

# Results of Pilot to Assess UNC's Liberal Arts Core

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## **Project Rationale and Overview**

In 2014, a University of Northern Colorado (UNC) self-study conducted in preparation for the 2015 Higher Learning Commission (HLC) accreditation visit found that assessment of the Liberal Arts Core (LAC) had not been conducted in recent years; therefore, no data exist about how well and in what ways students are achieving the intended Core learning outcomes. The self-study identified assessment of the Core as an area for improvement. Also in 2014, Provost Wacker established a Liberal Arts Core Task Force, and that group identified the lack of a systematic assessment process for the Core as one area of improvement (Task Force members – Travis Boyce, Joe Elkins, Nancy Matchett, and Tom Smith). The HLC requires accredited institutions to regularly assess their general education programs and to provide evidence that assessment data results are used to make improvements when needed. In addition, Colorado recently revised the Guaranteed Transfer Pathways (gtPathways) learning outcomes and requires that institutions implement and assess these learning outcomes.

The faculty on the Liberal Arts Council voted in Spring 2016 to develop and implement an assessment of student learning plan for the UNC Liberal Arts Core. The Council also voted to collaborate with the UNC Office of Assessment and Faculty Assessment Fellows on the assessment of student learning plan. On behalf of the Council, the Faculty Assessment Fellows and Office of Assessment staff were asked to do the following:

- Phase 1 (2016-2017)
  - Identify methods used at other institutions to assess general education at a program-level
  - Identify how critical thinking learning outcomes are assessed in UNC LAC courses
- Phase 2 (2017-2018)
  - Design and implement a pilot assessment plan of critical thinking for the LAC program
    1. Evaluate the usefulness of the pilot and feasibility of scaling the pilot to the entire LAC.

This report focuses on Phase 2.

The Colorado Department of Higher Education recently revised the learning outcomes required of gtPathways courses, which include most UNC LAC courses. In the revision, critical thinking was identified as a learning outcome across multiple gtPathways disciplines and across multiple UNC LAC areas. To focus our project, we collected assignments and artifacts from LAC areas 3 and 5 as they have a large number of students and cover critical thinking.

During the 2016-2017 academic year, the Faculty Assessment Fellows and Assessment Office staff gathered information about how student learning is currently assessed in the UNC LAC program and identified the types of assessment methods used nationally to assess student learning in general education. The findings from the project were used to develop and pilot an assessment plan for the LAC program in the 2017-2018 academic year.

Based on the findings, the team recommended that the pilot project collect course-embedded assignments. Course-embedded assignments are generally created by the faculty member teaching the class, although they can also be developed collaboratively among faculty who agree to adopt a specific assignment across their courses. The team also recommended that a team of faculty be recruited to score the artifacts. The findings from the 2016-2017 project were presented to the Liberal Arts Council in spring 2017. The Council approved the proposed pilot project. During the 2017-2018 academic year, the Faculty Assessment Fellows and Assessment Office staff implemented and completed a pilot assessment of the gtPathways critical thinking student learning outcomes. The critical thinking learning outcomes and the scoring rubric to assess student learning are in the appendix.

## Findings

### **Finding 1. A clear and detailed plan enabled successful implementation**

- We spent considerable time before implementation developing the details of the course-embedded, LAC pilot assessment plan based on our research during Academic Year 2016-2017 of how other universities assess general education and our institutional knowledge of structures and processes.
- Our plan included the following elements: from whom we would collect student data, how and when we would communicate with them, how and when we would collect student data, how and when we would prepare student data for analysis, and how and when we would analyze data.
- The plan was designed to be flexible and respond to ongoing feedback we received from stakeholders (i.e., LAC Council faculty members, other UNC faculty members, faculty participating in the pilot).
- We implemented our initial plan with only minimal modifications during implementation. Having a well-developed and detailed plan from the beginning was critical for a smooth implementation.

### **Finding 2. The pilot can serve as a foundation for future assessment**

#### Course-Embedded Assignments

- We collected course-embedded assignments for the pilot. These assignments were created by faculty teaching the course, were mostly pre-existing, and served a dual purpose of assessing course learning outcomes and LAC learning outcomes.
- The assignments had the benefit of allowing us to collect already-existing data.
- We invited 87 faculty to participate in the pilot by submitting existing assignments that they thought provided students with an opportunity to demonstrate the critical thinking learning outcomes. 50 faculty submitted artifacts.
- Some faculty did not participate because their course was not yet modified to align with the LAC and GT Pathway learning outcomes and assessment requirements. However, once those courses have been modified to align with the LAC and GT Pathway learning outcomes and assessment requirements, then they should have course-embedded assignments that can be collected for LAC assessment.

#### Artifact Collection

- Faculty submitted electronic or paper versions of student artifacts. When the pilot was developed and implemented, there was no automated mechanism to collect artifacts.
- Faculty were asked to report how long it took them to prepare and submit artifacts. 25 out of the 50 who submitted artifacts responded. About 85% of faculty reported that the process to gather and submit artifacts took 2 hours or less (Table 1).
- The submission process was not too time-consuming for faculty and could be used in the future. However, the process was very time-consuming for the administrative staff who were collecting the artifacts.
- We have communicated with UNC IT and discussed the artifact collection process. IT may be able to develop a more automated artifact collection process that requires little to no time for faculty and greatly reduces administrative staff time.

Table 1. Faculty report of how long it took them to gather and submit student artifacts.

Length of Time	Number of Faculty	Percentage
less than 1 hour	9	36%
1 - 2 hours	12	48%
3 - 4 hours	4	16%
5 - 6 hours	0	0%
<b>Total</b>	<b>25</b>	<b>100%</b>

### Artifact Scoring Process

- 16 faculty members were recruited to score student artifacts. The faculty participated in a 4-hour training to learn the scoring process. The scorers were asked to spend no more than 6 hours scoring student artifacts. They were compensated for their contribution with a stipend.
- The process worked well and could serve as a model for future LAC assessment.
- Faculty were surveyed about the scoring process. 14 faculty completed the survey. 12 reported that they would only participate again in the future as a scorer if the stipend was available.
- Faculty were trained on the LAC learning outcomes, a rubric for the outcomes, and how to apply the rubric in scoring. Faculty were not required to meet a specific level of reliability in their scoring. Other scoring models require faculty to meet a specific level of reliability in their scoring before scoring. If that is a desired outcome for the LAC, then modifications to the scoring and training processes are needed.

### **Finding 3. UNC faculty are willing to engage in assessment of the LAC**

- 87 LAC Area 3 and Area 5 faculty members, who were teaching in Fall 2017, were invited to participate in the LAC Assessment Pilot by submitting assignment instructions and student artifacts.
- 50 of the 87 (57.5%) participated by submitting assignment instructions and student artifacts (Table 2).
- Faculty expressed a range of reasons for why they participated in the pilot (Table 3).

Table 2. Number of LAC Areas 3 and 5 faculty members who were teaching in Fall 2017 and who were invited to participate in the pilot and number of faculty who participated by submitting assignment instructions and student artifacts. Participation shown by faculty rank.

Faculty Rank	Invited	Participated
Professor	22	18
Associate Professor	8	5
Assistant Professor	13	9
Sr. Lecturer	5	5
Lecturer	3	0
Instructor	2	0
Adjunct or Graduate Student	34	13
<b>Total</b>	<b>87</b>	<b>50</b>

Table 3. Reasons faculty said that they participated in the pilot.

Reason for Participation	Example
Care about student learning in LAC courses	<ul style="list-style-type: none"> <li>"I care about the quality of the education UNC students receive in their LAC courses and am willing to share my materials to help efforts to assess that quality."</li> </ul>
See value in pilot project	<ul style="list-style-type: none"> <li>"I believe in the purpose of the [pilot] study"</li> </ul>
Want to improve their own course quality	<ul style="list-style-type: none"> <li>"To help improve the quality of my course"</li> <li>"To get feedback from non-disciplinary peers about how well my assignments align with general education learning goals."</li> </ul>
Want to show how they contribute to LAC	<ul style="list-style-type: none"> <li>"To showcase my department's contributions to the LAC"</li> <li>"I am quite proud of the course I teach and want to see its results included."</li> </ul>
Participated because they were asked to participate	<ul style="list-style-type: none"> <li>"I was asked to participate in the LAC pilot."</li> <li>"I was asked to do so and wanted to help with assessment."</li> </ul>
Participated because they were told they had to participate	<ul style="list-style-type: none"> <li>"I was told I had to."</li> <li>"I was required to."</li> </ul>

**Finding 4. Faculty from various disciplines can develop a shared understanding of LAC learning outcomes**

- We tested the following question: Can faculty from a wide range of disciplines develop a common understanding of critical thinking and score student artifacts both within and outside their own discipline? Our answer to the question is yes, with some caveats.
- In the scoring training, we paired faculty from different disciplines together so that they could discuss how they interpreted the critical thinking learning outcomes and rubric and how they applied the rubric to evaluate student performance.
- In the training, faculty found that they initially evaluated student performance differently than their partner from a different discipline. Through discussions in the training, faculty started to develop a shared understanding of critical thinking rooted in the learning outcomes.
- In the scoring process, we paired each faculty member with a faculty from a different discipline and provided them with the same student artifacts from a range of disciplines in both LAC areas 3 and 5. For example, an English professor might be paired with a math professor and they would be assigned to score 5 artifacts from Area 3A, 5 artifacts from Area 3B, 5 artifacts from 3C, 5 artifacts from Area 5A, and 5 artifacts from Area 5C.
- We analyzed how similar and different the faculty pairs were in their scores of the same student artifacts. We found that 5 of the 8 faculty pairs had moderate to good similarity in their scores. This was a significant finding because the training focused on engaging faculty in discussions about the learning outcomes and how to apply the rubric to student artifacts. The training did not require faculty to meet a threshold of similarity in scoring.
- The pilot finding suggests that faculty engaging in discussions about student learning outcomes and how to evaluate student performance of the learning outcomes can develop a shared understanding of student learning outcomes.

**Finding 5. The pilot process produced meaningful data and student artifact scores that provide insight on student learning related to LAC learning outcomes**

- Student artifact scores were analyzed to determine the extent to which students in the pilot demonstrated critical thinking as measured by the rubric developed for the pilot.

1. For learning outcomes 1, 2a, 2b, and 3a, most students were Approaching Proficient (Figure 1). For learning outcomes 2c and 3b, most student were Developing (Figure 1).
  2. Within each LAC area, mean scores on the rubric were highest for learning outcomes 1, 2a, 2b, and 3a and lowest for learning outcomes 2c and 3b (Figure 2)
  3. Students in LAC Area 3 classes had higher mean scores for each SLO than did students in LAC area 5 (Figure 3).
- There may be many ways of interpreting the scores and explaining them. Our main take-away focuses on the type of data the process generated and the analytical approach that was possible with the data.
    1. The process produced data that faculty can evaluate to understand student learning in the LAC.
    2. The results allow for detailed (by each SLO and within and across LAC areas) and summary examinations of student learning.
  - Although the analyses were not difficult, the data set was complex. Detailed advance planning will be needed to scale up this pilot.

Figure 1. Percentage of students with mean scores in the following rubric categories: Not Present (learning outcome not present in student work), Developing, Approaching Proficient, and Proficient. Sample size = 240 students.

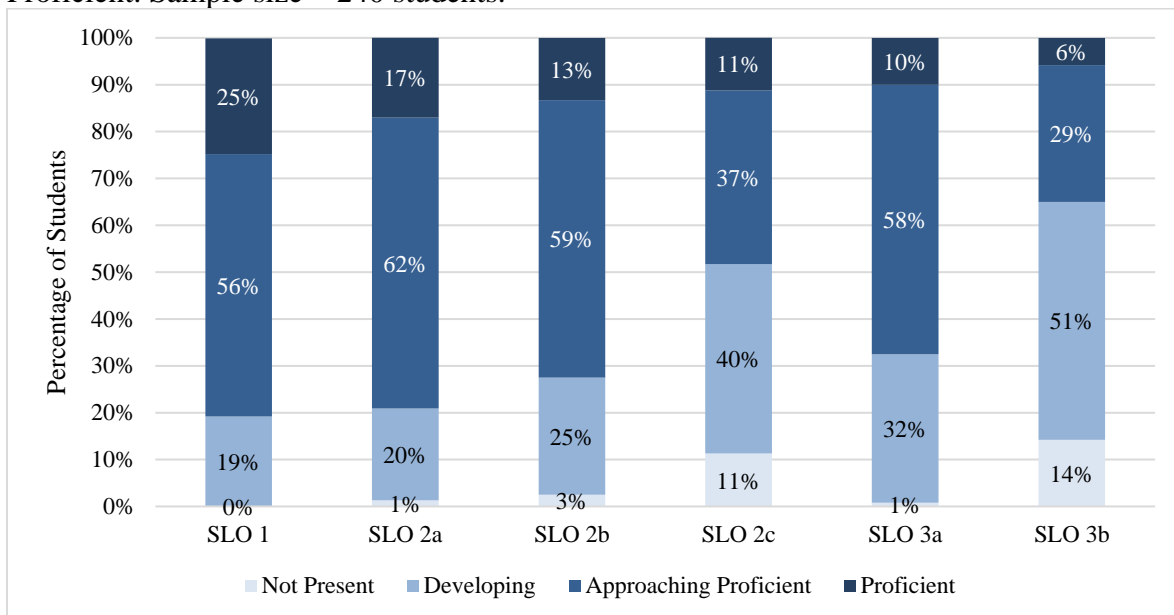


Figure 2. Mean rubric score for each SLO within Area 3 and Area 5. Not Present = 0, Developing = >0-1, Approaching Proficient = >1- 2, Proficient = >2. Sample size = 240 students.

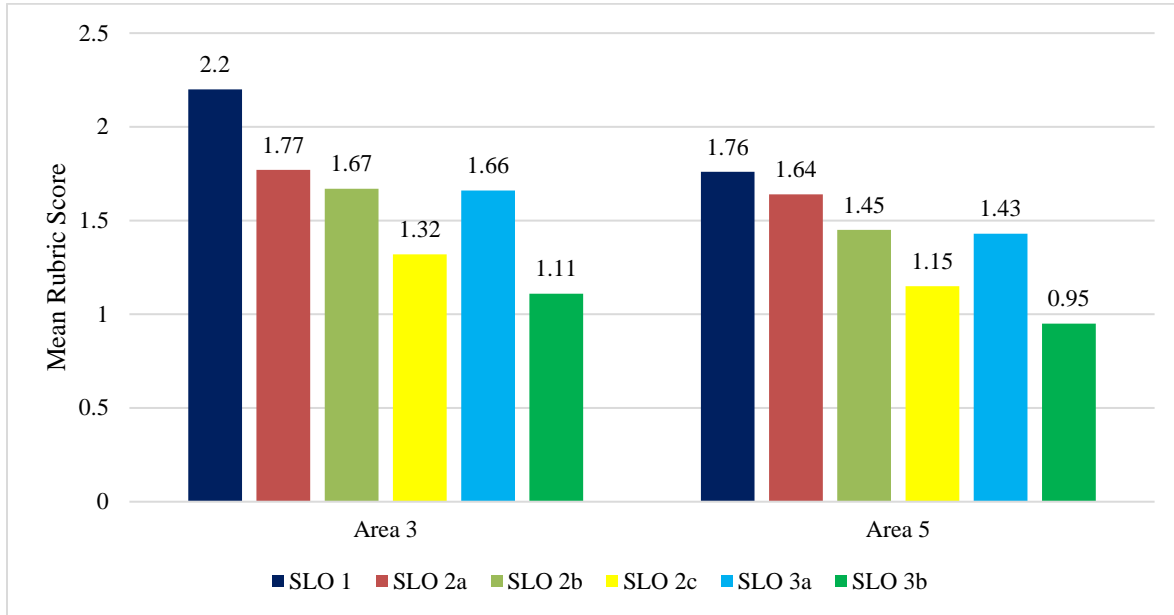
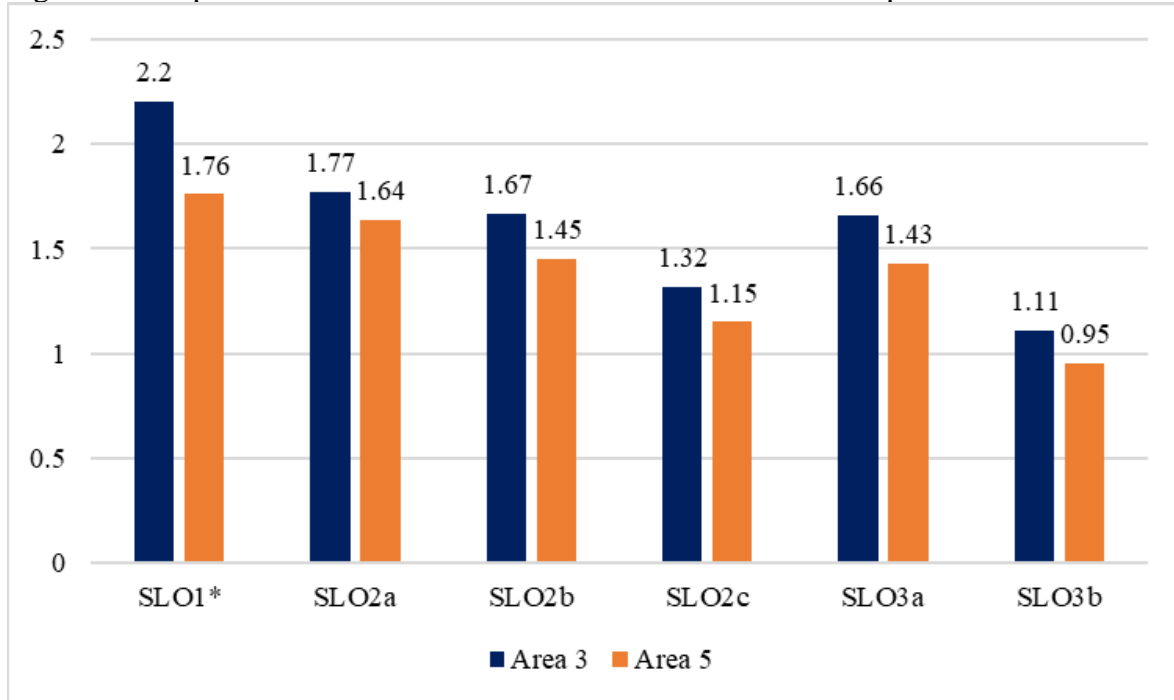


Figure 3. Comparison of Area 3 and Area 5 mean rubric scores. Sample size = 240 students.





**Finding 6. Some assignments provide a better opportunity for students to demonstrate the LAC critical thinking learning outcomes than other assignments**

- The faculty fellows reviewed assignment instructions and rubric scores and found that there were specific characteristics associated with assignments that provided a better opportunity for students to demonstrate LAC critical thinking learning outcomes. The faculty fellows found that the assignment characteristics were not associated with a specific discipline or LAC area, rather they were characteristics found across disciplines and LAC areas. The characteristics were:
  1. Assignments that require students to write 4 or more pages.
  2. Assignments that explicitly require analysis and critique in instructions.
  3. Assignments that include explicit connections to the LAC SLOs or are very closely aligned with the SLOs. For example, the instructions require students to 1) describe a problem, 2) describe and critique social, cultural, and physical aspects/ideas/values related to the problem, 3) develop interpretations and conclusions, 4) discuss implications and significance.

**Recommendations**

**Recommendation 1. Ensure that any future LAC assessment plan has built-in flexibility**

- Although we made no significant changes during implementation of the assessment plan, we did make small changes in response to ongoing stakeholder feedback.
- For example, we initially planned to randomly select 20 students from participating faculty classes and have faculty to submit student artifacts for those 20 students. However, based on feedback from faculty, we implemented a different process that allowed for multiple options: 1) faculty could send artifacts for the 20 students that they selected, 2) faculty could send artifacts from all students and we selected the 20 students, 3) if faculty did not have 20 students in their class then they could send artifacts from all students. Although this was a less systematic process than we originally intended, it also accommodated the input that faculty gave us that they would like more flexibility in the process to select students.
- Because it is impossible to anticipate every situation we recommend that future assessment plans have room for flexibility.

**Recommendation 2. Provide extensive communication to inform faculty about LAC assessment**

- In collaboration with the Liberal Arts Council, it was decided that key communication about the assessment pilot would come from the Chair of the Council and the Chair of the Assessment Ad Hoc committee. The initial communication to faculty who were invited to participate in the Fall 2017 assessment pilot was sent by the Council chair in April 2017. That email was sent again to faculty in August 2017 and several follow-up reminder emails were sent. In response to questions about the purpose and process of the pilot, the Faculty Assessment Fellows held information sessions in September 2017 and created a FAQ document that was shared with faculty who were invited to participate and with the Council in September 2017.
- About 30 faculty members who submitted assignment instructions and student artifacts responded to survey questions asking about the clarity and timeliness of the communication

about the LAC assessment pilot. A large majority of those faculty (70% and greater) agreed that the communication was clear and timely (Table 4).

- Although responses to the survey questions suggest that many faculty thought that communication was clear and timely, faculty provided open-ended feedback on the survey suggesting how the communication can be improved (Table 5). Based on feedback from faculty, we provide the following recommendations for communications related to future LAC assessment efforts:
  1. Provide extensive early communication about the timing, purpose, and process of LAC assessment. We recommend that significant communication about future LAC assessment occur early and regularly.
  2. Provide multiple forms of communication including email, information sessions, a website. We recommend that various forms of communication occur to provide opportunities for faculty to learn about future LAC assessment.
  3. Provide communication from upper administration (e.g., provost) and faculty leaders (e.g., Liberal Arts Council faculty leaders) about the value of LAC assessment to the university. Endorsement and communication from administration and Liberal Arts Council faculty are important to faculty.
  4. Provide communication to graduate teaching assistants (TAs) and adjuncts. TAs and adjuncts teach a higher percentage of LAC classes; however, they had a lower participation rate. These groups may not be connected to communication avenues that tenured/tenure track faculty use. Some also reported to us that they did not have course-embedded writing assignments. Future LAC assessment efforts can explore ways to increase communication to and participation of teaching assistants (TAs) and adjuncts.

Table 4. Percentage of faculty who agreed, were neutral, or who disagreed to questions about communication of the assessment pilot project.

Question about Communication of the Assessment Pilot Project	Percentage of Faculty		
	Agree	Neutral	Disagree
Throughout the process, I was well informed of the need and purpose of assessing general education at UNC (30 faculty responded)	70.0%	10.0%	20.0%
The purpose of the pilot project was clearly communicated (31 faculty responded)	71.0%	9.7%	19.4%
Communication about the assessment pilot was clear (30 faculty responded)	83.3%	0%	16.7%
Communication about pilot was well timed (32 faculty responded)	71.9%	9.4%	18.8%

Table 5. Aspects of communication that can be improved in future LAC assessment efforts.

How to Improve Communication	Example
Clarify purpose and process	<ul style="list-style-type: none"> <li>● "Be very clear as to why it is being done and how."</li> <li>● "Explain the assessment methodology."</li> </ul>
More and earlier communication	<ul style="list-style-type: none"> <li>● "More communication ahead of time."</li> <li>● "The only part I can speak on is improving initial contact and information about it. I did not remember being contacted the first time"</li> </ul>
Have administration and faculty leaders communicate about the importance	<ul style="list-style-type: none"> <li>● "Perhaps ask the provost and faculty senate to explain to faculty why it is important."</li> </ul>
Better communication to graduate teaching assistants	<ul style="list-style-type: none"> <li>● "I wonder if this could have been addressed at TA meetings before classes began as many who were [involved] were TAs."</li> </ul>

### Recommendation 3. Address faculty concerns about LAC assessment

- Program-level assessment can cause concern with some faculty. Faculty who participated in the pilot shared their concerns about a range of aspects with assessment of student learning in the LAC (Table 6).
- We recommend addressing faculty concerns as an ongoing component of future LAC assessment.
- Faculty concerns can be addressed through communication and faculty development.
- UNC has developed guiding principles for assessment and those guiding principles can be a good resource for addressing faculty concerns.

Table 6. Faculty concerns about LAC assessment.

Concern	Example
Lack of trust in how assessment results will be used	<ul style="list-style-type: none"> <li>● "I do not have much trust in the assessments of UNC when the president openly dismisses them...that sense of mistrust is still present and I was unclear how this would benefit students."</li> <li>● "I mistrust that the end result will not be used to critique individuals' course contents and teaching methods."</li> </ul>
Critical thinking should be assessed in smaller classes or ones with writing assignments	<ul style="list-style-type: none"> <li>● "Select courses where it makes more sense to assess critical thinking (e.g. a smaller class or a class that would have a writing component)"</li> </ul>
Need more time to participate	<ul style="list-style-type: none"> <li>● "Allow more time to send my student's work."</li> </ul>

### Recommendation 4. Develop collaborations and secure resources for future LAC assessment

- The pilot was a collaboration between a faculty governing body, faculty, and administrative units. The pilot required the collaborative time and expertise across all groups to be successfully implemented. That partnership was for a one-time assessment effort to test an assessment model. Ongoing LAC assessment will require examining what types of collaborations are needed across faculty and administrative units for assessment to be sustainable.
- Many resources were required for the pilot. Those resources will also be needed for a scaled-up version. The following resources are needed:
  1. Faculty time: Faculty serving on the Liberal Arts Council oversaw the pilot, faculty provided student artifacts, and faculty scored student artifacts. A structure and mechanism for ongoing faculty engagement will be needed for future LAC assessment.
  2. Administrative staff time: Administrative staff, primarily in the Office of Assessment, supported the pilot by managing logistical and structural aspects (e.g. sending communications, gathering and preparing artifacts for scoring, organizing and preparing student artifacts scores for analysis, analyzing the artifacts scores). Other administrative units will have a critical role in future LAC assessment. For example, IT may be able to develop automated artifact collection processes.
  3. Technology infrastructure
  4. Funding for faculty scorers: There are several models for scoring student artifacts. We selected a model that seemed to balance time, compensation, and UNC culture. Scaling the model to assess the full LAC will require time and compensation.

**Recommendation 5. Develop specific and clear assessment goals to guide data collection and analysis**

- The pilot generated a large data set that was complex. An expanded assessment of the LAC will generate an even larger, more complex data set.
- Prior to data collection, we recommend that specific and clear assessment goals and questions be developed. Having these goals and research questions can help ensure that the assessment process is manageable by focusing data collection. Ultimately this will yield better data analysis results.

**Recommendation 6. Modifications to the pilot assessment model may improve future LAC assessment**

- As mentioned in Recommendation 4, a range of resources will need to be secured to scale up the pilot. A balance will need to be established between available resources and conducting meaningful and manageable assessment.
- Even with successfully securing resources, there are aspects of the pilot model that require modification and/or re-evaluation prior to adoption for future LAC assessment.
- We recommend modification and/or re-evaluation of the following features of the pilot:
  1. Assessment method: We collected course-embedded assignments in the pilot. We believe that course-embedded assignments can be scaled up to assess the LAC. However, in the pilot, we found that some faculty did not have any assignments that assessed the new LAC learning outcomes and that many faculty will need support to help them identify and create assignments that assess the new LAC learning outcomes. Resources like faculty training and mentoring will be needed to help faculty identify and develop assignments that assess student learning related to the LAC learning outcomes.
  2. Scoring process: We recruited faculty to score student artifacts. This is an external faculty scorer model since the student artifacts were not scored within the context of the LAC course. There are strengths and challenges to the scoring process we used (see Table 7 below). Although this process worked well in the pilot, we think the scoring process needs to be re-evaluated when scaling up. There are resource and faculty buy-in considerations associated with the different processes that need to be evaluated.
  3. Stagger the SLOs and LAC areas assessed each year. The pilot assessed one competency (critical thinking) for Areas 3 and 5. It was a significant effort. To ensure that meaningful and manageable assessment occurs in the future, we recommend that LAC assessment be staggered so that only some SLOs and LAC areas are assessed each year.
  4. SLO definitions and rubrics are needed: The learning outcomes for the LAC include both GT Pathway learning outcomes and locally developed learning outcomes. In the pilot, we found that the learning outcomes needed definitions and rubrics so that faculty could assess them. We recommend that definitions and rubrics for all LAC student learning outcomes, including both the GT Pathway and locally developed learning outcomes, be developed collaboratively across faculty engaged in LAC teaching.

Table 7. Strengths and challenges to the two scoring models.

	External Faculty Scorer	Internal Faculty Scorer
<b>Description</b>	<ul style="list-style-type: none"> <li>Faculty are recruited to score student artifacts. They are faculty who have experience teaching LAC courses, but any interested faculty are welcome. Faculty are trained to score artifacts and are provided compensation for their effort.</li> </ul>	<ul style="list-style-type: none"> <li>Faculty teaching the courses from which the student artifacts are collected score student work with rubrics that are embedded in the course structure. Participating faculty members score the artifacts of their own students with a pre-existing assignment they already use in class. They use a rubric aligned with the LAC learning outcomes. Generally, faculty are not compensated for this additional scoring.</li> </ul>
<b>Challenges</b>	<ul style="list-style-type: none"> <li>Requires significant data collection and preparation to prepare student artifacts for faculty scorers. This will require resources and will extend the length of time between when students complete the assignment and when scoring occurs.</li> <li>There is some thought that some learning outcomes require disciplinary expertise to evaluate. This process may have faculty from outside the discipline evaluating student learning. They may not have the most relevant knowledge to identify student learning for some outcomes.</li> <li>This model would require training the faculty on how to score artifacts for the purpose of LAC assessment, which requires resources to develop the training and to possibly compensate people for attending the training.</li> <li>Faculty teaching the courses, but not involved in the scoring, may not value the scores produced by the external faculty team.</li> </ul>	<ul style="list-style-type: none"> <li>Faculty in this model of scoring are usually not compensated for the additional work to score student work for larger general education assessment. Because a large percentage of faculty teaching LAC courses are often adjuncts, this method would put a large burden of LAC assessment on adjuncts without compensation.</li> <li>This model would require training the faculty on how to score artifacts for the purpose of LAC assessment, which requires resources to develop the training and to possibly compensate people for attending the training.</li> <li>Because a large percentage of LAC faculty are adjuncts and graduate students, there would be constant turnover in the people who are trained to score artifacts. Constant training would be needed to ensure that faculty know how to score student artifacts.</li> <li>This model requires faculty teaching courses to score the assignments, which may reduce other faculty interest in assessment outcomes because they are not involved in the assessment process.</li> <li>Faculty teaching the course might feel pressured to make their students "look good" and might score their students more favorably than an external team of scorers.</li> </ul>
<b>Strengths</b>	<ul style="list-style-type: none"> <li>Engages faculty who are interested and willing to participate in assessment.</li> <li>Adjunct faculty often teach LAC courses. This approach could allow for a broader spectrum of faculty, in addition to adjuncts, to be a part of general education assessment.</li> <li>An external team of scorers may be more objective in scoring student work than faculty who are teaching the students.</li> </ul>	<ul style="list-style-type: none"> <li>Engages faculty teaching the courses and who may have a vested interest in understanding student learning as it relates to courses they teach.</li> <li>The student artifacts are scored during the semester in the course. Requiring no collection of student work and preparation of student artifacts before scoring can occur. This could lead to quicker turn around in data scoring and analysis.</li> <li>This process could allow for every student to be scored, yielding a higher sample and more complete</li> </ul>

External Faculty Scorer	Internal Faculty Scorer
<ul style="list-style-type: none"> <li>Because this allows a wide range of faculty to be involved, once faculty are trained on how to assess student work, they may not need significant future training if they continue to serve as scorers.</li> </ul>	<p>picture of how well students are meeting desired learning outcomes.</p> <ul style="list-style-type: none"> <li>There is thought that some learning outcomes require disciplinary expertise to evaluate. This process would allow faculty teaching the course and who have the disciplinary expertise to evaluate student learning.</li> </ul>

### Appendix: Learning Outcomes and Definitions

SLO	Definition
<b>1. Explain an issue</b> by using information to describe a problem or issue and/or articulate a question related to the topic.	<p>Students use information to explain an issue/topic/problem or to create a question relevant to the discipline. Examples of assignments include:</p> <ul style="list-style-type: none"> <li>Age of Responsibility Assignment: Students formulate a question about the influence of a person’s age on their legal or ethical responsibility.</li> <li>The Problem of Justice: Students describe how justice can have different definitions as articulated by multiple participants in Plato’s Republic, Book 1</li> <li>Business Ethics Case Study: Student articulate the challenges a corporation might consider about producing snack foods made with trans fats.</li> </ul>
<b>2a. Utilize context</b> by evaluating the relevance of context when presenting a position.	<p>Students explain the relevance of the context/environment in which the issue/topic/problem/question exists. Context may include historical, ethical, political, cultural, environmental, or circumstantial settings or conditions that influence and complicate the consideration of any issues, ideas, artifacts, and events. Examples of assignments include:</p> <ul style="list-style-type: none"> <li>Age of Responsibility Assignment: Students explain relevant aspects of age and culture (e.g., cognitive functioning and/or social norms) and explain how those impact legal/ethical responsibility.</li> <li>The Problem of Justice Assignment: Students explain how sociohistorical time influences the definition of justice in Plato’s Republic, Book 1.</li> <li>Business Ethics Case Study: Students explain how government regulations influence corporations’ decision-making.</li> </ul>
<b>2b. Utilize context</b> by identifying assumptions.	<p>Students identify underlying assumptions relevant to the issue/topic/problem/question. Assumptions may include previous knowledge, personal beliefs, personal biases, ideas and conditions, and content-relevant knowledge. Examples include the following:</p> <ul style="list-style-type: none"> <li>Age of Responsibility Assignment: Students identify social, cultural, and personal values about the relationship between age and legal/ethical responsibilities.</li> <li>The Problem of Justice Assignment: Students identify their personal definition, the sociocultural definition of justice during Plato’s time, and Plato’s definition of justice.</li> <li>Business Ethics Case Study: Students identify the main business ethic codes, government regulations, and their personal beliefs regarding the production of snack foods made with trans fats.</li> </ul>
<b>2c. Utilize context</b> by analyzing one’s own and others’ assumptions.	<p>Students analyze their own and others’ assumptions relevant to the issue/topic/problem/question. Analysis may include exploration of personal growth, comparing/contrasting own and others’ assumptions, and/or comparing/contrasting multiple others’ assumptions. Examples of assignments include:</p> <ul style="list-style-type: none"> <li>Age of Responsibility Assignment: Students analyze how social, cultural, and personal values impact the relationship between age and legal/ethical responsibilities.</li> </ul>

SLO	Definition
	<ul style="list-style-type: none"> <li>● The Problem of Justice Assignment: Students compare and contrast their personal definition of justice with both the sociocultural definition and Plato’s definition of justice.</li> <li>● Business Ethics Case Study: Students analyze how main business ethic codes and government regulations, about the role of government in business decisions shape corporate decisions to use trans fat in snack foods. Students evaluate how their own personal beliefs influence their purchasing decisions and perceptions of the company.</li> </ul>
<b>3a. Understand implications and make conclusions</b> by establishing a conclusion that is tied to the range of information presented.	Students establish a conclusion about the issue/topic/problem/question supported by the range of relevant information. Examples of assignments include: <ul style="list-style-type: none"> <li>● Age of Responsibility Assignment: Students state a conclusion regarding the role of age in legal/ethical responsibility.</li> <li>● The Problem of Justice Assignment: Students state a conclusion regarding the definition of justice and its role in Plato’s Republic, Book 1.</li> <li>● Business Ethics Case Study: Students state a conclusion regarding the corporation’s decision to produce snack food containing trans fat.</li> </ul>
<b>3b. Understand implications and make conclusions</b> by reflecting on implications and consequences of stated conclusion.	Students provide implications and consequences of their established conclusion about the issue/topic/problem/question. This includes reflections on the broader significance of the developments they described and/or comparison to other historical or contemporary issues. Examples of assignments include: <ul style="list-style-type: none"> <li>● Age of Responsibility Assignment: Students explain how current legal/social regulations regarding responsibility are based on the relationship between age and social, cultural, and personal values.</li> <li>● The Problem of Justice Assignment: Students explain how historical and philosophical definitions of justice have influenced current definitions.</li> <li>● Business Ethics Case Study: Students explain implications and consequences of the corporation’s decision to produce snack foods made with trans fat.</li> </ul>

### Appendix: Rubric to Score Student Artifacts

SLO	Exemplary	Proficient	Developing	Not Present
<b>1. Explain an issue</b> by using information to describe a problem or issue and/or articulate a question related to the topic.	Clearly identifies and summarizes main issues and successfully explains why/how they are problems or questions; and identifies embedded or implicit issues, addressing their relationships to each other.	Identifies and summarizes the main issues and/or creates a question related to the topic; does not explain why/how the issue and/or question are problems	Identifies main issues but does not summarize or explain them clearly or sufficiently	Learning outcome not demonstrated in assignment
<b>2a. Utilize context</b> by evaluating the relevance of context when presenting a position.	Clearly and thoroughly recognizes relevant contexts. Explains the influence the contexts have.	Explores relevant contexts and acknowledges some influence the contexts have.	Demonstrates some understanding of contexts but does not clearly identify relevant contexts or the influence the contexts have.	Learning outcome not demonstrated in assignment
<b>2b. Utilize context</b> by identifying assumptions.	Not only identifies all the important assumptions, but also some of the more hidden, more abstract ones.	Identifies many of the important assumptions, but not the ones deeper in the background – the more abstract ones.	Identifies some of the most important assumptions.	Learning outcome not demonstrated in assignment
<b>2c. Utilize context</b> by analyzing one’s own and others’ assumptions.	Not only evaluates all the important assumptions, but also some of the more hidden, more abstract ones.	Evaluates most of the important assumptions, but not the ones deeper in the background – the more abstract ones.	Evaluates some of the most important assumptions, but does not evaluate them for plausibility or clarity.	Learning outcome not demonstrated in assignment
<b>3a. Understand implications and make conclusions</b> by establishing a conclusion that is tied to the range of information presented.	Identifies and thoroughly discusses conclusions, considering all relevant assumptions, contexts, data, and evidence.	Identifies and briefly discusses conclusions considering most but not all the relevant assumptions, contexts, data, and evidence.	Suggests some conclusions, but without clear reference to context, assumptions, data, and evidence.	Learning outcome not demonstrated in assignment
<b>3b. Understand implications and make conclusions</b> by reflecting on implications and consequences of stated conclusion.	Identifies and thoroughly discusses implications and consequences, considering all relevant assumptions, contexts, data, and evidence.	Identifies and briefly discusses implications and consequences considering most but not all the relevant assumptions, contexts, data, and evidence.	Suggests some implications and consequences, but without clear reference to context, assumptions, data, and evidence.	Learning outcome not demonstrated in assignment