UNC Asheville
Quality Enhancement Plan
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Executive Summary</td>
<td>4</td>
</tr>
<tr>
<td>2. Process &amp; Identification of the Topic</td>
<td>6</td>
</tr>
<tr>
<td>3. Rationale</td>
<td>12</td>
</tr>
<tr>
<td>4. Literature Review &amp; Best Practices</td>
<td>20</td>
</tr>
<tr>
<td>5. Implementation</td>
<td>32</td>
</tr>
<tr>
<td>6. Assessment Plan</td>
<td>40</td>
</tr>
<tr>
<td>7. Leadership Structure</td>
<td>46</td>
</tr>
<tr>
<td>8. 5-Year Budget</td>
<td>48</td>
</tr>
<tr>
<td>9. Conclusion</td>
<td>50</td>
</tr>
<tr>
<td>References</td>
<td>51</td>
</tr>
<tr>
<td>Appendices</td>
<td>58</td>
</tr>
</tbody>
</table>
The UNC Asheville Quality Enhancement Plan (QEP) is titled Inquiry ARC. This project will focus on enhancing students’ critical thinking through participation in academically rigorous experiences that involve inquiry, application, reflection, and communication. This project comes directly from the University’s mission to provide a quality liberal arts education, foster life skills such as critical thinking, and respond to the conditions and concerns of the contemporary world.

The plan grew out of broad-based campus input from faculty, staff and students, which indicated a high interest in Undergraduate experiences that foster the use of open inquiry, critical thinking, creative expression, and effective communication within engaged learning experiences that allow students to be makers of knowledge. This evidence, combined with data from the Collegiate Learning Assessment and the National Survey of Student Engagement, along with a strong commitment to fulfilling the intent of the University mission, led directly to the Inquiry ARC as a mechanism for improving students’ critical thinking skills.

Although an inquire-apply-reflect-communicate experience may be present in a variety of forms in many courses at UNC Asheville, the QEP will provide professional development opportunities to help educators enhance their students’ critical thinking throughout this experience. And, while critical thinking may be an academic exercise in almost every course, there is no consistent University-wide application of intentional pedagogy for critical thinking. During the implementation of the Quality Enhancement Plan, the University will:
1. Develop a definition of critical thinking that establishes a shared standard;
2. Provide opportunities for professional development in pedagogies that have been shown to improve critical thinking;
3. Initiate the Inquiry ARC, a student experience designed to enhance critical thinking;
4. Iteratively assess changes in students' critical thinking; and
5. Evaluate the assessment results and retool the enhancement plan as appropriate.

UNC Asheville has developed a 5-year plan with a focus and framework that will evolve and grow over time. In Summer 2012, educators will begin professional development in critical thinking pedagogy, the Inquiry ARC student experience, and the use of assessment tools. In AY 2012-2013, these three items will be piloted in 10 courses and, during the following four years, they will be included in additional courses throughout curricular and co-curricular offerings. Various aspects of the Quality Enhancement Plan will be assessed, such as changes in students’ critical thinking skills, the effectiveness of the Inquiry ARC experiences, and the value of the professional development opportunities. The assessment process will allow the QEP team to analyze, expand, or redirect its efforts, improving the plan as the University moves forward.

Successful implementation of the Inquiry ARC will enrich the student experience by adding critical thinking components to courses across the curriculum as well as to interdisciplinary programs such as Undergraduate Research, and, consequently, will create graduates with analytical skills that prepare them to be problem solvers and innovators in a complex and evolving job market.
Institutional Context

The University of North Carolina at Asheville was founded in 1927 as Buncombe County Junior College. In 1966, under the name of Asheville-Biltmore College, the University conferred its first Baccalaureate Degrees. Consolidated into the University of North Carolina in 1969, the name changed again to its present form: The University of North Carolina at Asheville (UNC Asheville). The University is now one of 17 institutions of the unified, state-supported University of North Carolina (UNC) system. UNCAshville enrolled its first Master's Degree students in 1991.

As of Spring 2011, 3,502 undergraduate students and 54 graduate students were enrolled in the University. UNC Asheville offers four Baccalaureate Degrees (B.A., B.S., B.S.E., and B.F.A.) and one Master's Degree, the Master of Liberal Arts (M.L.A.) Baccalaureate degrees may be earned in 33 different disciplines. Over AY 2009-2010 677 students graduated with Baccalaureate Degrees, and five students graduated with Master's Degrees.

UNCAshville is North Carolina's designated public liberal arts university, emphasizing teaching and learning, innovative scholarship, creative discovery, undergraduate research, engaged service, and practical experience. In addition to a focus on the liberal arts, UNC Asheville integrates human diversity as well as economic, social, and environmental sustainability into its curriculum and institutional practices.

Development of the QEP: Time Line and Broad-Based Participation

The development of the Quality Enhancement Plan at UNC Asheville was an open and inclusive
process that gave faculty, staff, students, and UNC Asheville National Alumni Council members a variety of opportunities to participate. This process was divided into two phases coordinated by the QEP Director and QEP Assistant Director, both of whom are full-time faculty. Support came from the QEP Leadership Team, the SACS Working Group, and the SACS Executive Committee. While the QEP Leadership Team guided the process, the SACS Working Group provided ongoing discussion, direction, and implementation of the SACS reaffirmation process, including Compliance Certification and the Quality Enhancement Plan. The SACS Executive Committee provided broad input into the SACS reaffirmation process, as well as oversight for the process as a whole. (See Appendix A for a list of the QEP Leadership Team members.)

The QEP time line appears in Appendix B. Phase 1 of the planning was dedicated to identification of the topic for the QEP. The QEP Leadership Team was formed, consisting of faculty, staff, students, and a community member. During the fall and spring semesters of AY 2010-2011, the members met approximately every two weeks. In order to select a topic with broad-based support, the team offered a variety of options for the campus to participate through a series of surveys, World Cafe sessions, focus groups, and meetings with departments, programs and representative bodies (e.g., Faculty Senate, Provost’s Cabinet, Chancellor’s Staff Advisory Committee, Senior Staff, Student Government).

In August/September 2010, faculty, staff, and students were invited to participate in an electronic process that gave faculty, staff, students, and UNC Asheville National Alumni Council members a variety of opportunities to participate. This process was divided into two phases coordinated by the QEP Director and QEP Assistant Director, both of whom are full-time faculty. Support came from the QEP Leadership Team, the SACS Working Group, and the SACS Executive Committee. While the QEP Leadership Team guided the process, the SACS Working Group provided ongoing discussion, direction, and implementation of the SACS reaffirmation process, including Compliance Certification and the Quality Enhancement Plan. The SACS Executive Committee provided broad input into the SACS reaffirmation process, as well as oversight for the process as a whole. (See Appendix A for a list of the QEP Leadership Team members.)

The QEP Leadership Team met to draft the broad area, working from the preferred USLO and Strategic Plan theme. Team representatives then met with the SACS Working Group and the SACS Executive Committee to get members’ feedback on the results of survey #1. The broad area of focus for the QEP which emerged was: Undergraduate experiences that foster the use of open inquiry, critical thinking, creative expression, and effective communication.

In October/November 2010, survey #2 solicited QEP project topics within this broad area. Contributions were received from approximately 200 faculty, staff, and students. A QEP Leadership Team subcommittee, including two qualitative data experts, read the ideas and organized them into seven topic categories. In December 2010, during survey #3, the campus community selected their top choice out of those seven categories. The most popular choice among all constituencies was “engaged learning” projects; among faculty, this category was a near tie with projects in which students are “makers of knowledge.” After several meetings, the teams concluded that the campus community was most interested in providing engaged learning experiences that allow students to be makers of knowledge. More detailed results of these surveys can be found in Appendix C.

Phase 1 also included World Cafe sessions, which took place throughout the campus at widely varying times of day and evening. The format fostered lively dialogue about ideas that could enhance student learning at UNC Asheville. Information from the surveys and World Cafe sessions gave the QEP Leadership Team four possibilities for the
starting point for developing the student experience in which that outcome would be enhanced (from surveys #2 and #3).

Phase 2 of the planning was dedicated to refining the topic, developing the plan, and acquiring approval from various governing bodies on campus. In order to focus the scope of the project, the following criteria were identified:

1. The topic/project must enhance student learning and link to one or more of the University Student Learning Outcomes.
2. It must address the broad area identified in campus survey #1.
3. It must be supported by data the University has.
4. It must be doable; the University must be able to complete it.
5. It must be something UNC Asheville can make progress on within the upcoming five years; it must be sustainable.
6. It must have a clear scope and focus.
7. It must represent an important use of time, energy, and resources now.
8. It must be a project that is important to the University.
9. It must be directly assessable.
10. As an enhancement plan, it should be connected to something the University is already doing.
11. It should not appreciably add to the workload of faculty and staff.
12. It must engage the faculty.
13. It must have a significant impact.

Another QEP Leadership Team subcommittee was created to draft the undergraduate engaged learning experience that would allow students to be makers of knowledge (surveys #2 and #3) while fostering the use of open inquiry, critical thinking, creative expression, and effective communication (survey #1). The subcommittee decided on a four-component experience that involved Inquiry (student does research on a topic or issue), Action

1 The World Café is “an innovative yet simple methodology for hosting conversations about questions that matter. These conversations link and build on each other as people move between groups, cross-pollinate ideas, and discover new insights into the questions or issues that are most important in their life, work, or community. This process can evoke and make visible the collective intelligence of any group, thus increasing people’s capacity for effective action in pursuit of common aims.” For more information: http://www.theworldcafe.com
Process & Identification of the Topic on the selected topic), Impact (student connects the project to applications outside academia), and Reflection (student analyzes his or her learning and draws meaning from the experience). This plan was brought to the QEP Leadership Team which endorsed it enthusiastically.

The QEP Leadership Team also reviewed USLO #1 and determined that a QEP assessing all four of its components would be too complex. The decision to focus on the critical thinking component was made after examination of institutional data. (See "Rationale" section for details.) The critical thinking focus also supports the University’s liberal arts mission, as well as state and national initiatives (e.g., the strategic plan of the UNC System known as UNC Tomorrow and the AAC&U’s LEAP initiative). After many discussions, the QEP Leadership Team selected critical thinking as the focused learning outcome most important for UNC Asheville students to improve.

As the QEP Leadership Team developed the plan during the Spring 2011 semester, focus group sessions were held to give all faculty, staff, students, and alumni opportunities to provide input. Participants were asked to read the QEP draft outline and then respond to three questions:

1. What do you see as the strengths of this outline plan for the QEP?
2. What would strengthen this plan?
3. What ideas do you have for moving forward with the plan for the QEP?

The focus group sessions allowed the QEP Leadership Team to gather additional ideas for the emerging plan and to gauge campus interest in the various aspects of the project. Over the course of Spring 2011, the committee concentrated on identifying a collection of classes across academic disciplines in which critical thinking pedagogies could be introduced into the student experience. Team members anticipated that the QEP could best be phased in by implementing it with a small subset of classes and then broadening the scope to
a larger population of students, faculty, and student affairs staff. Several options were reviewed for the placement of the student experience, each with its own benefits and drawbacks.

While team members were selecting the location in the curriculum, they also revised and refined the student experience framework. While analyzing the "impact" component, the team decided that "impact" was not the best word; it might set the bar too high, because a project can take a long time to actually have an impact. After considering a few other words, the team decided to substitute "engage" for "impact." The words in the working draft of the model became verbs that define what the student will do: Inquire-Engage-Act-Reflect. This plan to develop critical thinking skills within an Inquire-Engage-Act-Reflect student experience was discussed with then SACSCOC Vice President, Dr. Cheryl Cardell, and presented to faculty in May 2011 at the final faculty meeting of AY 2010-2011.

Throughout the entire process, reports were given to Faculty Senate, chairs and program directors, Senior Staff, the Provost's Cabinet, Chancellor's Staff Advisory Committee, the University Planning Council, Student Government officers, the Board of Trustees, and to individual departments and programs. Representatives from the QEP Leadership Team met every two weeks with the SACS Working Group and monthly with the SACS Executive Committee in order to keep them informed about the progress of the QEP and solicit feedback. In addition, the Chair of the QEP Leadership Team visited departments and programs to provide updates, address questions, and solicit suggestions. The campus QEP website and email forums continuously offered updates, survey reports, and details regarding further opportunities for input.

During Summer 2011, two catalysts led to additional changes in the plan. Following the May faculty meeting, feedback from administrators and faculty indicated that some campus constituents were concerned that students taking part in a QEP experience might engage in action without careful study and critical analysis. As they understood the QEP, it was promoting activism or volunteerism without the rigorous academic foundation expected from an institution of higher learning. Second, the Chair of the QEP Leadership Team and two other faculty members attended a critical thinking workshop during which they had the opportunity to learn from experts in the field of critical thinking. Following thoughtful reflection on these two circumstances, the QEP team decided that the plan needed more emphasis on pedagogies that enhance critical thinking.

A small subgroup of the QEP Leadership Team continued work during Summer 2011, with the primary goal of reconciling the two aspects of the plan. The "engaged learning with students as makers of knowledge" portion reflected a passion to improve the world which is common in UNC Asheville's faculty, students and staff. "Critical thinking" reflected the University's commitment to a rigorous liberal arts education. Both of these are important to UNC Asheville, so the subgroup found a way to blend them in a manner that preserved the interest in engaged learning while maintaining a high level of academic rigor. First, the team changed the word Act to Apply to emphasize that the critical thinker will use what was learned during Inquiry (and Reflection) to answer a question or address an issue rather than simply acting. Second, after considering the knowledge acquired at the critical thinking workshop, the team decided to change the word Engage to Communicate. This represents the refined focus of that component, which is an important part of a liberal arts education-to exchange ideas with individuals outside the discipline or academy. In order to preserve the "engage" aspect, the act of engagement with others is embedded as an option within all four of the components in the Inquire-Apply-Reflect-Communicate student experience framework, and is formally introduced in Phase 2 of the QEP process.
Inquiry ARC

The focus of the UNC Asheville QEP is on enhancing critical thinking through participation in academically rigorous projects that are carefully mentored, student-driven, and shared with others.

The framework for these academically rigorous projects is titled Inquiry ARC and is described as follows:

**Inquire**—The process of identifying an issue or concept to explore in a project. It is a question-driven search for understanding that requires asking relevant and probing questions from multiple perspectives and gathering information from a variety of sources (literature, experts, communities, or individuals).

The critical thinker considers the significance of a topic, comes to a clear and accurate understanding of the topic, logically analyzes information, and concludes by crafting a specific question or concept to explore.

**Apply**—The process of designing and implementing a project that is identified during inquiry and results in a product (e.g., oral presentation, paper, film, poem, experimental design, marketing campaign, installation, program, or musical composition).

The critical thinker articulates a purpose, distinguishes assumptions and points of view from concepts and information, and uses well-reasoned interpretation to identify fallacies. The critical thinker is able to identify conclusions and analyze how they relate to supporting premises. In acting on this purpose by designing and implementing a project, the learner considers implications and consequences of continued inquiry before accepting or formulating an opinion or conclusion.

**Reflect**—The practice of reviewing, evaluating, and deepening learning periodically.

The critical thinker evaluates in writing what has been learned from the project and thereby internalizes core meanings and fundamental concepts. In addition, the learner internalizes the intellectual skills used during the learning process, which contributes to a deeper understanding of the issue, the ability to connect it to one's own life, and an enhanced ability to engage in critical thinking in the future.

**Communicate**—The process of sharing what one has learned orally, visually, and/or in writing.

The critical thinker effectively communicates what has been learned to a teacher or mentor (and possibly others) and in so doing, further internalizes the knowledge gained.

_In Phase 2 of the QEP process, communication will be formally extended to include engaging in a dialogue with an audience outside the discipline (e.g., the campus, the local community, national and global partners) and responding to feedback from that audience._
While refining the student experience framework, the subgroup worked on critical thinking definitions, models, and pedagogies. After deciding which definitions would be a good starting point for the faculty to conceptualize critical thinking, the various definitions were mapped to the student experience framework. Next, student learning outcomes for the QEP were drafted and mapped to the definitions and the student experience. The specific details of the student experience were then finalized, ensuring that students would have ample opportunities to learn, practice, and show evidence of enhanced critical thinking skills.

In June 2011, UNC Asheville brought a critical thinking consultant, Dr. Patricia Payette, to campus to offer the first in a series of development opportunities for faculty and staff on critical thinking: Building a Critical Thinking Culture. The response to the campus invitation was encouraging; even though it was held when most faculty were away from campus for the summer, 12 faculty and six staff members attended, while an additional 20 individuals expressed interest in future critical thinking development opportunities. Slides and handouts from the workshop were posted on the campus QEP website.

Following the consultant’s visit, the team decided to start the first year of the QEP with a pilot group in order to gather faculty from multiple disciplines, ensure that influential campus constituents are on board with the plan from its inception, and allow time for testing the assessment instruments and professional development methods. During the pilot year, the Inquiry ARC experience will be placed into 10 carefully selected courses across campus, chosen for the instructors’ eagerness to participate in critical thinking training, incorporate critical thinking pedagogies in their courses, and provide feedback during the piloting period. In the second year, after making necessary modifications, Inquiry ARC will be incorporated into approximately 20 LSIC courses (required writing intensive introductory seminars). In the third year, Inquiry ARC experiences will be available for courses throughout the curriculum.

In Fall 2011, the QEP Leadership Team focused on educating the campus community about the refined plan and on designing professional development opportunities, an assessment plan, and resources for participants in the QEP. Interviews with selected LSIC 179 instructors in various disciplines provided evidence that the four components in the Inquiry ARC student experience are already incorporated in some way in these courses. This was reassuring because the addition of pedagogy to enhance critical thinking skills is less likely to be problematic and more likely to be supported within a framework that is already familiar to the faculty.

Throughout AY 2011-2012, the team concentrated on marshaling the plan throughout the campus community and on spurring critical thinking development opportunities for interested faculty and staff through Learning Circles sponsored by the UNC Asheville Center for Teaching & Learning.

The final plan was endorsed by the Faculty Senate on October 6, 2011, by the Senior Staff on November 9, 2011, and by the Board of Trustees on December 2, 2011. Members of the Board of Trustees commented that critical thinking is the "key to innovation." They were pleased that the Inquiry ARC student experience speaks to the core of a liberal arts education and will help prepare UNC Asheville graduates to learn the skills they will need in the workplace.
The Context for the QEP: Institutional, State, and National Priorities

UNC Asheville’s QEP is mission-driven. The University mission statement was recently revised and subsequently approved by the UNC Asheville Board of Trustees in June 2009 and the UNC Board of Governors in November 2009. The revised mission statement serves to distinguish UNC Asheville from the 16 other campuses within the University of North Carolina (UNC) System as well as from other schools of similar size, region, and curriculum. It guides operations and learning at UNC Asheville, as the Strategic Plan and University Student Learning Outcomes emerge directly from the mission statement:

**UNC Asheville is distinctive in the UNC system as its designated liberal arts university. Our practice of the liberal arts emphasizes the centrality of**

learning and discovery through exemplary teaching, innovative scholarship, creative expression, co-curricular activities, undergraduate research, engaged service, and practical experience.

Primarily undergraduate, UNC Asheville offers a liberal arts education characterized by high quality faculty-student interaction. We offer this challenging educational experience to all promising students who are committed to liberal/earning and personal growth.

Our liberal arts educational approach emphasizes life skills including critical thinking, clear and thoughtful expression, and honest open inquiry. Students undertake concentrated study in one area while simultaneously developing an understanding of the connections among disciplines. We encourage students to clarify, develop, and live their own values while respecting the views
and beliefs of others. In addition, we cultivate an understanding of the dimensions of human diversity while recognizing the common humanity of all. We believe a quality liberal arts education enables our graduates to be lifelong learners and to lead successful, flourishing lives as leaders and contributors to their communities.

At UNC Asheville, we respond to the conditions and concerns of the contemporary world both as individuals and as a university. We incorporate economic, social and environmental sustainability into our institutional practices and curriculum. With a range of associated centers, partnerships, and initiatives, we fulfill our public responsibility to address the needs of our community through a continuum of learning. We develop a commitment to continuing service characterized by an informed, responsible, and creative engagement with the Asheville area, the southern Appalachian region, the state of North Carolina, and a diverse and increasingly connected world.

The focus of UNC Asheville’s QEP is on enhancing critical thinking through participation in academically rigorous projects that are carefully mentored, student-driven, and shared with others; this is perfectly aligned with the University’s mission. This mission emphasizes:

- The centrality of learning and discovery through exemplary teaching, innovative scholarship, creative expression, co-curricular activities, undergraduate research, engaged service, and practical experience;
- A liberal arts education characterized by high quality faculty-student interaction;
- Life skills, including critical thinking, clear and thoughtful expression, and honest open inquiry;
- Informed, responsible, and creative engagement with the Asheville area, the southern Appalachian region, the state of North Carolina, and a diverse and increasingly connected world.

UNC Asheville Strategic Plan

The UNC Asheville Strategic Plan is the result of a two-year process led by Chancellor Anne Ponder. In 2006, staff and faculty, students and parents, community leaders, and board members participated in small group discussions on "who we aspire to be" and "how we plan to get there." In 2007, a small group of "conveners" worked with the Chancellor on drafting the Strategic Plan goals. Over the next six months, the group revised the draft based on comments from the campus community and various external groups. In late Fall 2007, the University Planning Council finalized the plan, created implementation strategies, and set up work groups to identify ways to measure progress over the next five years. The UNC Asheville Board of Trustees approved the Strategic Plan in June 2008.

The Strategic Plan has nine goals organized around three themes:

- Public responsibility-Goals on diversity and inclusion, North Carolina, and Asheville;
- Liberal Arts-Goals on undergraduate education, undergraduate research, and campus experience;
- Sustainability--Goals on social, economic, and environmental sustainability.

The focus of the QEP links to four of the goals:

- Undergraduate education: The University will serve as the standard of excellence for public liberal arts undergraduate education, emphasizing interdisciplinary learning and exceptional faculty-student mentoring;
- Campus experience: The University will engage all students in a robust campus learning experience based on community responsibility, learning, respect, and service;
- North Carolina: The University will furnish North Carolina’s economy with highly accomplished thinkers, negotiators, planners, collaborators, and problem-solvers;
- Social sustainability: The University will build a respectful, vibrant, responsible, and inclusive campus community that encourages academic, civic, and public engagement.

UNC Asheville’s commitment to excellence in public liberal arts education is underscored by the presence of several outstanding educational
opportunities, including the University Honors Program, the Undergraduate Research Program, and the Key Center for Community Citizenship and Service Learning. The QEP supports these signature programs by focusing on enhancement of a set of critical thinking skills central to student success in academically challenging environments. The Inquiry ARC student experience promotes analysis, application of experiences, and critical reflection, which, when combined, provide a powerful pedagogy for enabling learning (Howard, 2001). As faculty become more intentional in the teaching of critical thinking, students will become better equipped to engage in an in-depth inquiry process before beginning their class assignments, thus increasing the chance that they will conceptualize and design successful projects. They will also be better equipped to reflect on their work in ways that will improve their chances for success with future projects. The Student Affairs staff envisions ways in which enhanced critical thinking can help students become better problem solvers outside the classroom too. In co-curricular leadership programs, orientation leaders will be better prepared to facilitate new student development. Resident assistants will be prepared to help students analyze the impact of their behavior and identify appropriate changes. In addition, the Health and Counseling Center envisions ways in which better critical thinking skills will improve students' ability to identify the root causes of health issues that can affect academic success.

University Student Learning Outcomes

The University Student Learning Outcomes (USLOs) were developed through a similar iterative process led by the Provost and Vice Chancellor for Academic Affairs, Dr. Jane Fernandes. An initial draft of outcomes generated from the University mission statement was shared with the campus community, and feedback was incorporated into subsequent drafts. The final set of outcomes was approved by the UNC Asheville Faculty Senate in January 2010:

1. Students develop skills in critical thinking, clear and thoughtful communication, creative expression, and honest open inquiry;
2. Students develop mastery of a specific major and an understanding of the connections among disciplines;
3. Students develop respect for the differences among people and ideas, and learn to clarify and articulate their own values;
4. Students learn both the concepts and the value of economic, social, and environmental sustainability;
5. Students demonstrate that they are responsible, engaged citizens;
6. Students are prepared to engage in lifelong learning.

The UNC Asheville QEP has an obvious and direct link to the USLO #1, which specifies critical thinking as one of the core skills the University seeks to cultivate in its students. The QEP also has implicit links to three other University Student Learning Outcomes:

Because the "inquiry" component of the chosen pedagogical model includes considering a topic from multiple perspectives, the QEP has an indirect link to USLO #3: Students develop
respect for the differences among people and ideas, and they learn to clarify and articulate their own values;

Because the complete four-stage pedagogical model includes the "communicate" component, in which students share what they have learned with an audience outside the discipline, the QEP has an indirect link to USLO #5: Students demonstrate that they are responsible, engaged citizens;

Because the "reflection" component of the pedagogical model contributes to metacognitive skills that prepare students to engage in critical thinking autonomously, the QEP has an indirect link to USLO #6: Students are prepared to engage in lifelong learning.

UNC Tomorrow
In May 2007, the UNC system launched its UNC Tomorrow initiative to determine how to "efficiently and effectively fulfill its three-pronged mission of education, research and scholarship, and public service in the 21st century" (Updates on UNC Tomorrow, 2009). The document noted that to achieve this goal, the University must answer three basic questions:
1.1111 at challenges facing the state do North Carolinians want UNC to respond to?
2. How can UNC best respond to these challenges?
3. How can UNC sustain this focus over the long term?

The final report, released in December 2007, identified seven themes critical to UNC success in the 21st century:
- Global readiness;
- Access to higher education;
- Improving public education;
- Economic transformation;
- Health;
- Environment;
- Outreach and engagement by the universities.
In its discussion of global readiness, the report cited research by Peter D. Hart Associates Research, Inc. (2006) indicating that 63% of employers think college graduates lack the skills necessary to succeed in a global society. In addition to concern over the lack of "hard skills" in such disciplines as science, math, and technology, the UNC Tomorrow report noted that today's graduates need to develop "soft skills" such as "the ability to think critically, reason analytically, solve problems, communicate clearly both orally and in writing, work in teams, and be comfortable working in a diverse workforce" (Updates on UNC Tomorrow, 2009). The UNC Asheville QEP directly addresses these concerns. For example, the professional development component is designed to help educators become more intentional in the teaching of critical thinking, enhancing their ability to help students consider an issue from multiple perspectives, analyze issues logically, form opinions based on consideration of facts, and communicate with others in ways that adapt to the nature of the audience. The student learning component incorporates each of these skills into their assignments and projects.

**Association of American Colleges and Universities LEAP Initiative**

In 2005, the American Association of Colleges and Universities (AAC&U) launched the Liberal Education and America's Promise (LEAP) initiative, a multiyear set of dialogues with colleges and universities about helping America's students succeed in the 21st century. The result was identification of a set of "essential learning outcomes" that students need to succeed, and a set of "high-impact educational practices," detailing what colleges must do to make these outcomes possible (AAC&U, 2011 b).

The UNC Asheville QEP links to both sides of this critical equation.

In the area of essential learning outcomes, the QEP includes an emphasis on:
- Inquiry and analysis, critical thinking, written and oral communication, and problem solving, all included in LEAP's set of Intellectual and Practical Skills;
- Skills for lifelong learning and civic engagement, included in LEAP's Personal and Social Responsibility cluster.

In the area of high-impact educational practices, the QEP:
- Introduces the critical thinking pedagogy in the introductory colloquium courses for freshmen and transfer students, a link to the First Year Seminar or Experience as a high-impact practice;
- Introduces the pedagogy in writing intensive courses, a high-impact practice; all introductory colloquium courses are designated as writing intensive courses;
- Involves students in projects that are likely to have either an Undergraduate Research or a Service Learning/Community-Based Learning focus, both identified as high-impact educational practices.

In addition, the implementation design for the QEP ensures that:
- Students will practice Intellectual and Practical skills across the curriculum as they move from completing projects in freshman seminars to completing projects in higher level courses with more challenging standards for performance, a best practice for developing and strengthening Intellectual and Practical Skills;
- Students will be actively involved with real world problems and diverse communities, key practices for developing and strengthening the Personal and Social Responsibility skills.
Rationale

The Learning Outcome: Assessing the Learning Needs of UNC Asheville Students

UNCAsheville's QEP was formulated within the context of institutional data from the Collegiate Learning Assessment (CLA) and the National Survey of Student Engagement (NSSE).

Collegiate Learning Assessment (CLA)

UNCAsheville administered the CLA to freshman and senior students during AY 2007-2008. Data indicated that both freshman and seniors scored well above expectations on the analytic writing task and the make-an-argument task, and above expectations on the performance task, generating value-added indexes at the 33-68th percentiles. The anomaly was performance on the critique-an-argument task: Although freshmen scored at the 99th percentile, well above expectations, seniors scored at the 80th percentile, above expectations but significantly lower than freshmen. The discrepancy resulted in a value-added estimate at the 16th percentile, less than half the next lowest value-added index, and suggested an opportunity for improvement by focusing on enhancing critical thinking skills (UNC Asheville, 2007-08, 2010-11).

The QEP Leadership Team was pleased to note some progress on this challenge even before launching the QEP. Data from the AY 2010-2011 administration of the CLA indicate that seniors again performed above expectations but at a level that yielded a significantly higher value-added estimate. Interestingly, there was a small drop in the value added estimate for the "make-an-argument" task, another dimension of critical thinking (UNC Asheville, 2007-08, 2010-11).

National Survey of Student Engagement (NSSE)

UNC Asheville administered the NSSE to freshmen and seniors during 2010. Although both groups scored significantly higher on the Level of Academic Challenge (LAC) benchmark than NSSE and COPLAC peers, scores on three items within that benchmark were troubling (UNC Asheville, 2010a).
Freshmen and seniors scored lower than the peers on "making judgments about the value of information, arguments, or methods" and "applying theories or concepts to practical problems or in new situations." Additionally, seniors scored lower than the peers on "analyzing the basic elements of an idea, experience, or theory" (UNC Asheville, 2010b). These items are three of the four points on the Higher Order Thinking subscale, one of three subscales comprising NSSE's psychometrically robust Deep Learning Scale (National Survey of Student Engagement, 2009).

According to Laird, Shoup, and Kuh, (2005) deep learning is conceptualized as a focus on the underlying meaning of information that reflects a personal commitment to learning and understanding material through actions such as reading widely, combining resources, discussing ideas with others, reflecting on the ways that individual pieces of information relate to larger constructs or patterns, and applying knowledge in real world situations. These skills also are key components of critical thinking skills.

**The Student Experience: Learning from Engagement with the University Community**

Throughout AY 2010-2011, the QEP Leadership Team coordinated an extensive data gathering process to identify the highest priority outcomes, themes, and issues among faculty, staff, student, and alumni constituencies. Through surveys, World Cafe sessions, focus groups, and meetings, a picture emerged of a campus united in its commitment to undergraduate education and eager to engage students in meaningful learning experiences. Highlights of the data include:

The UNC Asheville community highly values the core skills of a liberal arts education, namely, critical thinking, effective communication, creative expression, and open inquiry. When asked to identify their first choice among University Student Learning Outcomes (survey #1), all groups preferred the liberal arts skills outcome over outcomes on disciplinary knowledge or specific issues or contents;

The University community places a high priority on an undergraduate education that emphasizes interdisciplinary learning and faculty-student mentoring. When asked to identify their first choice among the nine Strategic Plan themes (survey #1), at least 40% of each group selected this undergraduate education theme as their top choice;

The community highly values the learning process. When faculty, staff, students and alumni were asked to identify their first and second choices from a list of potential topics (survey #3), all groups preferred a learning process focus (e.g., engaged learning, learning foundations) to a content focus (e.g., sustainability, globalization).

Through reflection and discussion, the QEP Leadership Team crafted a student experience, the Inquiry ARC, that would honor these values, and in which:

There is a clear focus on critical thinking, effective communication, creative expression, and open inquiry;

Students complete projects in the context of high-quality mentoring from faculty and teaching staff;

The result is growth and development in key learning processes and metacognitive skills, rather than mastery of specific content.
The Bottom Line: Serving UNC Asheville Students Well

The most important question to ask about a QEP is how it benefits the students, both now and in the years after they graduate. The alignment of UNC Asheville’s QEP with institutional and national priorities produces an educational experience that serves students well.

Throughout the preceding sections, clear and consistent themes emerge regarding the skills today’s college students need to be successful in an increasingly complex, increasingly diverse, and increasingly global society. These themes resonate strongly in the report prepared for the AAC&U in 2006 by Peter D. Hart Research Associates, Inc. Hart interviewed 305 employers of college graduates and 510 recent four-year college graduates, and he conducted three focus groups of managers, VPs, CFOs, CIOs, and CEOs of private companies employing large numbers of college graduates. The report indicates that when evaluating the abilities of potential new hires, business executives place the greatest emphasis on skills in critical thinking, analytical reasoning, and communication. Specifically, employers believe colleges and universities should place more emphasis on their students’ abilities to:

- Collaborate with others in a diverse group (76%);
- Think critically and reason analytically (73%);
- Communicate effectively orally and in writing (73%);
- Locate, organize, and evaluate information from multiple sources (70%);
- Solve complex problems (64%).

The UNC Asheville QEP contributes directly to each of these skills. (See extended discussion in the Literature Review section.) For example:

The focus of the Inquiry ARC experience is critical thinking, which includes skills such as analytical reasoning:

The "inquiry" component of the experience requires students to locate, organize, and evaluate information from multiple sources as they conceptualize their projects;

The "apply" component requires students to move from conceptualizing to executing a project; taking that step will require students to consider and solve a variety of complex problems;

The "communicate" component requires students to convey what they have learned to others, an opportunity to develop more effective communication skills.

The intentional critical thinking pedagogy planned in UNC Asheville’s QEP will affect the students in positive ways, making them more desirable employees and equipping them well to make thoughtful judgments as responsible, engaged members of their communities. The critical thinking skills UNC Asheville students develop will empower them to adapt successfully as the future brings changes in technology, demographics, and the economy that affect the workplace and the world.
Overview

UNC Asheville's Mission Statement highlights its liberal arts educational approach, emphasizing "life skills including critical thinking, clear and thoughtful expression, and honest open inquiry." The University requires all students to complete a core curriculum, Integrative Liberal Studies (ILS), which focuses on persuasive writing and speaking, incisive reading, and analytical judgment. This program of study has been designed to create educated, informed, and engaged citizens. The roots of the ILS curriculum lie in the medieval traditions of the trivium—grammar, logic, and rhetoric—and reflect a strong commitment to critical thinking skills. Critical thinking is universally valued across the campus, but individual disciplines, having become increasingly specialized, often understand and apply the term differently. UNC Asheville believes that a more consistent application of critical thinking, one that will permeate courses across the curriculum, is both desirable and essential.

During the implementation of the Quality Enhancement Plan, the University will:

1. Develop a definition of critical thinking that puts forward a shared standard;
2. Provide opportunities for professional development in pedagogies that have been shown to improve critical thinking;
3. Initiate the Inquiry ARC, a student experience designed to enhance critical thinking;
4. Iteratively assess changes in students’ critical thinking; and
5. Evaluate the assessment results and retool the enhancement plan as appropriate.
Background

The valued status of critical thinking goes back to antiquity, when Aristotle, in *Nicomachean Ethics*, attributed happiness, goodness, and success to its practice. That esteem continues today, as evidenced by the frequent discussion of critical thinking in current academic research and mainstream media, as well as its designation as a "key competency," along with effective communication skills and teamwork, by the U.S. Department of Labor and a report titled *Employers’ Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce* (Soft skills: the competitive edge, 2007; Are they really ready to work, 2006).

Critical thinking (CT) has been defined differently by various scholars and organizations, their interpretations influenced by disparate disciplinary perspectives, particularly those of philosophy, sociology, psychology, and education. Sam Schuman, former Chancellor of UNC Asheville and the University of Minnesota at Morris, ties critical thinking to the roots of the liberal arts by defining it as a skill which liberates the mind: "learning how to think systematically, appropriately, and deeply." (S. Schuman, personal communication, July, 2011).

The Delphi Report

In 1987, the American Philosophical Association initiated a three-year study involving 46 CT experts from the fields of philosophy, psychology, education, and zoology. The Executive Summary of the Delphi Report Consensus Statement recaps the findings of the study, emphasizing the intentionality and process-oriented nature of critical thinking, along with other elements that align closely with UNC Asheville’s mission of liberal education and critical inquiry:

We understand critical thinking to be purposeful, self-regulatory judgment that results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based (Facione, 1990, p.2).

The Delphi Report also confirms UNC Asheville’s commitment to "honest open inquiry" when it refers to critical thinking as "essential as a tool of inquiry." The report goes on to emphasize the indispensable nature of CT skills to responsible human beings:

*CT is a liberating force in education and a powerful resource in one’s personal and civic life. While not synonymous with good thinking, CT is a pervasive and self-rectifying human phenomenon* (Facione, 1990, p.2).

Clearly, this definition corresponds to the goals of UNC Asheville, as reflected in the University mission statement:

We believe a quality liberal arts education enables our graduates to be lifelong learners and to lead successful, flourishing lives as leaders and contributors to their communities.

The Delphi Report Consensus Statement continues, outlining characteristics of an ideal critical thinker:

[.. .] habitually inquisitive, well-informed, trustful of reason, open-minded, flexible, fair-minded in evaluation, honest in facing personal biases, prudent in making judgments, willing to reconsider, clear about issues, orderly in complex matters, diligent in seeking relevant information, reasonable in the selection of criteria, focused in inquiry, and persistent in seeking results which are as precise as the subject and the circumstances of inquiry permit (Facione, 1990, p.2).

The Delphi Consensus Statement concludes:

Thus, educating good critical thinkers[.. .] combines developing CT skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society (Facione, 1990, p.2).

Moving from definition to analysis of instruction, the Delphi Report augments the list of CT skills with the dispositions of good critical thinkers. (See Appendix D: CT Skills and Dispositions Table). The authors distinguish among traits, skills, and dispositions and
Further note that one can possess critical thinking skills but not have the disposition or inclination to use them, and vice versa. The authors also found that critical thinking within academic disciplines requires specific foundational knowledge to succeed. They recommend that instruction in critical thinking take place in multiple contexts, not just in an isolated course entitled "critical thinking":

[I]n subjects or disciplines, exercising them successfully in certain contexts demands domain-specific knowledge, some of which may concern specific methods and techniques used to make reasonable judgments in those specific contexts (Facione, 1990, p.5).

UNC Asheville's approach in developing the QEP will draw upon elements of the Delphi Report, highlighting process, linking critical thinking with liberal education, combining skills with disposition, and developing foundational knowledge within the academic disciplines. The writers of the Delphi Report, however, while acknowledging that creative thinking is a valuable type of thinking, notably do not include it within their definition of critical thinking. The QEP Team believes that many times, in many disciplines, creativity plays a key role in critical thinking.

American Association of Colleges and Universities (AAC&U)

The AAC&U offers a more concise definition of critical thinking than does the Delphi Report, defining it as "a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion." Like that of the Delphi Report, this definition was developed by a team of academicians, and it also aligns with UNC Asheville's mission of creating lifelong learners as evidenced in the following framing language:

[S]uccess in all disciplines requires habits of inquiry and analysis that share common attributes. Further, research suggests that successful critical thinkers from all disciplines increasingly need to be able to apply those habits in various and changing situations encountered in all walks of life (Association of American Colleges and Universities, 2011 a). Further, the AAC&U endorses student reflection on the process of thinking critically, and the organization has published the AAC&U Critical Thinking Value Rubric (2011a) that establishes five categories of learning outcomes, with specific gradations within each: 1) explanation of issues, 2) evidence, 3) influence of context and assumptions, 4) student's position (perspective, thesis/hypothesis), and 5) conclusions and related outcomes (implications and consequences).

Robert Ennis and Linda Elder

While the insights of the Delphi Report provide a thorough foundation for UNCAshville's QEP, the team also desires to augment that definition with a more concise explanation, even more concise than the AAC&U definition, suitable for an elevator pitch, short summary or a promotional flyer. Team leaders have identified two short definitions as starting points for campus discussions on critical thinking that may ultimately lead to campus-wide consensus on an appropriate definition for UNC Asheville. The first definition is Robert Ennis' (2004) "Critical thinking is reasonable, reflective thinking that is focused on deciding what to believe or do." The second is from Linda Elder (2004): "Critical thinking is self-guided, self-disciplined thinking which attempts to reason at the highest level of quality in a fair-minded way." Together these pithy alternatives can inspire discussions among educators from the sciences, humanities, and social sciences as the University moves toward a common understanding of what CT means in an interdisciplinary context.

Critical Thinking, Learning, and Cognitive Science

Critical thinking theory may have been born in philosophy, but today it is positioned within the broader field of cognitive science that encapsulates philosophy, cognitive psychology, neuroscience, and other disciplines. Cognitive research varies from the controlled experiments of cognitive psychologists and neuroscientists, to the computational models of artificial intelligence. According to Diane Halpern (2001), psychologist
and past president of the American Psychological Association, "Cognitive psychology is the empirical branch of psychology that deals with questions about how people think, learn, and remember." This contrasts with behaviorism, in which the domain of psychology is considered to be focused on behavior or response. Although interest in cognition predates the behaviorist-dominated early 1930s and 1940s, the cognitive revolution began with the 1956 symposium on information theory at MIT where cognitive science began as an interdisciplinary endeavor (Solso et al., 2008).

Today the field of cognitive science links psychology, philosophy, linguistics, anthropology, computer science, neuroscience, mathematics, biology, and economics (Swarthmore College Minor in Cognitive Science, 2011; Institute for Research in Cognitive Science, University of Pennsylvania, 2011; Simon, 1980). Interestingly, the often-cited and published diagram that depicts these interdisciplinary connections, Gardner's Hexagon, was never published in its original source because the scholars in the represented disciplines disagreed about the weights of and connections between the depicted disciplines (Cole, 1997). Cognitive science, however, despite the differences in interpretation, is universally characterized by the study of cognition in both the mind and the brain.

Important to the field is the idea of constructivism, which originated with developmental psychologist and philosopher Jean Piaget as "a philosophy that views learning as an active process in which learners construct their own understanding and knowledge of the world through action and reflection" (Stevens, 2002). According to Arthur Dirks (1998) "if knowledge is to be constructed by the learner, according to the tenets of constructivism, it is not simply an active experience for the learner in manipulating the ideas, but it occurs as a result of what is generally considered critical thinking." Constructivism stresses that learning is context-sensitive, active, and requires reflection; it is important to UNC Asheville's QEP because the student learning experience designed to enhance critical thinking has similar characteristics. The Inquiry ARC experience is context-sensitive with respect to the course in which it is offered, is an active learning experience, and requires reflection.

Cognitive scientists and philosophers hold that CT includes deductive and inductive reasoning within the larger domain of problem solving—the thinking and the thinking skills necessary to solve a problem when the solution is not obvious. Both inductive and deductive reasoning play roles in decision-making and critical thinking. And, within the field of cognitive science, creativity may play a role in problem solving. Solso et al. (2008) emphasize that "Creativity is cognitive activity resulting in a novel perspective of a problem" (p.416) and is not restricted to pragmatic problem solving. While the four components in the Inquiry ARC experience certainly encourage students' creativity, the role of creativity in UNC Asheville's campus-wide definition of critical thinking is yet to be determined; it must become part of the forthcoming CT conversation.

Cognitive science specifies that the first step in problem solving is to understand the problem and build an accurate mental representation of it. Roberson (2001) maintains that the mental representation is a combination of the problem description within the context of personal experience; Matlin (2009) notes that it may be expressed as a diagram, symbol, matrix, or image. Without sufficient background knowledge, the student's interpretation of the problem lacks context, or even worse, has faulty context. Current research on learning suggests that knowledge is constructed from prior knowledge (Matlin, 2009); therefore, teachers must ensure that accurate prior knowledge exists.

For these reasons, the QEP team believes that the critical thinking pedagogy belongs in courses across the academic disciplines where it can be practiced in an authentic setting, bolstered by course content, rather than in an interdisciplinary stand-alone course on critical thinking. This conceptual view of problem solving is backed up by research showing that the human mind imposes structure on experience. In other words, humans contextualize new knowledge into existing mental models. Additionally, studies in cognitive psychology suggest that practice increases learning. Experiments in neuroscience demonstrate that structural changes to the brain at a cellular level are evident when learning occurs, and furthermore that the amount of structural change
is proportional to the amount of experience or practice in a complex environment. (Bransford, Brown, & Cocking, eds., 2000). Moreover, Matlin (2009) asserts that learning is more permanent if the problem is complex. Clearly, critical thinking and learning are integral to solving complex problems or engaging in an academic experience that requires deep-level processing. This leads to the QEP team's notion that multiple critical thinking experiences with similar scaffolding may bolster not only critical thinking but also student and educator dispositions towards critical thinking. If students' CT skills and dispositions are improved, UNC Asheville's mission "to emphasize life skills including critical thinking, clear and thoughtful expression, and honest open inquiry" will manifestly be advanced.

Critical Thinking Models and Taxonomies

The QEP team examined many frameworks and taxonomies of critical thinking, noted on the attached critical thinking skills spreadsheet (Appendix D), before deciding to use the Paul-Elder (1999) standards as a starting point for introducing critical thinking to UNC Asheville. Payette, LaRue, and Newton (2009) have pointed out that these standards are appropriate for all academic disciplines and for all levels of thinking. They use clear general language, and the model includes materials to support teaching and learning activities. Coupled with the recommendations from the Delphi Report, the Paul-Elder teaching and learning activities lend themselves to application in professional development opportunities (Payette et al., 2009). The accessible language of this model

![Figure 1. Paul-Elder Framework](image-url)
will facilitate its inclusion in courses throughout the curriculum as well as its adoption by students and educators as members of a campus-wide community of critical thinkers.

The Paul-Elder framework has been criticized for its philosophical basis and its failure to explicitly mention feminism, creativity, and sociology (Thayer-Bacon, 1998; Mosely et al., 2005). Paul has answered those critics by saying that inclusive redefining of critical thinking sacrifices rigor, and that the traits of intellectual thought (Figure 1) are characteristic of disciplined minds in every academic field. Because diversity and creativity are important markers for UNC Asheville, the University-wide conversation will invite the campus to think about how diversity and creativity align with critical thinking. The AAC&U Critical Thinking Value Rubric may function as a good starting point for the campus conversation about creativity and critical thinking.

**Best Practices for Improving Learning and Critical Thinking**

One of the greatest appeals of the QEP’s focus on critical thinking is that many CT basics align with some of the best practices for improving learning. According to the National Research Council’s publication *How People Learn*, research on learning and teaching supports the following findings:

1. Students come to the classroom with preconceptions about how the world works. If their initial understanding is not engaged, they may fail to grasp new concepts and information, or they may learn them for purposes of a test but revert to their preconceptions outside the classroom.

2. To develop competence in an area of inquiry, students must: a) have a deep foundation of factual knowledge, b) understand facts and ideas in a context of a conceptual framework, and c) organize knowledge in ways that facilitate retrieval and application.

3. A metacognitive approach to instruction can help students take control of their own learning by defining learning goals and monitoring their progress in achieving them.

These findings have significant implications for teaching:

1. Teachers must draw out and work with the preexisting understandings their students bring with them.

2. Teachers must teach some subject matter in depth, providing many examples in which the same concept is at work and providing a firm foundation of factual knowledge.

3. The teaching of metacognitive skills should be integrated into the curriculum in a variety of subject areas (Bransford, Brown, & Cocking, eds., 2000).

From these findings, the QEP team infers further support for the placement of CT pedagogy within courses throughout the curriculum rather than in a stand-alone critical thinking course. The National Research Council’s conclusions further reinforce the team’s views that students need domain-specific knowledge before they can be successful in large-scale projects and that metacognitive skills must be explicitly taught. Because cognitive scientists have shown that practice improves learning, the team believes that multiple projects or experiences with a shared CT pedagogy and vocabulary will develop students’ metacognitive skills and, hopefully, their dispositions to use them.

Learning models and taxonomies that influenced the design of the student experience include:


Kolb’s Model (Concrete Experience, Reflective Observation, Abstract Conceptualization, Active Experimentation) (Kolb, 1984);

Elements of Mastery (Acquire, Practice, Know When to Apply, Mastery) (Ambrose et al., 2010).

Brathay’s Experiential Learning Model (Do, Review, Apply) (Beard and Wilson, 2006);

Cycle of Self-Directed Learning (Assess, Evaluate, Plan, Apply, Reflect) (Ambrose et al., 2010).
Common to these models are an emphasis on application and reflection, both of which UNC Asheville will incorporate into the student experience.

**Best Practices for Improving Critical Thinking Skills at UNC Asheville**

The QEP team has arrived at the following recommendations, based on research, for promoting a campus culture of critical thinking which will improve students' CT skills:

1. Teach critical thinking in courses throughout the curriculum as well as in extracurricular experiences using a consistent language and framework. Literature supports the idea that critical thinking should be taught not in one critical thinking course but throughout the University's curriculum (Halpern, 2001; Facione, P., 1990; Paul & Nosich, 1992).

2. Intentionally incorporate critical thinking in course design. State the CT goals and objectives; design assignments and tests that target CT improvements (Dyson & Freedman, 1991; Fawcett, 2004; Resnick, 1990; Shepelak, Moore & Curry-Jackson, 1992; Sperling & Freedman, 2001; Washington, 2001; Wiggins & McTighe, 1998).

3. Model critical thinking in all aspects of campus life. Because CT is an integral part of UNC Asheville's mission and objectives, faculty, staff, and administrators should strive to form a community of critical thinkers using a common CT language and framework. (Elder, 2004).

4. Standardize critical thinking in the Liberal Studies Introductory Colloquia. These introductory seminars are small in size (limited to 18 students per class), writing intensive, and taught by educators who often serve as advisors to their students until the students declare a major. At UNC Asheville, most incoming students are required to take an LSIC course. Offering professional development in CT pedagogy to LSIC instructors at the outset ensures educator participation and an initial student sample from different disciplines; it also provides a starting point for accumulating data necessary for a longitudinal assessment of students' critical thinking skills.

5. Expand the number and types of courses incorporating critical thinking using these constructs.

6. Provide professional development for educators, not in a one-time workshop, but through an ongoing two-way conversation. As Elder (2004) advises, a workshop leader should conduct CT training from the perspective of a facilitator rather than that of a sage to avoid the perception of "intellectual arrogance."

The QEP team believes that QEP-related professional development should focus on CT pedagogy at both the conceptual and applied levels. In order to ensure a common experience

---

**Figure 2. Paul-Elder Pedagogical Mapping**

- **Inquire**
  - Paul-Elder Intellectual Standards: Focus on Depth, Breadth, Significance, and Clarity

- **Apply**
  - Paul-Elder Intellectual Standards: Focus on Logic, Clarity, Accuracy, Precision, Relevance, and Fairness

- **Reflect**
  - Paul-Elder Intellectual Standards: Focus on Clarity, Accuracy, Precision, Relevance, Depth, Breadth, Logic, Fairness, and Significance

- **Communication**
  - Paul-Elder Intellectual Standards: Focus on Clarity, Relevance, Breadth, and Fairness
throughout the academic disciplines, team leaders have designed guidelines for a classroom experience that includes the following explicit steps: inquiry, application, reflection, and communication.

UNC Asheville’s Inquiry ARC design is inspired by historical precedents in constructivist learning theory by Piaget and Dewey and by recent teaching and learning research by Fink (2003), Kolb (1984), Metts (1994), Eisenkraft (2003), Bean (2001), and others. Instructors who participate in Critical Thinking Professional Development will agree to include an Inquiry ARC experience in one of their courses. Instructors will design their experience to best suit their course objectives, making sure that it contains the requisite actions: inquire, apply, reflect, and communicate. Instructors will also explicitly incorporate critical thinking pedagogy into this framework. The experience should focus on the Paul-Elder Intellectual Standards during the Inquiry ARC stages.

Figures 2 and 3 illustrate possible blueprints for using the Paul-Elder Intellectual Standards and APA Critical Thinking Skills, respectively, within an Inquiry ARC project with an expository paper as an end product. In this example, the inquiry stage refers to the first phase of the project, during which the students decide on a topic for their papers by identifying an area of interest and iteratively evaluating and refining it based on significance, clarity, and potential depth (it must not be a superficial topic) and breadth (the topic must be broad enough to include multiple viewpoints). In terms of APA CT skills, the student must examine ideas, analyze, and assess sources. Once the topic is chosen, the stage is set for the application or project development phase, in which the CT pedagogical focus remains on clarity and extends to logic, accuracy, precision, fairness, and relevance, as students craft the arguments and conclusion of their research papers by using inference and interpretation. A stepwise refinement cycle begins, during which students recursively reflect upon and revise the developing paper. Each cycle concludes with a new draft until the paper is complete or the due date reached. At that point the student will reflect in writing upon the project’s learning in terms of discipline-specific content and the ubiquitous critical thinking definition adopted by the University.

While each educator who assigns an Inquiry ARC experience can vary the CT pedagogical emphasis timing so that it may differ from the mapping shown in Figures 2 and 3, every Inquiry ARC student experience will explicitly discuss CT pedagogy, using a shared CT language, and develop an Inquiry ARC end product that can be used to measure evidence of student improvement in critical thinking in terms of both interdisciplinary (Paul, Elder, & Bartell, 1997) and discipline-specific skills. (Ennis, 1990; Kintsch, 1994; Halliday, 2000).
Because UNC Asheville believes that critical thinking skills transcend disciplines and that discipline-specific knowledge grounds critical thinking, the QEP team will conduct assessments of 1) critical thinking dispositions and 2) critical thinking skills in all classes in which the educator has received QEP-developed professional development.

The Inquiry ARC

The Inquiry ARC student experience framework (Figure 4) is designed to provide the University community with a common experience that can be customized to work within any classroom. Many courses at UNC Asheville already include active learning and/or inquiry-based learning projects that can be readily adapted to become Inquiry ARC products. While not mandatory, connections with the community can be incorporated within any stage or stages of the experience in order to provide students with the engagement they identified as their top priority during the QEP discovery process. This outreach aligns with UNC Asheville’s University Student Learning Outcome #5 which states that “students demonstrate that they are responsible, engaged citizens.” Making community connections can have lasting effects on civic engagement, as a study from the Cooperative Institutional Research Program at the University of California at Los Angeles demonstrates that college students’ involvement in their communities after graduation is primarily influenced by the commitment to social activism among their college classmates (Sax, 2000).

Inquire-refers to the process of identifying an issue or concept to explore in a project. It is a question-driven search for understanding that requires asking relevant and probing questions from multiple perspectives and gathering information from a variety of sources (literature, experts, communities or individuals).

The critical thinker considers the significance of a topic, comes to a clear and accurate understanding of the topic, logically analyzes information, and concludes by crafting a specific question or concept to explore.

In education literature, inquiry often spans all four steps of project design. (AAC&U, 2011a; Audet & Jordan, 2005, p.14) In UNCAshville’s model, however, the thoughtful process of identifying a topic, research question, or design concept will be the starting point for further study. A student will begin with a broad area of interest. After thorough background research, the student will intentionally, deliberately, and recursively narrow the broad area into a specific thesis statement or design by considering audience, context, and multiple alternatives. Students (and educators) many times select their first idea to develop into a paper or program without taking time to explore others. Clearly one cannot choose the best idea if only one idea is considered. Bean (2001) has recommended that students “suspend judgment, question assumptions, imagine alternative answers, play with data, enter into the spirit of opposing views, and just plain linger over questions.” Critical thinking means taking time to contemplate and analyze multiple ideas and their contexts in order to select the best idea.
Apply (A) – refers to the process of designing and implementing a project that is identified during inquiry and results in a product (e.g., oral presentation, paper, film, poem, experimental design, marketing campaign, installation, program, or musical composition).

The critical thinker articulates a purpose, distinguishes assumptions and points of view from concepts and information, and uses well-reasoned interpretation to identify fallacies. The critical thinker is able to identify conclusions and analyze how they relate to supporting premises. In acting on this purpose by designing and implementing a project, the learner considers implications and consequences of continued inquiry before accepting or formulating an opinion or conclusion.

Logic is a cornerstone of the liberal arts as well as of cognitive science and philosophy. In the Apply phase of the Inquiry ARC, students will rely on logic, the science of reasoning, to formulate and support their conclusions. While logic is clearly a significant part of oral and written presentations, creative projects also include reasoning during the interplay between student and mentor. Critical thinkers must learn effective logical argumentation in order to recognize both compelling arguments and, conversely, invalid arguments and fallacies, and they should be able to clearly articulate their argument evaluation. Ever present in mainstream media marketing and political campaigns, logical fallacies hold cursory resemblances to sound reasoning and often lead to illogical conclusions. Cognitive scientists believe, as philosophers do, that critical thinking includes deductive and inductive reasoning within the larger domain of problem solving—the thinking and the thinking skills necessary to solve a problem where the solution is not obvious. Critical thinkers should be able to characterize an argument as deductive or inductive, valid or invalid, and sound or strong (as appropriate), and should be able to identify logical fallacies.

Learning is not a spectator sport; it demands engaged participation. Chickering and Gamson (1987) have pointed out that “Students do not learn much just by sitting in class listening to teachers, memorizing prepackaged assignments, and spitting out answers.” In order to retain information, according to “Active Learning,” (1993) a Stanford University Newsletter, students must discuss, write, or otherwise interact with what they have heard or read. In the UNC Asheville model, Apply signifies an active learning experience characterized by the development of an end product or products that will vary by discipline.

This step in the Inquiry ARC framework incorporates the following three terms from the revised Bloom’s taxonomy (Anderson et al., 2001):

Applying: Carrying out or using a procedure through executing or implementing;

Analyzing: Breaking material into constituent parts, determining how the parts relate to one another and to an overall structure or purpose through differentiating, organizing, and attributing;

Creating: Putting elements together to form a coherent or functional whole; reorganizing elements into a new pattern or structure through generating, planning, or producing.
Reflect (R)-refers to the practice of reviewing, evaluating and deepening learning periodically.

The critical thinker evaluates in writing what has been learned from the project and thereby internalizes core meanings and fundamental concepts. In addition, the learner internalizes the intellectual skills used during the learning process, which contributes to a deeper understanding of the issue, the ability to connect it to one’s own life, and an enhanced ability to engage in critical thinking in the future.

Reflection throughout the Inquiry ARC framework is imperative and is what many believe results in learning (Action + reflection = learning, 2000). When humans reflect on experiences, they contextualize them and add them to their stored knowledge. Boud, Keogh, & Walker (1985) and Schon (1983; 1987) describe three possible types of reflection:

1. Reflection-on-action, in which the learner reflects on an action past and engages in retrospective sensemaking;

2. Reflection-in-action in which reflection occurs as an attempt to ‘stop and think’ in the midst of action, a time during which action can be modified; and

3. “Knowing-in-action, the most tacit of reflective processes in which knowledge is embedded in the action itself, rarely considered at a conscious level.”

UNC Asheville’s Inquiry ARC interpretation of reflection includes reflection on and within the experience (corresponding to 1 and 2) as well as on the thinking or metacognitive skills (corresponding to 3). Instructors must be careful to ensure that this step is not limited to pointless introspection or navel-gazing, because as Freire (2007) states in the Pedagogy of the Oppressed, “Reflection without action is subjectivism.” Instead of leading to a reliance on personal interpretation rather than on evidence, the reflection should be an effort to understand the evolving results and their context. Reflection-in-action and knowing-in-action, when approached seriously and thoughtfully, will affect learners “in ways well beyond the superficial—an impact both in Adult Reflection and in their day to day interactions with youth and other adults” (Conboy, 2005). In order to successfully complete and articulate their reflections, students must have an existing foundation in the discipline or domain of the experience and in critical thinking, specifically the Paul-Elder model of critical thinking.

Communicate (C)-refers to the process of sharing what one has learned orally, visually, and/or in writing.

The critical thinker effectively communicates what has been learned to a teacher or mentor (and possibly others) and in so doing, further internalizes the knowledge gained.

At a minimum, students will communicate what they have learned to their instructors. In Phase 2 of the QEP process, communication will be formally extended to include engaging in a dialogue with an audience outside the discipline (e.g., the campus, the local community, national and global partners) and responding to feedback from that audience.

This step significantly furthers the student’s learning. Sharing learned information in a two-way exchange results in the student’s internalizing the knowledge and reformatting it in order to
communicate it. Some educators refer to this step as integration, or deep learning (Fink, 2003).

On campus, the extended audience may be an interdisciplinary group, a thematic cluster, or a learning community; an off-campus audience may be a service-learning partner, an industry professional group, a K-12 class, or a community organization. Emphasis on the ability to communicate with disparate audiences has historically been positioned within the domains of the social sciences and humanities, but its importance is increasing in the sciences, even within the technology-related disciplines, as evidenced by program outcome (f) of the Accreditation Board for Engineering and Technology: the “ability to communicate effectively with a range of audiences.” (Criteria for accrediting computing programs, 2009).

One way to implement the communication step in Phase 2, as noted above, is with a service-learning project, but the QEP team recognizes that service-learning projects are not appropriate for all courses. Experiences are meaningful if students see a relationship between what they are learning in the classroom and what they are doing in the community. A pedagogically sound and successful service-learning experience will be designed jointly by both partners, characterized by two-way learning, and reinforced by documented learning outcomes for both partners.

Another way to implement the communication step is with an Undergraduate Research project that culminates with a presentation at an appropriate research conference. By participating in a conference, the student fulfills the requirement if the communication experience is a two-way conversation. It is not sufficient for students to present their work to outside audiences without allowing the audience to comment on the effectiveness and accuracy of the presentation. Black and William (1998) have noted that feedback, particularly formative assessment, directly affects student learning and informed reflection.

As the QEP team studies the precise characteristics of meaningful and effective communication with an outside audience, it will gather qualitative data from students and educators regarding the Communicate step during Phase 1. Team leaders will strive to design clear guidelines for this step prior to its implementation in Phase 2.
5 Implementation

Implementation Plan

In its Quality Enhancement Plan, UNC Asheville will strive to enhance students' critical thinking skills through the incorporation of critical thinking (CT) pedagogy in Inquiry ARC experiences, starting in the courses of 10 educators, then rolling it out in the Liberal Studies Introductory Colloquia (LSIC) for incoming students and spreading it throughout the curriculum over five years. The implementation process is organized into two phases: 1) Pilot and Roll-out (Years 1 and 2) and 2) Expand (Years 3 to 5). Both phases include components of professional development, pedagogy, and assessment.

The University expects between one-third and one-half of its educators to participate in professional development by Year 5. The target for student participation in Inquiry ARC experiences is 2,500 students by Year 5.

For the purposes of the Quality Enhancement Plan, "educator" is defined as any faculty or staff member leading a course-based learning experience. Staff and faculty members who do not have responsibility for teaching or leading courses may participate in professional development programs and in mentoring Inquiry ARC experiences by partnering with a faculty or staff member who is leading a course-based learning experience.

The Inquiry ARC Experience: Defining Features

Detailed descriptions of each of the four components in the Inquiry ARC framework (inquire-apply-reflect-communicate) appear in Sections 2 and 4 of this document.

The fundamental features of this experience allow flexibility for incorporating the experiences across disciplines, programs, and other units. The goal
is to craft rigorous experiences that encourage disciplinary, multidisciplinary, and/or community-engaged work that enhance and allow the student to demonstrate critical thinking skills and processes.

Defining Features of a Successful Inquiry ARC Experience

The experience:

1. Is guided by an educator who has QEP training in critical thinking pedagogies and assessment methods;

2. Facilitates the development and demonstration of inquiry skills on a meaningful issue, concern, or problem by guiding the students to ask relevant and probing questions from multiple perspectives and sources (literature, experts, communities or individuals);

3. Requires the application of that inquiry to the process of designing and implementing a project that results in a product (e.g., oral presentation, paper, film, poem, experimental design, marketing campaign, installation, program, or musical composition);

4. Incorporates ongoing, directed reflection by the student with feedback from students, educators, and others involved with the experience;

5. Requires communication about the project in oral, written, or visual form to, at least, the educator. In addition, in Phase 2, some Inquiry ARC experiences may also feature an opportunity to communicate about the product and/or process with an audience outside the discipline (e.g., the campus, the local community, undergraduate research conferences, national and global partners). Communication with an audience outside the discipline means that the student must conduct a dialogue and respond to feedback;

6. Results in a product or products that can be assessed using Inquiry ARC tools;

7. Encourages the student to act on what has been learned;

8. Often will include opportunities to engage with individuals within or outside the discipline throughout the experience. For example, the inquiry stage may involve connecting with the community to identify significant topics to explore. In the apply stage, learners may interact with individuals affected by a problem or issue in order to gather insights for designing and implementing a project that addresses a meaningful question. Beginning in Phase 2 of the QEP, the professional development for the communicate component will be expanded to help educators improve their students’ abilities to discuss their projects with an outside audience.

While community engagement is not a feature required of all Inquiry ARC experiences, many projects will provide opportunities for students to make connections beyond the classroom. It may be important for the students to assess the needs of the community affected by their chosen topic as they develop proficiency in critical thinking. To find out what community members need, students can begin using their inquiry skills, engaging with others through conversation, interview, review, and interpretation of existing data. When learners design and apply their projects to address a meaningful question or problem, engagement with the community affected by that issue is often vital. The success of the projects— as well as the students’ critical thinking skills—is also likely to be enhanced when the learners communicate their experiences in a dialogue with an audience outside their discipline.

Integrative Liberal Studies and the Liberal Studies Introductory Colloquia

At UNC Asheville, all students are required to participate in the Integrative Liberal Studies (ILS) program:

The ILS Program is grounded in the principle that a liberating education—one that emphasizes humane values and promotes the free and rigorous pursuit of truth—creates good citizens-individuals who assume responsibility for their thoughts and actions and their impact on the world. Their personal development is inextricably linked to the contributions they make to their scholarly, social and political communities. To be good citizens, people must be able to think critically and to communicate their ideas effectively.
Asheville's liberal arts mission, the ILS Program works alongside the majors to help people develop and improve these skills by immersing them in an interdisciplinary community of mutually supportive scholars (UNC Asheville, 2011).

The ILS Program includes a 3-hour introductory colloquium at the beginning of a student's education at UNC Asheville (usually in their first semester). The introductory colloquia vary in topic from course to course and term to term, and come in two versions. LSIC 179 is for first-year students, while LSIC 379 is for transfer students.

LSIC courses were chosen as the location for the Year 2 Roll-out of the QEP for four reasons:

1. Nearly all incoming students are required to take them;
2. They provide an opportunity for assessing the critical thinking of incoming students who do and do not have an Inquiry ARC experience;
3. All LSIC courses are writing intensive, which means they offer opportunities for developing writing skills through instruction, formative evaluation, revision opportunities, and writing practice;
4. The common goals in LSIC courses are a good fit with CT pedagogy and Inquiry ARC experiences.

Common Goals for Liberal Studies Introductory Colloquia (UNC Asheville, 2011)

1. Introduce students to education in a liberal arts environment by integrating information and intellectual approaches from different disciplines, directly addressing the nature of the liberal arts, being multi-disciplinary or interdisciplinary in approaching topics, emphasizing the responsibilities of a liberally educated person, promoting understanding about the campus community, and utilizing active learning opportunities.
2. Assist students in making the transition to UNC Asheville by providing opportunities for them to become active members of the campus community, develop personal responsibility for their choices and goals, and learn about campus resources.
## 5-Year Implementation Time Line and Plan

<table>
<thead>
<tr>
<th>YEAR</th>
<th>FOCUS</th>
<th>ACTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year 0, 2011-2012</td>
<td>Preparation</td>
<td>Recruit 10 early adopter educators. Design professional development workshop.</td>
</tr>
<tr>
<td><strong>PHASE 1</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 1, 2012-2013</td>
<td>Pilot</td>
<td>Conduct professional development for 10 early adopter educators. Pilot CT pedagogy, <em>Inquiry ARC</em> experiences, and assessment tools in 10 early adopter classrooms. Acquire baseline CT data by administering CCTDI (<em>California Critical Thinking Disposition Inventory</em>) exam to all incoming students.</td>
</tr>
<tr>
<td><strong>PHASE 2</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year 3, 2014-2015</td>
<td>Expand</td>
<td>Conduct professional development for interested educators across campus. Introduce or continue CT pedagogy, <em>Inquiry ARC</em> experiences, and assessment tools in 10-20 LSIC classrooms and 10-20 other classes. Administer CCTDI to all incoming students and to students in courses using <em>Inquiry ARC</em> (students who have not previously taken the test).</td>
</tr>
<tr>
<td>Year 4, 2015-2016</td>
<td>Expand</td>
<td>Add &quot;communication with outside audience&quot; component to professional development. Add &quot;communication with an outside audience&quot; component to some <em>Inquiry ARC</em> experiences. Introduce or continue CT pedagogy, <em>Inquiry ARC</em> experiences, and assessment tools in 10-20 more LSIC classrooms and 10-20 other classes. Administer CCTDI to graduating students to compare those with and without <em>Inquiry ARC</em> experience.</td>
</tr>
<tr>
<td>Year 5, 2016-2017</td>
<td>Continue to Expand</td>
<td>Administer CCTDI to graduating students to compare those with and without <em>Inquiry ARC</em> experience. Other details will depend on assessment data from years 1 thru 4.</td>
</tr>
</tbody>
</table>
5-Year Implementation Time Line and Plan

Year 0, 2011-2012: Prepare for QEP pilot year

Recruit 10 early adopters to participate in the pilot from a pool of educators scheduled to teach a course in Fall 2012. Ideally, this group will consist of two LSIC 179 instructors, two LSIC 379 instructors, and two educators from various courses in the areas of natural science, social science, and the humanities. Each educator will be a volunteer who has expressed a strong interest in improving students' critical thinking skills and is willing to use the QEP-supported tools to assess CT; incorporate an Inquiry ARC experience into a course; attend professional development workshops to learn CT pedagogies, the Inquiry ARC student experience framework, and the CT assessment methods; and continue the discussion as they teach the pilot courses, reflecting on what has been learned and preparing best practices guidelines for educators of future QEP-supported courses. These early adopters will later serve as "thought leaders" for CT pedagogy and the QEP as the University moves forward into the Roll-out phase in Year 2.

In addition, during AY 2011-2012, the team will design the professional development training on critical thinking, Inquiry ARC student experience framework, and CT assessment methods for the pilot group.

PHASE 1

Year 1, 2012-2013: Pilot

Pilot new CT pedagogy and Inquiry ARC experiences and test assessment tools. The purpose of the Pilot year is two-fold: 1) to test the elements of the plan and learn from a pilot group of courses; 2) to develop a team of enthusiastic "thought leaders" to help lead the campus forward into the Roll-out phase.

Summer 2012

Offer the professional development workshops (CT pedagogy, implementing Inquiry ARC experiences, and use of assessment rubrics) to early adopters.

Fall 2012

a. Pilot CT pedagogy and Inquiry ARC experiences in at least two LSIC 179 and two LSIC 379 courses as well as six other courses;

b. Administer the CCTDI assessment exam to all incoming students for baseline data;

c. In the 10 pilot courses, assess students' learning using direct product assessment with the Inquiry ARC Rubric and indirect assessment using UNC Asheville designed questions; (See assessment plan)

d. Assess educator CT and Inquiry ARC pedagogy using a rubric to evaluate teaching materials;

e. Assess educator self-rating of competence, using a questionnaire to be developed.

Spring 2013

a. Analyze data from early adopters' Fall 2012 courses. Use data to evaluate and revise professional development content and plans, implementation, and assessment plans;

b. Recruit 15 to 20 additional educators teaching LSIC 179 in Fall 2013 or LSIC 379 in AY 2013-2014 to participate in summer professional development for Roll-out phase.

Throughout AY 2012-2013, the 10 educators in the pilot group will meet on a regular basis to discuss their experiences and to develop ideas for moving forward with the Roll-out phase.

Year 2, 2013-2014: Roll-Out

Implement Inquiry ARC experiences in 15-20 selected LSIC 179 and 379 courses.

Summer 2013

a. Analyze all data from Pilot year and make adjustments as necessary;

b. Offer professional development workshops (CT pedagogy, implementing Inquiry ARC experiences, and use of assessment rubrics) to participating LSIC educators.
Fall 2013-Spring 2014

a. Roll-out CT pedagogy and Inquiry ARC experiences in 15 to 20 LSIC 179/379 courses;
b. Assess students’ learning from Inquiry ARC projects using direct product assessment with Inquiry ARC Rubric and indirect assessment using UNC Asheville designed questions; (See Assessment Plan).
c. Assess educator CT and Inquiry ARC pedagogy using a rubric to evaluate teaching materials;
d. Assess educator self-rating of competence using a questionnaire to be developed;
e. Administer CCTDI assessment exam to graduating seniors for baseline senior data;
f. Revise and expand professional development workshops;
g. Identify 20 additional interested educators scheduled to teach LSIC 179 in Fall 2014 or LSIC 379 in AY 2014-2015 who want to participate, along with 10 to 20 interested educators scheduled to teach other courses in Fall 2014 or Spring 2015.

PHASE 2

Year 3, 2014-2015: Expand

Expand Inquiry ARC experiences into 10 to 20 additional LSIC courses as well as 10 to 20 other courses.

Summer 2014

a. Analyze all data from Roll-out year and make adjustments, as necessary, for expanding Inquiry ARC experiences to other types of courses;
b. Offer professional development workshops (CT pedagogy, implementing Inquiry ARC experiences, and using assessment rubrics) to participating educators.

Fall 2014-Spring 2015

a. Implement and assess Inquiry ARC projects in identified courses (LSIC and other);
b. Administer the CCTDI assessment to all incoming students and to students who are enrolled in Inquiry ARC courses but have not previously taken the CCTDI;
c. Plan for introducing the “communication with an outside audience” component in projects in a subset of Inquiry ARC courses. Details of protocol will be determined by careful evaluation of assessment and plan components from previous years.
Year 4, 2015-2016: Expand and Add "Communicate with an Outside Audience" Component

Formally introduce the "communication with an outside audience" component into the Inquiry ARC student experience. Expand the use of CT pedagogy, Inquiry ARC experiences and assessment in 10 to 20 more LSIC courses and an additional 10 to 20 other courses.

Summer 2015

a. Analyze all assessment data and make adjustments as necessary;
b. Continue to offer professional development workshops (CT pedagogy, implementing Inquiry ARC experiences, and using assessment rubrics) to participating educators.

c. Offer optional professional development to educators interested in a "communication with an outside audience" component in courses with Inquiry ARC experiences.

Fall 2015-Spring 2016

a. Implement Inquiry ARC experiences with and without a "communication with an outside audience" component in identified courses (LSIC and other) and assess impact;
b. Administer CCTDI exam to graduating seniors to compare those who had and did not have Inquiry ARC experience(s);
c. Continue all other assessment projects.

Year 5, 2016-2017: Continue to Expand

Summer 2016

a. Analyze all assessment data and make adjustments as necessary;
b. Evaluate experiences with the "communication with an outside audience" component and make adjustments as necessary;
c. Continue to offer professional development workshops (CT pedagogy, implementing Inquiry ARC experiences, and using assessment rubrics) to participating educators.
d. Continue to offer optional professional development to interested educators on the inclusion of a "communication with an outside audience" component in courses with Inquiry ARC experiences.

Fall 2016-Spring 2017

a. Continue to expand use of CT pedagogy and Inquiry ARC projects into courses and programs in other settings;
b. Administer CCTDI exam to graduating seniors to compare those who had and did not have Inquiry ARC experience(s);
c. Allow details of future protocols to be determined by careful evaluation of assessment and plan components from previous years.
Professional Development Plan

Professional development opportunities related to the QEP will largely take place in the early summer of each year, targeting educators committed to implementing additional occasions for developing critical thinking through Inquiry ARC experiences.

In Phase 1, professional development opportunities will generally take one of four forms:

1. In-house facilitators will lead workshops and discussions on CT pedagogy and the inquiry, application, communication, and reflection components of the Inquiry ARC experience, as well as on assessment of student learning. Planning has begun for the first workshop, multiple sessions of which will take place in Summer 2012 for the educators who will pilot the QEP. Three faculty who attended the 2011 i2a Critical Thinking Institute at the University of Louisville, along with supporting educators, will facilitate discussions on the incorporation of multi-disciplinary pedagogies that will enhance critical thinking skills within an Inquiry ARC experience, as well as the effective use of assessment methodology. Participants will be introduced to features of the Paul-Elder model and will focus on adapting the model for their particular goals. In active participation and guided group work, educators will develop their goals and draft their plans for enhancing critical thinking through the incorporation of Inquiry ARC experiences in their courses. The discussion will continue during the Fall 2012 semester as the educators teach their courses—they will reflect on what is being learned and prepare best practices guidelines for educators of future Inquiry ARC supported courses.

2. Ongoing workshops will be organized and hosted by the QEP Professional Development Team under the guidance of the QEP Director. Participation will be aimed at those teaching critical thinking and assessing the Inquiry ARC experiences; the University will provide a modest stipend to these participants.

3. Throughout each academic year and summer, the Center for Teaching and Learning will host Learning Circles on critical thinking and other aspects of the Inquiry ARC experience. To spark interest for the QEP, the first Learning Circles on critical thinking were offered in AY 2011-2012.

4. The QEP Director and QEP Professional Development Team will invite CT specialists from off campus to give talks or conduct workshops for the University community. The specific topics and content of professional development opportunities will be driven by the CT pedagogy needs and interests of the campus community as it strives to make the QEP a success.

Throughout Phase 1, professional development will be modified and expanded as needed, based on the data gathered throughout the first two years. Beginning in Phase 2, the team will add opportunities for professional development in ways to support students’ efforts to communicate with an outside audience.
6 Assessment Plan

UNC Asheville has identified two student learning outcomes and selected multiple direct and indirect measures to assess them. Furthermore, multiple assessments have been identified to evaluate the operational goals of the QEP. A complete assessment plan, including outcomes, measures, proposed time line, and designation of persons responsible, is located in Appendix E. Data collected from the assessments will be used to provide improvements both to critical thinking training and to the Inquiry ARC experience in order to further enhance students’ critical thinking skills. Additionally, the data will guide the plan’s implementation in Years 3 through 5.

Direct Assessment of Student Learning

The QEP Leadership Team sought to establish measurable Student Learning Outcomes (SLOs) for the QEP. Although "enhancing critical thinking among students" is fine as a QEP topic, it is not an assessable student learning outcome, and it does not include any reference to the Inquiry ARC experiences students will complete as they improve their critical thinking. In order to ensure that the outcomes follow best practices for student learning outcome assessment, the QEP Leadership Team has worked closely with the Director of Academic Assessment and the Director of Institutional Effectiveness.

The team started with popular definitions of critical thinking from the American Association of Colleges and Universities (AAC&U) and the American Philosophical Association (APA) and considered them alongside the Paul-Elder model of critical thinking. The goal was to define critical thinking in a way that aligned itself with the Inquiry ARC learning process; in other words, the team wanted
to make sure that the definition generated an SLO that touched on all aspects of the Inquiry ARC experience. The team discovered that the best way to ensure an SLO that aligned with the Inquiry ARC experience model was to use elements from all three definitions of critical thinking. Using these definitions, the team created the Inquiry ARC student learning outcome which will guide assessment and serve as a common definition of critical thinking for campus-wide discussions. It will also serve as a guide to interdisciplinary pedagogy.

Inquiry ARC SLO-The critical thinker will:
1. Demonstrate an ability to engage in comprehensive exploration of issues, ideas, artifacts, or events;
2. Explain the evidential, conceptual, methodological or contextual basis for the project; and
3. Complete the project in a way that cultivates valuable intellectual traits such as intellectual courage, intellectual empathy, and intellectual humility.

After identifying the Inquiry ARC SLO, individuals representing the QEP Leadership Team reviewed various critical thinking assessment methods. To be consistent with UNC Asheville’s philosophy of embedded assessment, the team first reviewed the AAC&U rubric for critical thinking. This rubric, developed by educators from across the United States, is intended for use in institutional-level assessment of undergraduate work and provides a framework for a national discussion on critical thinking.

After the team looked more closely at the relationship between the Paul-Elder model and the Inquiry ARC learning process, it became clear that the AAC&U critical thinking rubric could not be used to assess the products of Inquiry ARC experiences—the rubric simply does not assess all the components of these projects. The team examined a series of AAC&U rubrics and was able to identify among them a set of dimensions that do capture all Inquiry ARC components. Combining dimensions from several AAC&U rubrics allowed the team to create a unique rubric that dovetails directly with Inquiry ARC experiences. One advantage of the Inquiry ARC rubric is that it will provide the University with specific data on the success of each Inquiry ARC component; these data, therefore, will be used as a direct measure of students’ critical thinking in the context of Inquiry ARC experiences. See Appendix F for the full rubric in draft form—it will undergo further editing by the educators who will pilot the QEP.

<table>
<thead>
<tr>
<th>Inquiry ARC COMPONENTS</th>
<th>RUBRIC</th>
<th>DIMENSIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inquire</td>
<td>AAC&amp;U Inquiry and Analysis Rubric</td>
<td>Topic selection</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Existing Knowledge, Research, and/or Views</td>
</tr>
<tr>
<td>Apply</td>
<td>AAC&amp;U Inquiry and Analysis Rubric</td>
<td>Design Process</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analysis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conclusions</td>
</tr>
<tr>
<td>Reflect</td>
<td>AAC&amp;U Lifelong Learning Rubric</td>
<td>Transfer</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reflection</td>
</tr>
<tr>
<td>Communicate</td>
<td>AAC&amp;U Civic Engagement Rubric</td>
<td>Civic Contexts/ Structures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Civic Communication</td>
</tr>
</tbody>
</table>
Along with the skills needed to think critically, it is vital that students develop the disposition to use those intellectual skills. In the APA definition of critical thinking in the Delphi Report, it is clear that disposition is as important as skills. The definition includes words like "habitually inquisitive," "open-minded," "flexible," and "fair minded in evaluation." It concludes with the statement: "Thus educating good critical thinkers [...] combines development of critical thinking skills with nurturing those dispositions which consistently yield useful insights and which are the basis of a rational and democratic society." (Facione, 1990). Furthermore the AAC&U definition of critical thinking starts with the words "habit of mind" (Association of American Colleges and Universities, 2011) and the Paul-Elder model of critical thinking includes intellectual traits such as "fair mindedness," "perseverance," and "confidence in reasoning" (Paul & Elder, 1999).

Clearly, the disposition to think critically is viewed as important by critical thinking experts. While the Inquiry ARC rubric measures skills and abilities, the Leadership Team also wanted to measure the "willing" side of "willing and able to think," Taken together, assessments of these two outcomes will provide a more comprehensive view, showing the likelihood of UNC Asheville students to think critically when they leave the University and enter the workforce.

Disposition SLO-The critical thinker will demonstrate a habit of mind that involves:

1. Cognitive maturity;
2. Openness to new ideas;
3. Inquisitiveness;
4. Ability to anticipate potential consequences;
5. Persistence in seeking truth;
6. Systematic use of research processes;
7. Confidence in reason.

The team sought a standardized critical thinking assessment to apply in a long-term study of the effects of the University’s pedagogies on students’ critical thinking dispositions. After analyzing many CT tests for their costs and the time needed to administer them, the ease of accessing test results, and their overall suitability for UNC Asheville’s model, it became clear that the best critical thinking test for the program was the California Critical Thinking Disposition Inventory (CCTDI) by Insight Assessment (Insight Assessment, 2011). This test was designed to assess "personal attributes and attitudes of the ideal critical thinker" and was based on the Delphi Expert Consensus Definition of Critical Thinking (Facione & Facione, 2010).

The CCTDI aligns with the three definitions of critical thinking (APA, AAC&U, and Paul-Elder) that UNC Asheville used in identifying its own definition of critical thinking. The test can be administered online and will provide students with immediate feedback. It also allows for the addition of institution-designed questions and provides a measure of "time on test" so that evaluators can have a view into whether the students took the test seriously. Furthermore, the testing software will allow the Assessment Team to download raw data files so that analyses of the CCTDI data can be conducted in conjunction with institutional data on students.

Several independent research studies have shown that the CCTDI is sensitive to changes in critical thinking dispositions, particularly in the context of problem-based learning models such as the Inquiry ARC model. Ozturk, Muslu, and Dicle (2008) compared senior nursing students in Turkey who were in problem-based learning (PBL) courses versus those in traditional lecture courses. Their results showed that there was a significant difference between the groups on overall disposition scores as well as truth-seeking and open-mindedness subscores. A longitudinal study of nursing students in Hong Kong (Tiwari et al., 2006) showed that, although students were not significantly different before entering the nursing program, those who took a two-semester problem-based learning course had a significantly higher increase in critical thinking disposition scores as well as truth-seeking, analytical, and confidence in reasoning subscores at the end of the year. The students took the same classes after the first year; neither group completed problem-based learning courses after the first year. At the end of
In the second year, the PBL group still had higher overall disposition scores and truth and analytical subscores. At the end of the four-year program, there were significant differences between the PBL group and the control group on truth-seeking and systematic subscores.

Similar results have been obtained from a sample of high school students in Israel. Barak, Ben-Chaim, & Zoller (2007) compared high school science students exposed to intentional critical thinking pedagogies using real-world problems to control groups in science and non-science disciplines. Students were tested at the beginning of 10th grade (pre-intervention), at the end of the year (post-test), and at the end of 12th grade (post-post-test). Results showed that students exposed to intentional pedagogies had higher scores on the post-test and showed significantly more improvement on disposition scores as well as truth-seeking, open-mindedness, confidence in reasoning and judicious subscores. However, further improvement did not occur between the post-test and the post-post-test. Taken together, these studies indicate that the CCTDI is an appropriate assessment for the type of pedagogy which will be introduced to UNC Asheville students.

Indirect Assessment of Student Learning
Two indirect assessments of students were also selected. The Deep Learning Scale of the NSSE will be used to examine indirect measures of students' critical thinking skills. The Deep Learning Scale was created by three researchers from the Indiana University Center for Postsecondary Research who combined 12 items from the National Survey of Student Engagement (NSSE) which appeared to be related to deep learning. A series of factor analysis studies indicated that the items of the Deep Learning Scale clustered into three types of learning: Higher Order Learning, Integrative Learning, and Reflective Learning. The Deep Learning Scale and Subscales show good internal consistency and good relationships with other measures of deep learning (Laird, Shoup, & Kuh, 2005). The NSSE items which comprise the Deep Learning Scale are:

Higher-Order Learning Items
Analyzed the basic elements of an idea, experience, or theory, such as examining a particular case or situation in depth and considering its components;

Synthesized and organized ideas, information, or experiences into new, more complex interpretations and relationships;

Made judgments about the value of information, arguments, or methods, such as examining how others gathered and interpreted data and assessing the soundness of their conclusions;

Applied theories or concepts to practical problems or in new situations.

Integrative Learning Items
Worked on a paper or project that required integrating ideas or information from various sources;

Included diverse perspectives (different races, religions, genders, political beliefs, etc.) in class discussions or writing assignments;

Put together ideas or concepts from different courses when completing assignments or during class discussions;
Discussed ideas from readings or classes with educators outside of class;
Discussed ideas from readings or classes with others outside of class (students, family members, co-workers, etc.).

Reflective Learning Items
Examined the strengths and weaknesses of student's own views on a topic or issue;
Tried to better understand someone else's views by imagining how an issue looks from his or her perspective;
Learned something that changed the way the student understands an issue or concept.

The second indirect measure of student learning will be institutionally designed questions that are added to the CCTDI. These will be self-reported statements about students' perceived growth in various aspects of critical thinking as a result of participating in Inquiry ARC experiences:
1. Ability to clearly identify problems, questions, or issues;
2. Ability to collect and organize information;
3. Ability to consider the influence of context and assumptions;
4. Ability to draw logical conclusions;
5. Ability to analyze and evaluate ideas, texts, and arguments.

Assessment of Operational Goals
Determining the success of the Inquiry ARC experience requires an examination of the professional development activities and subsequent course activities during the initial years of implementation. Course materials will be collected as part of the effort to evaluate the program. These data will not be used to evaluate individual educators or departments.

To organize this evaluative process, the University has identified two operational goals and corresponding assessment methods. Results of these assessments will help determine if professional development needs to be enhanced.

Operational Goal #1 - Educators will improve their critical thinking pedagogy

A rubric (Appendix G) has been drafted to assess educator materials for infusion of critical thinking pedagogies and appropriate use of the Inquiry ARC experience. The purpose is to evaluate syllabi and other instructional materials that educators leading Inquiry ARC courses will be required to submit. This rubric is currently in draft form because it will undergo further editing by the educators who will pilot the QEP. An Inquiry ARC survey will also be designed to get educator feedback on feelings of competence in teaching critical thinking skills. It was particularly important to the UNC Asheville community that critical thinking become institutionalized. Members of the University want the institution to undergo a transformative experience; they greatly value the work of enhancing critical thinking.

Operational Goal #2 - Critical thinking will become an integral part of UNC Asheville course-based offerings.

In order to assess the extent to which critical thinking becomes an integral part of UNC Asheville course-based offerings, multiple measures have been selected:
Number of workshops, learning circles, and other professional development opportunities offered on campus that focus on critical thinking;
Attendance at workshops, learning circles, and other professional development opportunities that focus on critical thinking;
Number of Inquiry ARC courses offered across departments;
Number of majors with critical thinking as a learning outcome;
Number of students taking one or more Inquiry ARC courses;
Number of educators teaching one or more Inquiry ARC courses.

In addition, questions will be included on an Inquiry ARC survey which will assess the extent to which
educators feel that critical thinking is a priority for UNCAAsheville. Finally, a similar set of questions will be included in a student survey to assess the extent to which students feel that critical thinking is a priority for UNC Asheville.

The Assessment Paradigm: Administration of Assessment Tools

California Critical Thinking Disposition Inventory

Each year, UNCAAsheville has approximately 900 incoming students. Approximately 600 are freshmen and 300 are transfers. In Year 1 of the QEP, the CCTDI will be used with incoming freshmen and transfer students, providing information regarding the level of critical thinking dispositions in entering students. In Year 3, the CCTDI will be used with all entering students and students taking non-LSIC Inquiry ARC courses that have not taken the test previously.

In Year 2 of the QEP, graduating seniors will take the CCTDI, providing a baseline for the senior students' level of critical thinking disposition. In Years 4 and 5, graduating seniors will take the CCTDI, revealing the effects of Inquiry ARC projects over time. In particular the team will be able to compare graduates with and without Inquiry ARC experiences and, by comparing senior data to data from incoming students, see the "value added" effects of Inquiry ARC experiences on critical thinking dispositions. By tracking the number of Inquiry ARC courses taken, the impact of the multiple experiences may be determined.

Inquiry ARC Rubric

All students who participate in Inquiry ARC experiences will produce a product. This product will be evaluated by the educator using the Inquiry ARC rubric (Appendix F) at the end of each experience. These data will be stored in TracDat, the University’s assessment management system, in order to make comparisons over time. For example, the University will be able to assess whether students' scores on the rubric improve with their second and third experiences.

Deep Learning Scale

The NSSE is administered to freshmen and senior students every three years at UNCAAsheville. The Office of Institutional Research will calculate student scores on the Deep Learning Scale from the NSSE data file.

Use of Results

The assessment team will be comprised of the Institutional Effectiveness Director, the Director of Academic Assessment, a representative from Institutional Research, and selected educators. This team will meet regularly to review and interpret assessment results. They will provide suggestions to the QEP Director and QEP Advisory Committee for improvements in professional development, the Inquiry ARC experience, and assessment methods. A quarterly newsletter will be produced to update the campus on the progress of the QEP, report its assessment results, and highlight notable student projects.

Each year, UNCAAsheville will hold a QEP Assessment Day, at which time educators who teach Inquiry ARC courses will meet with the assessment team to discuss the assessment results from the year. In addition to discussing assessment results and possible changes needed, the QEP Professional Development Team will provide training for those who feel they need additional help using the assessment tools. Results of these discussions will be entered into TracDat.
7 Leadership Structure

Quality Enhancement Plan Implementation Responsibilities
Coordination of QEP activities will be shared between the QEP Director and the Institutional Effectiveness Director (IE Director), both of whom report to the Provost. The Provost serves as UNC Asheville’s SACS liaison. The QEP Director will supervise all aspects of QEP implementation, whereas the IE Director will supervise all aspects of QEP assessment. The IE Director will be adding this duty to her current job description. The QEP Director will be a faculty member who will receive course release time to oversee the implementation of the University’s Quality Enhancement Plan (four courses reassigned per academic year).

A QEP Advisory Committee will provide guidance and support and serve in an advisory capacity to the QEP Director and the IE Director. They will:

- Offer direction, guidance, and support to the QEP Director and the Institutional Effectiveness (IE) Director as the QEP implementation unfolds;
- Approve major changes in the Inquiry ARC Implementation and Assessment Plans;
- Offer direction to the QEP Director and the IE Director on assessment, critical thinking pedagogy, engaged learning and scholarship, professional development, information technology, marketing, etc. as needed;
- Advise the QEP Director and IE Director on matters with which they need assistance;
- Help promote Inquiry ARC to campus members.

The Advisory Committee will be comprised of faculty, staff, and student members. Broad representation will include the Undergraduate Research Program, the Key Center for Service Learning, and the Office of Institutional Effectiveness.
Learning, and Student Affairs, as well as the three program areas (Humanities, Social Sciences, Natural Sciences). Additional individuals may serve on the QEP Advisory Committee when specific skills sets are needed for QEP implementation (e.g., assessment, critical thinking, engaged learning and scholarship, professional development, information technology, marketing, etc). Beginning in Fall 2012, this committee will replace the QEP Leadership Team and, pending Faculty Senate approval, will become a standing committee. The proposal to establish the QEP Advisory Committee was sent to Faculty Senate in November 2011 and is pending approval.

Some of the members in the QEP Advisory Committee will also serve on one of two teams, Professional Development or Assessment. The Professional Development Team will receive direction primarily from the QEP Director and will work with the Director of the Center for Teaching and Learning and with UNC Asheville faculty to provide QEP-related professional development. This team will provide professional development for educators in critical thinking pedagogy, skills training in Inquiry ARC experiences, and use of assessment tools and protocols.

The Assessment Team will receive direction and support from the Institutional Effectiveness Director. This team will be composed of the Director of Academic Assessment, a staff member from Institutional Research, and selected educators. Members will facilitate the collection of assessment data, help with data analysis, and troubleshoot on assessment-related issues. Insights from this team will help the QEP Director, the Institutional Effectiveness Director, and the Advisory Committee make decisions about using the data to improve and expand the University’s Quality Enhancement Plan. In addition, one or more members of the Assessment Team will interface with the Professional Development Team to provide training on the use of the assessment tools and methods.

The Administrative Assistant will support the QEP and Institutional Effectiveness Directors in carrying out administrative needs for these positions (one-quarter time). The Assistant will need to have broad familiarity with the process, programs, and personnel of the University.

Educators involved in delivering the critical thinking pedagogy, mentoring Inquiry ARC experiences, and assessing the effects of these opportunities will directly and indirectly interface with the QEP leadership. Educators will be trained via opportunities planned and implemented by the QEP Professional Development Team and will learn about and use assessment tools and methodologies designed and implemented by the QEP Assessment Team. In addition, they will forward the data they collect to the Assessment Team for analysis and reporting.
A draft budget was created in the summer of 2011. Consideration was given to every aspect of the plan as well as the associated costs in order to ensure the QEP would be economically sustainable. The QEP Leadership Team, Institutional Development Committee, SACS Working Group, SACS Executive Committee, and University Planning Council were all given the opportunity to review and provide feedback on the draft budget during the Fall 2011 semester.

For a plan to succeed in creating a transformational learning experience, it must have the support of institutional leadership. After providing suggestions on the improvement of the budget, the Faculty Senate endorsed the QEP and its budget in October 2011. In November 2011, the Senior Staff endorsed the plan and its budget without any request for modification, and the Board of Trustees added their endorsement of the QEP and its budget in December 2011.

The summary budget (above) represents UNC Asheville’s commitment to the Inquiry ARC and the University’s capacity to successfully implement the plan. Approximately $110,000 per year for five years has been set aside to fund the Inquiry ARC.

The budget shown in this document is organized by components of the plan rather than a traditional line item budget. This is to facilitate discussions of the plan and an understanding of each component’s cost. Prior to implementation, the detailed costs in these items will be mapped into the UNC Asheville budget system and categorized appropriately (e.g., state funds, non-state funds).
Program Director-The Director will be a full time faculty member who will receive four courses of reassigned time each academic year in order to provide the time necessary to guide implementation of the plan. Funds in this category include the cost of adjuncts to compensate for the reassigned time during the academic year and, since faculty are on nine-month contracts, a stipend is included for the work the Director will do in the summer. Also included are funds for the Director to travel to SACS and other meetings.

Assessment-The California Critical Thinking Disposition Inventory (CCTDI) for new students and graduating students is included here as well as stipends for educators who decide to continue offering Inquiry ARC courses. Entering students will take the CCTDI every other year to establish a baseline. Graduating students will take the CCTDI in Year 2 to establish a baseline for senior performance. In Years 4 and 5, graduating students will take the test to assess if growth in critical thinking dispositions has occurred. The educator stipend is to recognize the work associated with continued participation, including assessment, data analysis and sharing of assessment results. These funds are available one time to each educator.

Other Wages & Stipends-These funds include a part time administrative assistant and student workers to help implement the plan and assist the Director with administrative duties. Also included are stipends for faculty or staff who participate in professional development, offer Inquiry ARC experiences and participate in assessment of the projects. These stipends recognize the extra work asked of the educators and are available one time per educator. Approximately 10 educators will receive these in Year 1 and each will be in the amount of $1,500. In Year 2 and beyond, the stipend will be $1,000 and will be received by approximately 20 educators per year. The stipend in Year 1 is larger because of the larger commitment these educators will make in piloting the plan and helping to identify areas for improvement in the Inquiry ARC and professional development.

Professional Development-These funds include money for faculty or staff to attend critical thinking conferences, critical thinking books for "learning circles," stipends for UNC Asheville faculty who design and deliver professional development in the areas of Inquiry ARC, critical thinking and assessment, and money to bring critical thinking experts to campus for additional training opportunities.

Marketing-After suggestions by the Faculty Senate and meetings with campus Communications and Marketing, the QEP Leadership Team identified creative and cost-effective ways to market the QEP. Some of the strategies include informational brochures for current and prospective students, banners, bookmarks, student produced videos, posters with OR codes, and articles in the student newspaper.

Recognition-Funds in this category include grants to assist students in completion of Inquiry ARC projects, awards for exceptional projects, and travel funds so that students can present their projects at conferences.

Office Supplies and Event Refreshments-Funds in this category include office supplies and refreshments for events such as professional development and other meetings.
UNC Asheville identified a topic and designed a plan for quality enhancement through broad-based involvement and careful consideration of data, in the context of the University’s Student Learning Outcomes, Strategic Plan, and mission. The QEP’s focus on critical thinking and the Inquiry ARC student experience framework have the potential to benefit students far beyond their time on this campus. Students who internalize solid critical thinking skills will find that those skills are not only fundamental to success in academic environments, but also to citizen success in any environment which requires decisions to be made: in the workplace, the military, government, or family life. Students who learn to recognize logical flaws in an academic situation will be more likely to detect them in their lives following graduation. Their Inquiry ARC experiences will promote analysis, application, communication, and critical reflection, traits valuable in resolving real-world problems. In all these ways, the intentional critical thinking pedagogy planned in UNC Asheville’s Quality Enhancement Plan will equip students well to make thoughtful judgments as responsible, engaged members of their communities.


References


References


Payette, Patricia, LaRue, Sharon, & Newton, Karen. (2009). Implementing your institution's critical thinking initiative: Strategies for administrators, faculty, and staff. 29th International Conference on Critical Thinking.


References


QEP Leadership Team members

Mary Lynn Manns, Chair
Amy Lanou, Assistant Chair
Renee Bindewald, Student Government Association representative
Gok Cheng, Technology consultant
Evelyn Chiang, Survey design and analysis consultant
Jeff Foreman, Student marketing/promotion
Chris Godfrey, Professional development
Archer Gravely, Institutional Research
Debbie Griffith, Communication & Marketing
Melissa Himelein, Center for Teaching & Learning representative
Whitney King, Student assistant
Deborah Miles, World Cafe facilitator
Karin Peterson, Data categorization and structuring
Susan Reiser, Research
Lorena Russell, Professional development
Faith Sumpter, Student Affairs representative
Barb Svenson, Data categorization and structuring
Sandi Taylor, Asheville community representative
Deaver Traywick, Writing Center advisor
Scott Valters, Electronic communication & Humanities representative for student experience model
Sally Vasileski, Natural Science representative for student experience model

Assessment Liaisons: Lisa Friedenberg, Jessica Dunsmore
QEP Time Line - Phase 1

Aug. 23–Sept. 6, 2010
Solicit ideas for BROAD AREA
(Faculty, Staff)
Online Survey

Sept. 7–30, 2010
Narrow survey results for BROAD AREA
(QEP Leadership Team)
(SACS Executive Committee)

Sept. 30, 2010
QEP BROAD AREA is consistent with who we are and what we do

Oct.–Nov., 2010
Solicit ideas for TOPIC
(Faculty, Staff)
World Cafe Surveys

Narrow ideas to one TOPIC
(QEP Leadership Team)
(SACS Executive Committee)

Jan. 31, 2011
QEP TOPIC is a narrow area that is measurable and assessable

Strategic Plan, Mission, Student Learning Outcomes (SLOs)
Faculty, Staff, Student, Community Input (2006/07)

QEP BROAD AREA:
- Mission
- SLOs
- Online Survey Results

TOPIC:
- World Cafe Surveys
- SLOs, Assessment data
QEP Time Line - Phase 2

Feb.–May 2011
Outline the PLAN for implementing the TOPIC
Focus Groups
(QEP Leadership Team)

May 15, 2011
QEP PLAN OUTLINE
doable and assessable with projected budget

Summer 2011
Write QEP DOCUMENT

Sept.–Nov. 2011
Acquire feedback from campus
Revised QEP FINAL DOCUMENT
(Revised QEP Leadership Team)

Nov.–Dec. 2011
Acquire endorsement of plan
Faculty Senate, Senior Staff, Board of Trustees

Jan. 30, 2012
QEP FINAL DOCUMENT

-------------------
Assessment data as it relates to:
SL0#1 Strategic Plan:
Undergraduate Education
Engaged Learning
Appendices

Inquiry ARC  •  UNC Asheville

September 29, 2010

Report on QEP “Broad Area” Survey:
SUMMARY OF FINDINGS AND IDENTIFICATION OF BROAD AREA

According to the Southern Association of Colleges and Schools (SACS), the Quality Enhancement Plan (QEP) describes a carefully designed course of action that addresses a well-defined and focused topic or issue related to enhancing student learning.

The first step in defining the focused topic for UNC Asheville’s QEP is to identify the broad area. To do this, an online survey was distributed to faculty, staff and students during August 23 through September 6, 2010.

A total of 1,643 individuals responded to the survey, distributed as follows:
- 166 (77%) of the 217 faculty
- 140 (32%) of the 442 staff
- 1,337 (36%) of the 3,742 students

The survey items were based on the following:

Six Student Learning Outcomes (http://sacs.unca.edu/student-learning-outcomes)

Nine themes in the Strategic Plan (http://www2.unca.edu/sp)

The Student Learning Outcome that was selected most frequently was:

SLO #1: Students develop skills in critical thinking, clear and thoughtful communication, creative expression, and honest open inquiry.

  45% of the survey respondents selected SLO #1 as the first choice, distributed as follows: 50% of the faculty, 59% of the staff, 43% of the students.

  22% of the survey respondents selected SLO #1 as the second choice.

The top three reasons for making this selection were:
Topic that directly enhances student learning
Topic that is important to our community
Topic that is important to our university
The Strategic Plan theme that was selected most frequently was:

**Undergraduate Education:** Provide excellence in public liberal arts emphasizing interdisciplinary learning and faculty-student mentoring.

30% of the survey respondents selected this item as the first choice, distributed as follows: 43% of the faculty, 34% of the staff, 27% of the students

12% of the survey respondents selected this item as the second choice

The top three reasons for making this selection were:
- Topic that directly enhances student learning
- Topic that is important to our university
- Topic that is important to our community

It is also worth noting that among those who selected SLO #1 as the first choice, 37% selected Strategic Plan Theme "Undergraduate Education" as the first choice. Similarly, among those who selected Strategic Plan Theme "Undergraduate Education" as the first choice, 56% selected SLO #1 as the first choice.

Three different groups (the *SACS Working Group*, the *QEP Leadership Team*, and the *SACS Executive Committee*) met to draft the broad area from the SLO and the strategic plan theme that surfaced to the top:

SLO #1: Students develop skills in critical thinking, clear and thoughtful communication, creative expression, and honest open inquiry.

Strategic Plan: Undergraduate Education: Provide excellence in public liberal arts emphasizing interdisciplinary learning and faculty-student mentoring.

Undergraduate Education:
- Serve as the standard of excellence for public liberal arts undergraduate education, emphasizing interdisciplinary learning and exceptional faculty-student mentoring

The following broad area represents the effort of the three groups to unify SLO #1 and undergraduate education strategic plan theme into one summary phrase:

**Undergraduate experiences** that foster the use of open inquiry, critical thinking, creative expression, and effective communication

12% of the survey participants wrote comments. These comments are being categorized into themes, which will be used by the campus as we move forward to identify the topic for our QEP.

Now that the broad area has been identified, the campus will have the opportunity to provide input for the specific QEP topic within this area. Watch the QEP web site, and your email, for a list of these opportunities during October and November 2010.

For more information on UNC Asheville's QEP: [http://sacs.unca.edu/qep](http://sacs.unca.edu/qep)
Appendices

Appendix C (3 of 4)

Inquiry ARC • UNC Asheville

January 12, 2011

Report on QEP Survey #3 (Topic Category Selection):
SUMMARY OF FINDINGS and IDENTIFICATION of TOPIC CATEGORY

According to the Southern Association of Colleges and Schools (SACS), the Quality Enhancement Plan (QEP) describes a carefully designed course of action that addresses a well-defined and focused topic or issue related to enhancing student learning.

The first step in identifying the topic was the broad area survey (survey #1). Following the identification of the broad area for our QEP, all faculty, staff, and students were invited to submit project ideas in that area (survey #2). A data categorization subcommittee of the QEP Leadership Team read all the ideas and categorized them into seven topic categories as follows:

1) Advising and Tutoring: Projects in this category called for additional academic support outside of the classroom.

2) Engaged Learning: Projects in this category link the university to wider communities and engage students in the world beyond themselves.

3) Enhancing Creative Expression: Projects in this category called for non-traditional learning experiences to increase creativity across the curriculum.

4) Foundations in Learning: Projects in this category suggested incorporating various core components of learning for students and faculty.

5) Global and Cultural Understanding: Projects in this category focused on opportunities that allow us to learn across differences in race, gender, sexual orientation, socioeconomic backgrounds, language, ethnicity, spiritual beliefs, political views, abilities, location/place, etc.

6) Social, Economic and Environmental Sustainability: Projects in this category suggested implementing a sustainability theme across the curriculum.

7) Students as Makers of Knowledge: Projects in this category encouraged students to actively participate in creating, not just consuming, knowledge.

In early December, the faculty, staff, students, and alumni had the opportunity to vote on the topic category. The results of this survey #3 are reported here.

A total of 975 individuals responded to the survey, distributed as follows:
- 107 (48%) of the 222 full-time faculty and 2 (2.3%) of the 86 adjunct faculty
- 88 (20%) of the 439 staff
- 761 (20%) of the 3,759 students
- 6 (33%) of the 18 Alumni Council members (and 11 additional alumni)
The data categorization subcommittee of the QEP Leadership Team analyzed the survey results and prepared observations and recommendations that were approved by the SACS Working Group on 12114110, approved by the SACS Executive Committee on 12114110, and presented to the QEP Leadership Team on 12117110.

Observations:

Engaged Learning was a top choice across the board. It was #1 choice among students, staff, and alumni. Among faculty, it was included in a close ranking for the top choice, as follows:

- Foundations of Learning: 18.8%
- Global & Cultural Understanding: 18.5%
- Students as Makers of Knowledge: 16.4%
- Engaged Learning: 15.7%

The following "bookends" were noted:

- Foundations of Learning tied for the #1 choice, with a narrow margin, among faculty. However, it was in last place for students.
- Advising & Tutoring was #2 among students. However, it was in last place for faculty.

Among faculty, Global & Cultural Understanding roughly tied for the first choice (see above). It also scored highly across the board.

Recommendations:

(1) Expand Engaged Learning to include Makers of Knowledge for the following reasons:

   a) These two categories had a close vote among the faculty (51 and 53 votes)

   b) It can be argued that Makers of Knowledge (in a broad interpretation as "undergraduate research") is a form of Engaged Learning

   c) In survey #2, there were many projects that fell into both of these categories

(2) It appears that the community is asking for an engaged learning project that allows students to be makers of knowledge. The survey results also suggest prioritizing projects that have a Global & Cultural Understanding focus.

The QEP Leadership has begun to work with these recommendations in order to define the terms, narrow the project, and build the QEP plan. Members of the UNC Asheville community are encouraged to contribute—watch the QEP website and email for upcoming opportunities.

For more information on UNC Asheville’s QEP: http://sacs.unca.edu/qep
### Appendix D -- Critical Thinking Skills and Dispositions

#### I. Critical Thinking Skills

<table>
<thead>
<tr>
<th>Glaser</th>
<th>Fischer</th>
<th>American Philosophy Assoc. (cognitive skills and sub-skills)</th>
<th>American Psychology Association</th>
<th>Educational Testing Service (Academic Profile)</th>
<th>National Council for Excellence in CT</th>
<th>Paul-Elder (elements revised to be skills)</th>
</tr>
</thead>
<tbody>
<tr>
<td>recognize problems</td>
<td>identify the elements in a reasoned case, especially reasons and conclusions</td>
<td>interpret</td>
<td>categorization</td>
<td>evaluate the quality of information, including differentiating empirical evidence from speculation and the probable from the improbable</td>
<td>take charge of the structures inherent in thinking and imposing intellectual standards upon them</td>
<td>identify the purpose or goal of thinking</td>
</tr>
<tr>
<td>find workable means for meeting those problems</td>
<td>identify and evaluate assumptions</td>
<td>distinguish between rational claims and emotional ones</td>
<td>decoding significance</td>
<td>identify and evaluate the source, context, and credibility of behavioral claims</td>
<td>raise vital questions and problems, formulating them clearly and precisely</td>
<td>clarify the question at hand</td>
</tr>
<tr>
<td>gather and marshall pertinent information</td>
<td>clarify and interpret expressions and ideas</td>
<td>recognize the components which are related in statements</td>
<td>clarifying meaning</td>
<td>challenge claims that arise from myth, stereotype, or untested assumptions</td>
<td>determine the relevance of information for evaluating an argument or conclusion</td>
<td>acquire information</td>
</tr>
<tr>
<td>recognize unstated assumptions and values</td>
<td>judge the acceptability, especially the credibility, of claims</td>
<td>recognize types of claim in arguments</td>
<td>analyzing ideas</td>
<td>use scientific principles and evidence to resolve conflicting claims</td>
<td>determine whether an artistic interpretation is supported by evidence contained in work</td>
<td>identify one's assumptions about the concepts</td>
</tr>
<tr>
<td>comprehend and use language with accuracy, clarity and discrimination</td>
<td>evaluate arguments of different kinds</td>
<td>identify arguments (source statement) offered in justification</td>
<td>identifying arguments</td>
<td>recognize and defend against common fallacies in thinking</td>
<td>recognize salient features or themes in a work of art</td>
<td>acknowledge the point of view within which the problem is being framed</td>
</tr>
<tr>
<td>Glaser</td>
<td>Fischer</td>
<td>Collegiate Learning Assessment</td>
<td>Allen, Feezel, and Kauffie (skills are limited to constructing and analyzing arguments)</td>
<td>American Philosophy Assoc. (cognitive skills and sub-skills)</td>
<td>American Psychology Association</td>
<td>Educational Testing Service (Academic Profile)</td>
</tr>
<tr>
<td>----------------</td>
<td>------------------</td>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>-------------------------------------------------</td>
<td>---------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>interpret data</td>
<td>analyze, evaluate and produce explanations</td>
<td>present his /her own analysis of the data or information</td>
<td>appraise testimony in terms of internal and external criteria</td>
<td>analyzing arguments</td>
<td>avoid being swayed by appeals to emotion or authority</td>
<td>evaluate the appropriateness of procedures for investigating a question of causation</td>
</tr>
<tr>
<td>appraise evidence and evaluate statements</td>
<td>analyze, evaluate and make decisions</td>
<td>recognize logical flaws in arguments</td>
<td>recognize reasons offered as justification; classify reasons by argumentative function; detect arguments in which relational statements are suppressed</td>
<td>evaluate arguments of different kinds</td>
<td>assessing claims</td>
<td>evaluate popular media reports of psychological research</td>
</tr>
<tr>
<td>recognize the existence of logical relationships between propositions</td>
<td>draw inferences</td>
<td>draw connections between discrete sources of data and information</td>
<td>recognize various patterns of reasoning; supply appropriate warrants to relate data to claim; appraise reasons according to relevant rules of inference</td>
<td>assessing arguments</td>
<td>demonstrate an attitude of critical thinking that includes persistence, open-mindedness, tolerance for ambiguity, and intellectual engagement</td>
<td>recognize flaws or inconsistencies in an argument</td>
</tr>
<tr>
<td>to draw warranted conclusions and generalizations</td>
<td>produce arguments</td>
<td>attend to contradictory, inadequate, or ambiguous information</td>
<td>recognize the degree of acceptability of a claim as determined by the various elements in an argument</td>
<td>infer</td>
<td>querying evidence</td>
<td>make linkages or connections between diverse facts, theories, and observations</td>
</tr>
<tr>
<td>to put to test the generalizations and conclusions at which one arrives</td>
<td>construct cogent arguments rooted in data rather than opinion</td>
<td>analyze the functions of statements in complexes of interrelated arguments</td>
<td>conjecturing alternatives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to reconstruct one's pattern of beliefs on the basis of wider experience</td>
<td>select the strongest set of supporting data</td>
<td>detect irrelevance in argument in the form of dissuasions and diversions.</td>
<td>drawing conclusions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>to render accurate judgements about specific things and qualities in everyday life</td>
<td>avoid overstated conclusions</td>
<td>detect misuses of language in argument</td>
<td>explain</td>
<td>stating results</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glaser</td>
<td>Fischer</td>
<td>Collegiate Learning Assessment</td>
<td>Allen, Feezel, and Kauflie (skills are limited to constructing and analyzing arguments)</td>
<td>American Philosophy Assoc. (cognitive skills and sub-skills)</td>
<td>American Psychology Association</td>
<td>Educational Testing Service (Academic Profile)</td>
</tr>
<tr>
<td>-------------</td>
<td>---------</td>
<td>--------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------</td>
<td>---------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>identify holes in the evidence and suggest additional information to collect</td>
<td>justifying procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>recognize that a problem may have no clear answer or single solution</td>
<td>representing arguments</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>propose other options and weigh them in the decision</td>
<td>self-regulate</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>consider all stakeholders or affected parties in suggesting a course of action</td>
<td>self-correction</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>articulate the argument and the context for that argument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>correctly and precisely use evidence to defend the argument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>logically and cohesively organize the argument</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>avoid extraneous elements in an argument's development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>present evidence in an order that contributes to a persuasive argument</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Appendix E: Assessment Plan

<table>
<thead>
<tr>
<th>Learning Outcomes</th>
<th>Assessment Method</th>
<th>Proposed Timetable/location</th>
<th>Responsible Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>The critical thinker will demonstrate an ability to engage in comprehensive exploration of issues, ideas, artifacts or events, explain the evidential, conceptual, methodological, or contextual basis for the project, and complete the project in a way that cultivates valuable intellectual traits such as intellectual courage, intellectual empathy, and intellectual humility.</td>
<td>Inquiry ARC Rubric</td>
<td>At the end of each <em>Inquiry ARC</em> experience</td>
<td>Educators who conduct <em>Inquiry ARC</em> experiences</td>
</tr>
<tr>
<td>holds that the critical thinker’s pursuit of truth is a lifelong endeavor.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Deep Learning Scale</td>
<td>Testing freshmen and seniors every three years.</td>
<td>Institutional Research</td>
</tr>
<tr>
<td></td>
<td>UNC Asheville questions added to the California Critical Thinking Disposition Inventory</td>
<td>Testing entering students and graduating students in alternate years starting in year one.</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td>The critical thinker will demonstrate a habit of mind that involves cognitive maturity, openness to new ideas, inquisitiveness, ability to anticipate potential consequences, persistence in seeking truth, a systematic way of seeking information, and confidence in reason.</td>
<td>California Critical Thinking Disposition Inventory (CCTDI)</td>
<td>Testing entering students and graduating students in alternate years starting in year one.</td>
<td>QEP assessment team</td>
</tr>
</tbody>
</table>

### Operational Outcomes

<table>
<thead>
<tr>
<th>Educational Outcomes</th>
<th>Assessment Method</th>
<th>Proposed Timetable/location</th>
<th>Responsible Individuals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Educators improve their critical thinking pedagogy</td>
<td>Review of educator instructional materials via a rubric</td>
<td>At the end of each semester</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Self-rating of competence in teaching critical thinking skills via educator survey</td>
<td>At the end of each semester</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td>Critical thinking has become an integral part of UNC Asheville course based offerings.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Number of internal Critical Thinking Workshops offered and attendance at each one</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Number of majors with Critical Thinking as an outcome</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Number of Inquiry ARC courses offered across departments</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Number of students taking one or more Inquiry ARC courses</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Number of educators teaching one or more Inquiry ARC courses</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Number of educators reporting CT as a priority for UNC Asheville on faculty-staff survey</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td></td>
<td>Number of students reporting CT as a priority for UNC Asheville on survey</td>
<td>Annually</td>
<td>QEP assessment team</td>
</tr>
<tr>
<td>Inquiry Arc</td>
<td>Dimension</td>
<td>Capstone</td>
<td>Milestones</td>
</tr>
<tr>
<td>------------</td>
<td>-----------</td>
<td>----------</td>
<td>------------</td>
</tr>
<tr>
<td>Inquiry (from Inquiry and Analysis Rubric)</td>
<td>Topic selection (IA Rubric)</td>
<td>Identifies a creative, focused, and manageable topic that addresses potentially significant yet previously less-explored aspects of the topic.</td>
<td>Identifies a focused and manageable/doable topic that appropriately addresses relevant aspects of the topic.</td>
</tr>
<tr>
<td></td>
<td>Existing Knowledge, Research, and/or Views</td>
<td>Synthesizes in-depth information from relevant sources representing various points of view/approaches.</td>
<td>Presents in-depth information from relevant sources representing various points of view/approaches.</td>
</tr>
<tr>
<td>Apply (from Inquiry and Analysis Rubric)</td>
<td>Design Process</td>
<td>All elements of the methodology or theoretical framework are skillfully developed. Appropriate methodology or theoretical frameworks may be synthesized from across disciplines or from relevant</td>
<td>Critical elements of the methodology or theoretical framework are appropriately developed; however, more subtle elements are ignored or unaccounted for.</td>
</tr>
<tr>
<td></td>
<td>Analysis</td>
<td>Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to focus.</td>
<td>Organizes evidence to reveal important patterns, differences, or similarities related to focus.</td>
</tr>
<tr>
<td></td>
<td>Conclusions</td>
<td>States a conclusion that is a logical extrapolation from the inquiry findings.</td>
<td>States a conclusion focused solely on the inquiry findings.</td>
</tr>
<tr>
<td>Reflect (from Lifelong Learning Rubric)</td>
<td>Transfer</td>
<td>Makes explicit references to previous learning and, in an innovative (new and creative) way, applies that knowledge and those skills to demonstrate comprehension and performance in novel situations.</td>
<td>Makes references to previous learning and attempts to apply that knowledge and those skills to demonstrate comprehension and performance in novel situations.</td>
</tr>
<tr>
<td></td>
<td>Reflection</td>
<td>Heuristics prior learning (past experiences inside and outside of the classroom) in depth to reveal significantly changed perspectives about educational and life experiences, which provide foundation for expanded knowledge, growth, and maturity</td>
<td>Heuristics prior learning (past experiences inside and outside of the classroom) in depth, revealing fully clarified meanings or indicating broader perspectives about educational or life events.</td>
</tr>
<tr>
<td>Communicate (from Civic Engagement Rubric)</td>
<td>Civic Contexts/Structures</td>
<td>Demonstrates ability and commitment to collaboratively work across and within community contexts and structures to achieve a civic aim.</td>
<td>Demonstrates ability and commitment to work actively within community contexts and structures to achieve a civic aim.</td>
</tr>
<tr>
<td></td>
<td>Civic Communication</td>
<td>Tailors communication strategies to effectively express, listen, and adapt to others to establish relationships to further civic action.</td>
<td>Effectively communicates in civic context, showing ability to do all of the following: express, listen, and adapt ideas and messages based on others’ perspectives.</td>
</tr>
</tbody>
</table>
# Appendix G - DRAFT Assessment of Educator Materials

<table>
<thead>
<tr>
<th>Category</th>
<th>Baseline</th>
<th>Effective</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Learner support and resources</strong></td>
<td>Course contains limited resources and support information for critical thinking</td>
<td>Course contains adequate resources and support information for critical thinking</td>
<td>Course contains extensive resources and support information for critical thinking</td>
</tr>
<tr>
<td><strong>Course organization and design</strong></td>
<td>Course syllabus identifies no or few components of the <em>Inquiry ARC</em> experience</td>
<td>Course syllabus identifies key components and structure of the <em>Inquiry ARC</em> experience</td>
<td>Course syllabus clearly identifies all components and structure of the <em>Inquiry ARC</em> experience</td>
</tr>
<tr>
<td><strong>Instructional design and delivery</strong></td>
<td>Course syllabus is unclear as to the role critical thinking will play in the course</td>
<td>Course syllabus identifies and delineates the role critical thinking will play in the course</td>
<td>Course syllabus clearly identifies and delineates the role critical thinking will play in the course</td>
</tr>
<tr>
<td><strong>The <em>Inquiry ARC</em> project is not clearly defined and does not align with learning outcomes</strong></td>
<td>The <em>Inquiry ARC</em> project is adequately defined but may not align to learning outcomes</td>
<td>The <em>Inquiry ARC</em> project is adequately defined and aligned to learning outcomes</td>
<td></td>
</tr>
<tr>
<td><strong>Critical thinking outcomes are vague or incomplete and learning activities are absent or unclear</strong></td>
<td>Critical thinking learning outcomes are identified and learning activities are implied</td>
<td>Critical thinking learning outcomes are identified and learning activities clearly integrated</td>
<td></td>
</tr>
<tr>
<td><strong>Course provides limited activities to help students develop critical thinking skills</strong></td>
<td>Course provides adequate activities to help students develop critical thinking skills</td>
<td>Course provides multiple, well-designed activities that help students develop critical thinking skills</td>
<td></td>
</tr>
<tr>
<td><strong>Instructor offers limited or no opportunities for students to reflect on their learning and provides no guidance in the reflection process</strong></td>
<td>Instructor offers adequate opportunities for students to reflect on their learning and provides some guidance on the reflection process</td>
<td>Instructor offers regular opportunities throughout the course for students to reflect on their learning and clearly guides them through the reflection process</td>
<td></td>
</tr>
<tr>
<td><strong>Course provides limited opportunities for students to demonstrate critical thinking skills</strong></td>
<td>Course provides adequate opportunities for students to demonstrate critical thinking skills</td>
<td>Course provides multiple, well-designed opportunities for students to demonstrate critical thinking skills</td>
<td></td>
</tr>
<tr>
<td><strong>Course has few activities to assess student readiness for critical thinking/<em>Inquiry ARC</em> experiences</strong></td>
<td>Course has adequate activities to assess student readiness for critical thinking/<em>Inquiry ARC</em> experiences</td>
<td>Course has multiple timely and appropriate activities to assess student readiness for critical thinking/<em>Inquiry ARC</em> experiences</td>
<td></td>
</tr>
<tr>
<td><strong>Critical thinking outcomes, instructional and assessment activities are not aligned</strong></td>
<td>Critical thinking outcomes, instructional and assessment activities are adequately aligned</td>
<td>Critical thinking outcomes, instructional and assessment activities are closely aligned</td>
<td></td>
</tr>
<tr>
<td><strong>Strategies to measure critical thinking knowledge, attitudes and skills are used in a limited way.</strong></td>
<td>Ongoing strategies are used to measure critical thinking knowledge, attitudes and skills</td>
<td>Ongoing multiple assessment strategies are used to measure critical thinking knowledge, attitudes and skills</td>
<td></td>
</tr>
<tr>
<td><strong>Opportunities for students to receive feedback about their critical thinking performance are infrequent and sporadic</strong></td>
<td>Opportunities for students to receive feedback about their critical thinking performance are provided</td>
<td>Regular feedback about student critical thinking performance is provided in a timely manner throughout the course</td>
<td></td>
</tr>
</tbody>
</table>