I. CCTDI Baseline Data

Our QEP assessment plan uses the California Critical Thinking Dispositions Inventory (CCTDI) to assess understanding of and attitudes about critical thinking. Our baseline data compares 510 entering freshmen to 346 graduating seniors who had not completed any Inquiry ARC coursework, on the seven dimensions of the CCTDI. 1 Assessment of freshmen occurred during Summer 2012 orientation, assessment of seniors occurred during Spring 2014. With our thanks to Cathy Whitlock and Lyndi Hewitt, members of the QEP Assessment Team who coordinated our data analysis, the findings from our baseline assessments:

Dimensions which showed significant improvement from freshman to senior year

- **Truthseeking**: the habit of always desiring the best possible understanding of any given situation; it is following reasons and evidence where ever they may lead, even if they lead one to question cherished beliefs.
- **Analyticity**: the tendency to be alert to what happens next...is the habit of striving to anticipate both the good and the bad potential consequences or outcomes of situations, choices, proposals, and plans.
- **Systematicity**: the tendency or habit of striving to approach problems in a disciplined, orderly, and systematic way. The habit of being disorganized is the opposite tendency.
- **Confidence in Reasoning**: the habitual tendency to trust reflective thinking to solve problems and to make decisions.

Dimensions which did not show significant improvement from freshman to senior year

- **Open-mindedness**: Open-mindedness is the tendency to allow others to voice views with which one may not agree. Open-minded people act with tolerance toward the opinions of others, knowing that often we all hold beliefs which make sense only from our own perspectives
- **Inquisitiveness**: Inquisitiveness is intellectual curiosity. It is the tendency to want to know things, even if they are not immediately or obviously useful.
- **Maturity of Judgment**: Maturity of judgment is the habit of seeing the complexity of issues and yet striving to make timely decisions. A person with maturity of judgment understands that multiple solutions may be acceptable while yet appreciating the need to reach closure at times even in the absence of complete knowledge.

Remember, these are students new to UNC Asheville and students graduating without Inquiry ARC coursework. Clearly, UNC Asheville has an impact of students’ critical thinking skills independent of our QEP. This year we hope to begin comparing graduating seniors with Inquiry ARC coursework to those in this baseline group.

1 Definitions of the dimensions are reproduced verbatim from the Insight Assessment website: [http://www.insightassessment.com/Products/Products-Summary/Critical-Thinking-Attributes-Tests/California-Critical-Thinking-Disposition-Inventory-CCTDI#sthash.7fiX8al4.dpbs](http://www.insightassessment.com/Products/Products-Summary/Critical-Thinking-Attributes-Tests/California-Critical-Thinking-Disposition-Inventory-CCTDI#sthash.7fiX8al4.dpbs)
II. Faculty and Student Surveys

Executive Summary
In September 2014, the QEP Assessment Team invited faculty and students to participate in a survey designed to elicit evaluative feedback on the Inquiry ARC. We wanted to know more about how these groups felt about the program, and to get a sense of what motivated people to participate (or not). We were further interested in understanding perceptions of benefits of the program, and to solicit feedback on what we might improve in terms of the student and faculty experience within Inquiry ARC.

Highlights from the 1,015 student participant results included the following:
- The top values seen as essential are critical thinking, independent lifelong learning, evaluate the quality and reliability of information, and tolerance and respect for different beliefs;
- 20% of students had taken an Inquiry ARC course;
- 37% of students who took IARC courses had taken 2, 11% had taken 3 and 4% had taken 4;
- 70% of students agreed or strongly agreed that the course(s) transfer to their life, 72% that the course improved their thinking, and 75% that they could apply the skills in other courses.

Highlights from the 105 faculty participant results included the following:
- The top values seen as essential are: critical thinking, written communication, critical reading, evaluating quality and reliability of information, and demonstrating tolerance and respect for different beliefs;
- 34% of respondents have taught an Inquiry ARC course;
- 72% of faculty who attended an Inquiry ARC event have modified their teaching practices in some way;
- learning/strengthening teaching practices and interacting with other faculty are key reasons people attend events and become Inquiry ARC instructors.

Initial points of interest or follow-up:
- The four values most frequently named “essential” by both groups included thinking critically, writing effectively, evaluating the quality & reliability of information, and demonstrating tolerance & respect for different beliefs;
- Faculty who have not participated pointed to time-constraints as a primary inhibitor. Our current professional development requirements are extensive. As we move to incorporate the program into the LAC, we will explore ways to streamline or focus training to minimize the anticipated time commitment. We are mindful that revising a course demands preparation as well as additional implementation time. Ideally, offering faculty course release to off-set the time commitment to participate in Inquiry ARC would be a welcomed option;
- 41% of student respondents were not sure if they had taken an Inquiry ARC course or not. We will refine this result to identify how many in this percentile had actually taken a course and were unaware of the designation. Depending on the results, we may need to address this issue in our professional development, as well as exploring ways to help create a better sense of Inquiry ARC community for our students.
28% of student respondents agreed to be part of a focus group. Our two student leaders in Inquiry ARC will facilitate this event in spring 2015.

III. Course based assessments
Each Inquiry ARC instructor designed an assignment prompting students to analyze a text, object, or image appropriate for their discipline. Assignments were administered at two points in time, once at the beginning of the semester and once at the end, in order to assess differences in student performance over time. Pre-test and post-test prompts within each course were generally identical, except for the object of analysis. While prompts varied across courses, all student responses were evaluated using the same tool, the AACU Value Rubric for Critical Thinking.

Instructors selected a minimum of three dimensions of critical thinking on which to evaluate students. Students’ written responses were then scored on a scale of 1-4, with higher numbers representing stronger performance. Instructors submitted pre- and post-test scores for each student during the summer of 2014. The data were aggregated, and paired samples t-tests were used to determine whether post-test means for each criterion of critical thinking were significantly different from pre-test means.

As shown in Table 1, the results of the paired t-tests indicate significant, positive changes on all 5 dimension of critical thinking. Mean changes ranged from .3077 to .7263, with the greatest gains observed on “conclusions and related outcomes.”

Table 1. Results of Paired T-Tests for Dimensions of Critical Thinking

<table>
<thead>
<tr>
<th>Criterion from the AACU Critical Thinking Value Rubric</th>
<th>Mean Change</th>
<th>Sample Size</th>
<th>Standard Deviation</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Explanation of Issues</td>
<td>+0.4375</td>
<td>112</td>
<td>0.88</td>
<td>0.00</td>
</tr>
<tr>
<td>2. Evidence</td>
<td>+0.3077</td>
<td>104</td>
<td>0.83</td>
<td>0.00</td>
</tr>
<tr>
<td>3. Influence of Context and Assumptions</td>
<td>+0.4086</td>
<td>93</td>
<td>0.96</td>
<td>0.00</td>
</tr>
<tr>
<td>4. Student’s Position (Perspective and Hypothesis)³</td>
<td>+0.648</td>
<td>54</td>
<td>0.91</td>
<td>0.00</td>
</tr>
<tr>
<td>5. Conclusions and Related Outcomes</td>
<td>+0.7263</td>
<td>95</td>
<td>0.93</td>
<td>0.00</td>
</tr>
</tbody>
</table>

While it is too early to draw definitive conclusions, the Assessment Team believes these results are encouraging. The protocol now in place is running smoothly and yielding useful evidence that suggests real improvement in students’ critical thinking skills during the course of a semester. Anecdotally, several instructors have also reported that the embedded assessments are helpful in their pedagogy.

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² Prompts were reviewed by the Assessment Team prior to the start of classes to insure adherence to the protocol.
³ Criterion #4 was selected for assessment least often. We will continue to monitor patterns in criteria selection, particularly across disciplines, and adjust the protocol accordingly. At this time, the lower frequency does not pose a problem.