required to take one of the courses in which this task is embedded, we would expect a greater proportion of students to *recognize* that their experience contributed to their “analyzing numerical and statistical information” (17/18b), even if not all seniors would suggest that they were asked to “[evaluate] what others have concluded from numerical information” often or very often in the current school year. (Most students take ECON 202, PSYC 121, or SOC 201 as first years or sophomores, and many might not have occasion to engage in quantitative analysis if it is not embedded in their major.)

Evidence suggests that embedding a quantitative reasoning assignment helped increase students’ perceptions that their experience at Malone contributed to their analyzing numerical and statistical information. We are encouraged to consider embedding a similar writing assignment across key parts of the new curriculum that would require students to analyze information and present it in writing while developing better writing mechanics and more effective rhetorical communication styles.

#### **8. Proposed Action Steps in Response to the Challenges, and processes that are in place to maintain and monitor the effectiveness of the action steps:**

1. In light of the shift toward increased use of adjunct faculty and ongoing resource constraints, the Gen Ed Committee would like to develop a concise, repeatable, and engaging “onboarding” that helps promote awareness of the Gen Ed curriculum and could also remind teaching faculty of the need to promote writing.
2. Promoting Writing and Critical Thinking in Gen Ed: Faculty Development Event? We suggest that one way to engage faculty in revision of General Education would be to rally around the need for effective writing and critical thinking (as described by specific practices above). A Faculty Development session or series of sessions in Fall 2023 would be one way to gain momentum on this process.
3. Specific ways to tighten up writing instruction in Malone’s required English courses? We are open to a conversation with faculty in the English Department about ways to continue to develop writing skills. Perhaps shared rubrics or assignments or other creative pedagogical approaches could help?

Any possible improvements would be captured by future assessments such as NSSE and the CLA+.

#### **9. Ways in which the challenges have informed strategic planning, budgeting, and/or expenditures:**

1. Within the Gen Ed Program, developing onboarding materials for adjunct faculty would require additional funding for summer planning and development. A budget request for Fiscal Year 2023-34 might be in order.
2. Communication of these results to faculty: Encouraging critical thinking practices across Gen Ed courses might be as simple as presenting a digest of the results discussed here to full-time and adjunct faculty, reminding them to create assignments that engage students in meaningfully “connect[ing] ideas from [their] courses to [their] prior experiences and knowledge;” “evaluating a point of view, decision, or information source;” examining “the strengths and weaknesses of [their] own views on a topic or interest;” and analyzing “an idea, experience, or line of reasoning in depth by examining its parts.”
3. Tapping resources from outside the Program:
  - a. The Faculty Development Program could support a Faculty Development event or series on improving writing and/or critical thinking.
  - b. External donors and/or grant funders for specific revisions of Gen Ed might be able to rally around the well-documented reality that employers desire skills that General Education programs help promote. While we cannot reduce the rich liberal arts core tradition to career readiness, it is a fact that employer surveys regularly indicate that critical thinking and problem solving and oral or written communication are highly valued. By reinforcing these two core outcomes and by appealing to the wider community that desires these skills, we can continue to develop graduates who are effectively prepared to serve the church, community, and world.