
L o n g w o o d U n i v e r s i t y

R.E.A.L.

IN  QUIRY

Research Experience for Aspiring Leaders

**QUALITY ENHANCEMENT PLAN
LONGWOOD UNIVERSITY**

Submitted to the Southern Association of Colleges and Schools
Commission on Colleges (SACSCOC)

February 3, 2014

Longwood University

R.E.A.L.

IN  QUIRY

Research Experience for Aspiring Leaders

Longwood University

March 18-20, 2014

W. Taylor Reveley IV

President

Ken Perkins

Provost and Vice President for Academic Affairs

SACSCOC Liaison

TABLE OF CONTENTS

I. Summary	1
II. Process Used to Develop the QEP	2
III. Identification of the Topic	10
IV. Desired Student Learning Outcomes	19
V. Literature Review and Best Practices.....	22
VI. Actions to be Implemented.....	34
VII. Timeline	48
VIII. Organizational Structure	53
IX. Resources.....	55
X. Assessment	59
XI. Appendices	67
Appendix A. Bibliography of Works Cited	67
Appendix B. Table of Figures	71
Appendix C. Members of QEP Topic Selection Committee	72
Appendix D. List of QEP Communications for Outreach and Input.....	73
Appendix E. QEP Topic Proposal Survey.....	76
Appendix F. Members of QEP Working Group.....	79
Appendix G. Position Description for Director of Student Research	80
Appendix H. Proposed Pre- and Post-Workshop Faculty Survey	81
Appendix I. Draft Critical Thinking Competency Rubric	83
Appendix J. Draft Information Literacy Competency Rubric.....	85
Appendix K. Draft Written Communication Competency Rubric	86
Appendix L. Draft Oral Communication Competency Rubric	87
Appendix M. Student Survey Pre- and Post-Specific Courses.....	88

I. SUMMARY

R.E.A.L. Inquiry: Research Experience for Aspiring Leaders, the undergraduate research initiative Longwood University has developed as its Quality Enhancement Plan (QEP), uses the development of research skills and the practice of research as a vehicle for improving students' critical thinking, information literacy, and communication skills.

Chosen as the QEP topic in an institution-wide process, student research is a key issue at Longwood University. It embodies the University's mission, advances institutional priorities reflected in the Academic Strategic Plan, responds to institutional assessment represented by the National Survey of Student Engagement and core competency testing, and corresponds to the competencies employers prize and our society needs.

The R.E.A.L. Inquiry initiative has three overarching goals; specific actions, consonant with the literature and sound practices in the field, will be implemented to promote each goal, as follows:

Goal 1. To improve students' learning by promoting their discovery of new knowledge through research.

- 1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses
- 1.2. Make available a faculty-guided summer undergraduate research program in all disciplines

Goal 2. To improve students' learning by facilitating student-faculty collaboration in research.

- 2.1. Establish Office of Student Research (OSR)
- 2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research
- 2.3. Use electronic portal, the "student research portal," to draw attention to possibilities for student research and completed student research, to track students' research skills development, and to assess core competencies addressed in the QEP

Goal 3. To improve students' learning by advancing an understanding of the importance of disseminating the results of research in academic and civic communities.

- 3.1. Link undergraduate research and community engagement
- 3.2. Provide grants for undergraduate research and/or presentations at conferences
- 3.3. Organize annual student research showcase day for Longwood students
- 3.4. Highlight senior honors research program and other student research on the student research portal

Resources in the form of funding, personnel, and space will be provided in support of the plan.

The initiative identifies both student learning outcomes and outcomes related to the environment for student learning that will be assessed over the course of the five-year plan.

II. PROCESS USED TO DEVELOP THE QEP

In developing its QEP, Longwood University initiated and completed an institutional process for identifying key issues emerging from institutional assessment. The development of the plan included the broad-based involvement of institutional constituencies.

The timeline in Figure 1 below summarizes key dates in the process. Elements of the process are described in the subsequent narrative.

Figure 1. Process Used to Develop the QEP

Process	Timeline
QEP Topic Selection Process	
Presentation to Faculty Senate of SACSCOC standards related to the QEP	Fall 2010
Invitation to faculty and staff to participate in QEP process	Spring 2011
Appointment of QEP Topic Selection Committee	August 2011
Review of institutional assessment data	Fall 2011
Meetings with constituencies	Fall 2011
Survey 1: QEP Ideas	November 2011
Survey 2: Evaluating Ideas	January 2012
Meetings, focus groups, newsletter and newspaper articles presenting four topic proposals	March and April 2012
Survey 3: QEP Topic Proposals	April 2012
Announcement of QEP topic	July 2012
QEP Planning Process	
Designation of QEP Working Group members	October 2012
Review of literature and best practices	Fall 2012 and Spring 2013
Investigation of ongoing undergraduate research activities	Fall 2012 and Spring 2013
Hosting of consultant and receipt of report	March and April 2013
Survey 4: Current Situation and Future Possibilities	March 2013
Drafting of QEP	Summer 2013
Posting of Student Research Initiative draft	August 2013
Meetings, focus groups, internal and external review, revising drafts, student naming contest, announcement of name	Fall 2013
Submission of QEP to SACSCOC and publicity campaign	Spring 2014

QEP Topic Selection Process

The development of Longwood University's QEP began in the fall of 2009, when the President appointed a QEP Director and a Director of SACSCOC Compliance for the Certification for reaffirmation. Following online reviews of processes and timelines QEP at other SACSCOC accredited institutions and meetings with the President, the Provost, and the SACSCOC Compliance Director, the QEP Director introduced the concept and SACSCOC expectations for a QEP to the Faculty Senate in November 2010. In the spring of 2011, the SACSCOC Compliance Director and the QEP Director sent out a joint email to faculty and staff detailing elements of compliance certification and developing the QEP. A survey asking for expressions of interest in various elements of the process accompanied the email. Based on responses to this survey and a commitment to include members from a broad range of university constituencies, the President appointed members of the QEP Topic Selection Committee in

August 2011. The committee included faculty members from different disciplines, staff members from various areas, and a student selected after consultation with the president of the Student Government Association (SGA). Several of the faculty and staff members were also alumni (Appendix C). The committee was charged with recommending at least two topics to the SACS Leadership Team, composed of the President, Provost, the Director of SACSCOC Compliance Certification, the Director of QEP, and a faculty member.

At its first meeting, in September 2011, the QEP Topic Selection Committee resolved to engage in a dual process: (1) reviewing institutional practices, assessment data, and aspirations to identify key student learning issues at Longwood and, simultaneously, (2) canvassing the Longwood University stakeholders to find out the needs of the community and to promote participation in the topic selection process. Both aspects of the process are detailed below.

Review of institutional assessment

An important part of the QEP topic selection process was to review university assessment data relating to “learning outcomes and/or the environment supporting student learning.” The committee considered recent results from:

- testing of State Council of Higher Education for Virginia (SCHEV) competencies in critical thinking, communication, quantitative and scientific reasoning, and information literacy;
- the National Survey of Student Engagement (NSSE);
- the Cooperative Institutional Research Program (CIRP) freshman survey;
- Longwood’s senior survey;
- a diversity survey conducted among students by the University Diversity Council; and
- Longwood’s alumni survey.

The committee also received information on:

- the First-Year Experience, including: Summer Orientation and Registration, “The 1839 Experience” (an opportunity for incoming students and their Peer Mentor to communicate during the summer prior to their first semester at Longwood), First-Year Reading Experience, New Lancer Days, and Longwood Seminar;
- the “Care Team” (representatives from Academic Affairs and Student Affairs who meet regularly to discuss and develop interventions for individual student behavior); and
- the PLUS program for conditional admission students.

In introducing the series of presentations from different offices and programs on campus, the QEP Director pointed out the section of the *SACSCOC Handbook for Institutions Seeking Reaffirmation* called “Sources of Inspiration,” which states that “an exploration of the institution’s culture, strategic planning, goals, mission, and assessment results is a good place to begin the search for an appropriate topic, one that links to the institution’s mission/vision and fits into the institution’s strategic plan. Tapping into issues centered on student learning where shared interests, concerns, and aspirations have already surfaced or where data have already been collected and analyzed may prove fruitful. The topic for the QEP need not be a brand new idea” (p. 43).

The following two presentations to the Topic Selection Committee led to further investigation of assessment data and contributed to the identification of the QEP topic:

- The Assistant Vice President for Student Affairs presented results of the NSSE for 2011. Benchmark mean-score comparisons were included in the categories of Level of Academic Challenge, Active and Collaborative Learning, Enriching Educational Experiences, Student-Faculty Interaction, and Supportive Campus Environments. First-

year and senior students were asked to respond. **Results indicated a decrease over time in the level of student-faculty interaction reported by first-year students.**

- The Assessment Coordinator reported on Competency Assessment, evaluating the six core competencies adopted by Longwood in conjunction with the SCHEV. They are: written communication (WCC), quantitative reasoning (QRC), scientific reasoning (SRC), critical thinking (CTC), information literacy (ILC), and oral communication (OCC). The methods of assessment vary among the competencies, but all involve randomly selected students. Raters of the assessment come from multiple disciplines.

A detailed description of these assessment data and of their use in identifying the topic of the QEP follows in Section III, Identification of the Topic.

Institutional participation in the topic selection process

From the beginning of the process, the Topic Selection Committee discussed ways in which stakeholders could be reached in an effort to inform those concerned of exactly what the QEP is, what the University would be working towards, that the topic selection was currently taking place, and how to elicit suggestions on what the plan should entail. Committee members signed up to attend meetings around campus to inform as many people as possible that the process for determining the topic of the QEP had commenced and that they would be asked for ideas (Appendix D).

The committee also discussed how best to communicate with stakeholders and how to ensure that proposals from various constituencies reached the Topic Selection Committee members. Based on these discussions, the committee determined that outreach and presentations to various constituency groups were to be completed by the end of October so ideas for topics could be invited by November or December. An online invitation distributed by email to faculty, staff members, students, and alumni asking them to propose a broad area for Longwood's QEP was determined to be the best way to encourage constituents to send in ideas. To leave the field open to all suggestions, the invitation was to be brief and ask a broad question, such as "What is the most important thing the University can do in the next four years?" In the spring, once the committee members had received the suggestions, they would work to narrow them to four or five focused topics and then draw up proposals based on assessment data and research on sound practices for the QEP. Next, the committee would need to disseminate the proposals, which might consist of about three to five pages each, to the stakeholders and find ways to solicit feedback on what ideas were most appropriate for Longwood's QEP topic.

Besides the broadly representative members of the Topic Selection Committee and the people from offices related to student learning who came and spoke to the committee, all students, administrative and support staff members, recent alumni, and members of the Board of Visitors were invited to participate in identifying the topic for Longwood's QEP. During the fall semester of 2011, members of the Topic Selection Committee made presentations at many faculty, staff, SGA, and other meetings to describe what a QEP is and the process Longwood would follow for selecting a topic. Informational updates appeared on the SACSCOC Reaffirmation website and in the monthly faculty and staff electronic newsletter (Appendix D).

Survey 1: QEP Ideas

Near the end of the semester, on November 29, 2011, the President sent all students, faculty, staff, and alumni from the Classes of 2000–2011 an email re-explaining the QEP and inviting them to submit their best idea for Longwood's QEP topic through a SurveyMonkey Survey link. The link was also posted on the SACSCOC Reaffirmation website. The goal was for the survey to be brief and to elicit an immediate response of what the QEP topic should be. The survey included only five items:

1. What is your role at Longwood? (students, faculty, staff, alumni, otherwise affiliated persons)
2. The area of student learning and/or the environment for student learning that Longwood's QEP should address is...
3. Why?
4. Your name (optional)
5. Email address (optional)

Group Categorization of Responses to QEP Ideas Survey—In January 2012, the Topic Selection Committee noted the distribution among the groups that responded: 91 students (40%), 50 faculty members (22%), 26 staff members (11%), 61 alumni, (27%) and 2 others. The committee members divided themselves into three groups, each of which independently reviewed the 230 responses and drew up a list of 6–10 categories reflecting the areas of student learning represented in the responses.

Reconciliation of Lists—From the three lists, the committee as a whole identified the following areas of student learning as the top ten QEP Topic possibilities that resulted from the survey:

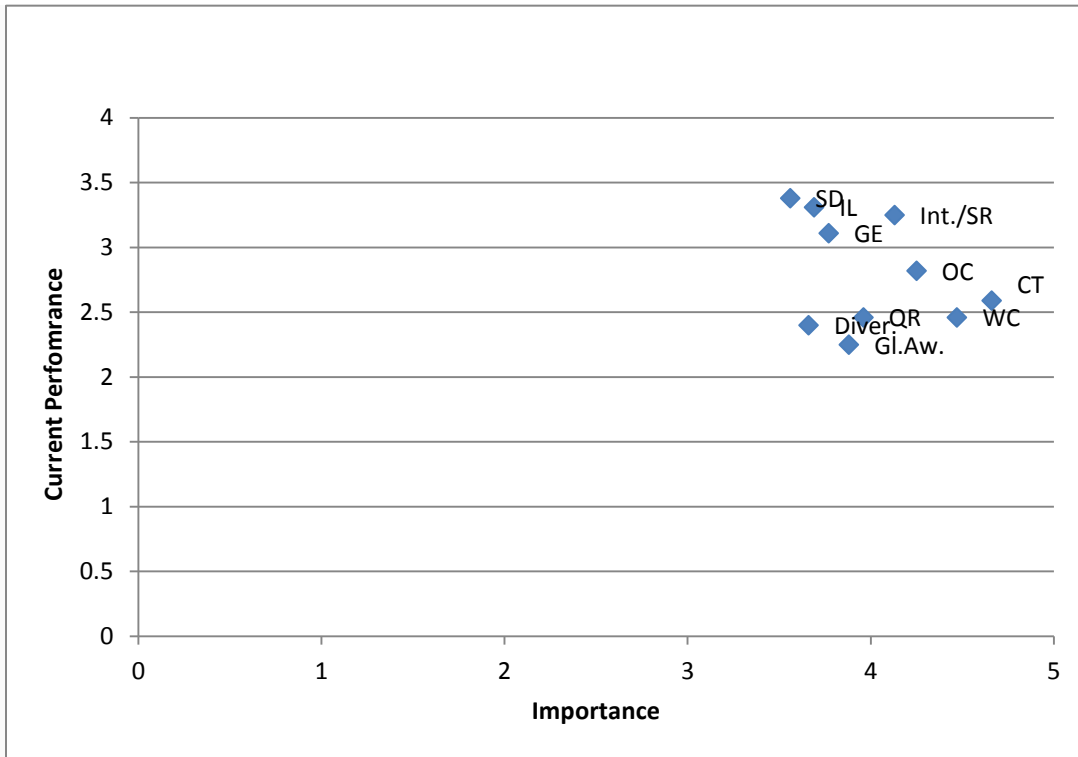
- Critical Thinking
- Diversity (intercultural competence)
- General Education
- Global Awareness
- Information Literacy
- Internships/Experiential Learning/Student Research
- Oral Communication
- Quantitative Reasoning
- Student Development (academic, personal, life skills, spirituality)
- Written Communication

Survey 2: Evaluating Ideas

The committee decided next to conduct a survey asking faculty and staff members, student representatives to SGA, and current and former Alumni Board members from the Classes of 2000–2011 to rank on a scale of 1–5 the ten areas above on two criteria: their relative importance (from not important to very important) and the relative effectiveness of what Longwood now does in those areas (from not effective to very effective).

Figure 2 lays out the results of this survey, averaged among the 146 responses. The current level of effectiveness is shown on the vertical axis; the importance is shown on the horizontal axis. As shown, areas ranked highest in importance were critical thinking, written communication, oral communication, internships/experiential learning/student research, and quantitative reasoning. Of those five areas considered most important, three—written communication, quantitative reasoning, and critical thinking—were among the lowest five in the current level of performance.

Figure 2. Evaluating Areas of Student Learning



Area of Student Learning	Importance	Current Level of Performance
Critical thinking (CT)	4.66	2.59
Written communication (WC)	4.47	2.46
Oral communication (OC)	4.25	2.82
Internships/Experiential learning/Student research (Int./SR)	4.13	3.25
Quantitative reasoning (QR)	3.96	2.46
Global awareness (Gl. Aw.)	3.88	2.25
General education (GE)	3.77	3.11
Information literacy (IL)	3.69	3.31
Diversity/Intercultural competence (Diver.)	3.66	2.40
Student development (SD)	3.56	3.38

NOTE: Importance ranked on a scale of 1–5, from not important to very important; level of performance ranked on a scale of 1–5 from not effective to very effective.

Working with the ten areas of student learning described above, and bearing in mind the desired focus on core competencies, the Topic Selection Committee identified four possible topics for Longwood’s QEP and divided themselves into teams charged with developing a preliminary topic proposal for each: “Developing the Citizen Leader Through Global Diversity,” “Making Internships Work for Students,” “Creating Knowledge in the 21st Century: A Focus on Student Research,” and “Active Citizen Leadership in a Culturally Diverse World.” These teams developed the preliminary proposals, consulting others at Longwood with expertise in the particular areas of student learning as needed.

The four topic proposals were announced in March 2012 in Longwood's faculty and staff electronic newsletter and were posted to Longwood's SACSCOC Reaffirmation website.

In March and April 2012, committee members presented and discussed the topic proposals at the general faculty meeting, a Board of Visitors meeting, an SGA meeting, an Executive Council meeting, and a Staff Advisory Committee meeting. Three articles ran in the student newspaper, the *Rotunda*, and three focus groups were conducted, to which all faculty, staff, and students were invited (Appendix D).

Survey 3: Topic Proposal

Near the end of the semester, all faculty, staff, members of the Board of Visitors, student representatives to SGA, and current and former Alumni Board members in the Classes of 2000–2011 received the Topic Proposal survey asking for their responses to questions on the four topic possibilities (Appendix E). A total of 267 people responded, including 112 students (42%), 87 faculty members (33%), 65 staff members (24%), and three others.

The committee asked survey recipients to evaluate the four preliminary topic proposals by the same set of criteria (listed below) that the committee had identified as relevant to its own choice of topics to recommend to the SACSCOC Leadership Team, which had the final responsibility for choosing Longwood's QEP topic. Respondents judged each topic according to whether the topic:

- was a key issue at Longwood;
- was directly related to Longwood's mission;
- lent itself to definable and measurable student learning outcomes;
- would generate active support among students, faculty and staff members, and alumni;
- represented a wise expenditure of university funds;
- would affect the learning of the most students;
- would most affect the learning of particular students;
- was an area needing improvement or an area of strength susceptible to enhancement;
- would increase students' learning at Longwood and lends itself to a focus on improving core competencies such as writing and critical thinking;
- would help prepare students for life after Longwood;
- was one they would like to be involved in.

Survey respondents chose the topic of student research most often in these categories:

- will generate active support among faculty and staff members;
- will most affect the learning of particular students;
- is an area needing improvement;
- will increase students' learning at Longwood;
- lends itself to a focus on improving core competencies such as writing and critical thinking.

At the end of the survey, respondents identified the topic that would be their first choice for Longwood's QEP. A Focus on Student Research was the first choice of Longwood faculty members and was the second choice of students and staff members, as shown in Figure 3:

Figure 3. First and Second Choice QEP Topics Selected by Longwood Faculty, Staff, and Students

Topic	Percentage of Respondents					
	Faculty		Staff		Students	
	1 st	2 nd	1 st	2 nd	1 st	2 nd
Developing the Citizen Leader Through Global Diversity	20.5	21.1	14.5	21.8	19.0	11.1
Making Internships Work for Students	16.7	30.3	60.0	18.2	44.4	25.4
Creating Knowledge in the 21 st Century: A Focus on Student Research	44.9	27.6	10.9	41.8	23.8	36.5
Active Citizen Leadership in a Culturally Diverse World	17.9	21.1	14.5	18.2	12.7	27.0

Based on its consideration of this input, the Topic Selection Committee recommended three proposals to the Leadership Team for review: the Internships proposal, the Student Research proposal, and a Culturally Diverse World proposal that included some elements of the Global Diversity proposal. The committee also recommended consideration of a topic that would merge internships and student research.

The Leadership Team noted that identification of possible topics for Longwood's QEP for SACSCOC reaffirmation of accreditation had involved the entire university community and recognized especially the work of the QEP Topic Selection Committee.

After considering the potential for making a significant difference in students' learning at multiple points in their time at Longwood, the likelihood of successfully involving relevant constituencies in the development and implementation of a plan, and the results of the university-wide survey on the QEP topic proposals, the Leadership Team selected student research, or academic inquiry, as Longwood's topic, with an explicit focus on core competencies such as critical thinking, written communication, and information literacy. As noted above, this topic was the first or second choice of a majority of the students, faculty, and staff who responded to the survey. And as one survey respondent commented, "Students who do research directly contribute to the most basic mission of any university: to produce knowledge."

In July 2012, the SACSCOC Leadership Team announced the selection of a topic for Longwood's QEP.

Lessons learned

Through the simultaneous process of reviewing institutional assessment data and canvassing university constituents described above, the institution as a whole came to understand that the plan to be developed on the topic of undergraduate research should:

- advance Longwood's distinctive mission;
- seek to improve students' core competencies; and
- harness the enthusiasm of faculty, staff, and students.

QEP Planning Process

In the summer of 2012, the SACSCOC Leadership Team began forming a QEP Working Group to be assigned the responsibility for developing a plan and drafting a document for review. In October 2012, the composition of the group was announced in the faculty and staff electronic newsletter, the *Insider*, and faculty and staff members were invited to offer suggestions to the group. Members of the QEP Working Group, comprising faculty members, students, and administrators, began investigating possible actions to take in support of student learning in the area of research (Appendix F).

Throughout the year, the QEP Working Group deliberately conducted its own research project in developing the plan.

It **initiated an inquiry** by formulating a research question: How can we develop a plan related to undergraduate research that will improve student learning?

It **found, evaluated, and organized needed information** by:

- conducting a literature review;
- reviewing best practices at other institutions;
- gathering information on activities related to undergraduate research already going on at Longwood;
- hosting a visit by a consultant who is director of undergraduate research at a similar university and member of the executive committee of the Council on Undergraduate Research (the consultant met with members of the working group and others, including the President, Provost, and deans, and he made a presentation and participated in a forum for faculty, staff, and students); and
- asking faculty members to respond to Survey 4 on the current situation and future possibilities for student research at Longwood (see Section III, Identification of the Topic, for details about Survey 4).

It began to **synthesize, analyze, and apply the knowledge gained** in order to draft a plan. The working group identified actions in three broad areas related to undergraduate research that would help improve student learning in the areas of critical thinking, information literacy, and communication, including:

- enhancing research skills development in lower-level courses;
- supporting faculty-student collaboration in research; and
- providing opportunities for students to disseminate the results of their research, both on and off campus.

According to the “Research Skills Development Framework” developed at the University of Adelaide (Australia) in 2006, the final aspect of an inquiry is **communication**. In the summer of 2013, a small writing team drew on the materials prepared by the working group during the year and drafted an initial proposal for Longwood’s QEP following the specialized format suggested by SACSCOC. Focused on a discrete set of actions meant to improve student learning, the document described in detail what actions will be implemented in each of the five years of the plan, who will accomplish those actions, what implementation of the plan will cost, and how the University will assess the QEP initiative and ensure the use of findings for improvement. Following review by the QEP Working Group and other readers in August, a revised draft was posted for review by the entire university community at the end of August.

Fall of 2013 was a period of inviting responses and reviewing, redrafting, refining, and editing the plan for its submission to the Commission. Through focus groups and meetings, the working group solicited feedback from faculty, staff, and students. An outside reader and members of the SACSCOC Leadership Team reviewed the plan and made suggestions. The draft was revised and reposted several times. Students organized and conducted a naming competition. The name R.E.A.L. Inquiry: Research Experience for Aspiring Leaders was announced to the SGA and Faculty Senate and in the faculty/staff electronic newsletter the first week of December, when a subsequent draft was posted.

In the spring of 2014, prior to and after the submission of the QEP to SACSCOC, a team from the QEP Working Group designed and led a publicity campaign meant to increase awareness and anticipation of the imminent implementation of R.E.A.L. Inquiry at Longwood.

III. IDENTIFICATION OF THE TOPIC

Introduction

Longwood University's QEP focuses on learning outcomes, the environment supporting student learning, and accomplishing the mission of the institution.

Undergraduate research is a key issue at Longwood University. This section will cover, in turn, how the student research initiative Longwood University has identified as its QEP topic clearly (1) promotes the mission of the University; (2) advances institutional priorities; (3) responds to institutional assessment data, represented notably by the NSSE and Longwood's own core competency testing; and (4) will give our graduates the proficiencies and experiences employers prize and society needs.

Mission

Longwood's mission statement proclaims: "Longwood University is an institution of higher learning dedicated to the development of citizen leaders who are prepared to make positive contributions to the common good of society. Building upon its strong foundation in the liberal arts and sciences, the University provides an environment in which exceptional teaching fosters student learning, scholarship, and achievement. As the only four-year public institution in south central Virginia, Longwood University serves as a catalyst for regional prosperity and advancement."

The development of citizen leaders has been Longwood's mission for over a decade. At the heart of citizen leadership is deliberate and systematic inquiry. As Jefferson wrote in Query XVII of his *Notes on the State of Virginia*, a foundational text for citizens of the commonwealth, "Reason and free enquiry [sic] are the only effectual agents against error." Such inquiry is the antidote to both the uncritical acceptance of received opinion and incurious ignorance. Student research—academic inquiry in action—is the topic of Longwood's QEP. **More precisely, the topic of Longwood's QEP is the process of research, a process that engages, exercises, and improves students' skills in critical thinking, information literacy, and communication.**

Consistent with the mission of producing citizen leaders, student research takes advantage of the expertise of the outstanding faculty at Longwood while allowing students to develop a deeper understanding of their disciplines; it helps "foster student learning, scholarship, and achievement," as the mission statement puts it. Research is the key to the development of knowledge, and students who are engaged in this process are at the cutting edge of their field. Student research will enhance the reputation of Longwood University when students present their research at regional and national conferences. And in addition to contributing to their scholarly communities through their research projects, students have the potential to make a positive impact on local, state, and national communities. Longwood graduates will be prepared for more than a career: they will be prepared to actively contribute to their communities as engaged, educated citizen leaders.

Academic and Institutional Priorities

Undergraduate research at Longwood University is currently practiced in a fragmented way at the department or at the college level. The majority of undergraduate research is conducted at the department level, often through an upper-level research course. For example, the Department of Psychology and the Department of Communication Studies each has courses that require students to conduct a senior research project that results in a public presentation to the Longwood Community. In addition, some other departments have a course in research

methods, recognizing the value of research to the development of the field. At the college level, the Cook-Cole College of Arts and Sciences has developed a student journal, *Incite*, where students, under the guidance of faculty, publish their research. Additionally, the College of Arts and Sciences hosts an annual student showcase where exceptional undergraduate research projects are presented to the Longwood community.

The faculty and students of Longwood University clearly recognize the importance of student research. In Survey 1, the initial survey soliciting QEP ideas (November 2011), many members of the community mentioned student research as a key issue. Despite the efforts mentioned above, the state of student research at Longwood needs improvement. This is reflected in faculty responses to Survey 4 (March 2012) on the current situation for student research, where:

- 16% agreed or agreed strongly that “possibilities for Longwood students to do mentored research are systematic;”
- 2% agreed or agreed strongly that “possibilities for Longwood students to do mentored research are coordinated across campus;”
- 17% agreed or agreed strongly that “possibilities for Longwood students to do mentored research are plentiful;”
- 9% agreed or agreed strongly that “Longwood’s curriculum develops out students’ research skills in a systematic way;”
- 5% agreed or agreed strongly that “when students get to their third or fourth year at Longwood, they are well prepared to engage in independent research;” and
- 9% agreed or agreed strongly that “support services (funding, resources, equipment) for students engaged in mentored research are adequate.”

Undergraduate research can serve as a major component for achieving the goals of the Academic Strategic Plan, formulated through a campus-wide effort in 2010–12. Student research relates most specifically to these strategic goals:

1. ***Provide a distinctive student experience through a focus on academic excellence and the development of 21st century citizen leaders.*** All disciplines in the academy are research based. Rigorous research is a key to helping students understand their discipline. A true indicator of competence in a discipline is the ability to engage in a field of study as a creator of new knowledge, not merely a consumer of ideas. Providing students resources to further their understanding of the research process in discipline-specific courses as well as allowing students to conduct research that furthers their understanding of their discipline is important for encouraging academic excellence and developing 21st century citizen leaders.
2. ***Gain national recognition for the expertise of our faculty and staff in scholarship, pedagogy, and student research.*** Undergraduate research should be a major component of the QEP. Educating students on the research process within their discipline and allowing faculty and students to work together to develop knowledge in the field will enhance the reputation of the University.
3. ***Support and promote academic programs that engage a wide range of diverse communities.*** Seeking out and promoting research opportunities for diverse groups on campus should be a key focus of the QEP. Additionally, research that engages the greater Farmville, Prince Edward County, and Southside Virginia areas will prove beneficial to these communities, while empowering students to serve as research partners in improving those areas.

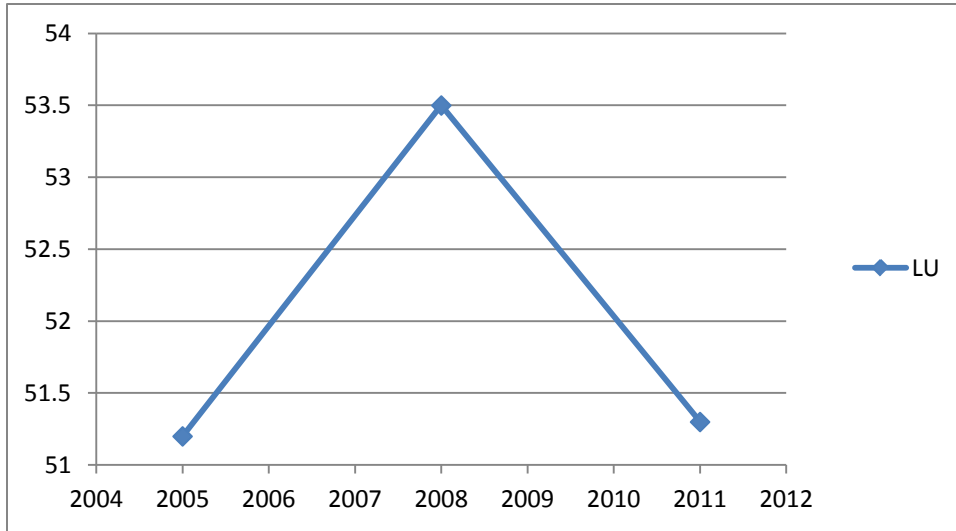
Institutional Assessment

The topic of student research/academic inquiry responds to institutional assessment.

National Survey for Student Engagement

Through its administration of the NSSE, Longwood tracks students’ levels of interaction with faculty members. Student-faculty interaction scores for Longwood seniors on the 2011 NSSE compared favorably with those of other Southeastern public universities and all NSSE institutions; however, as shown in Figure 4, Longwood benchmark scores in 2011 are lower than 2008 and only slightly higher than 2005.

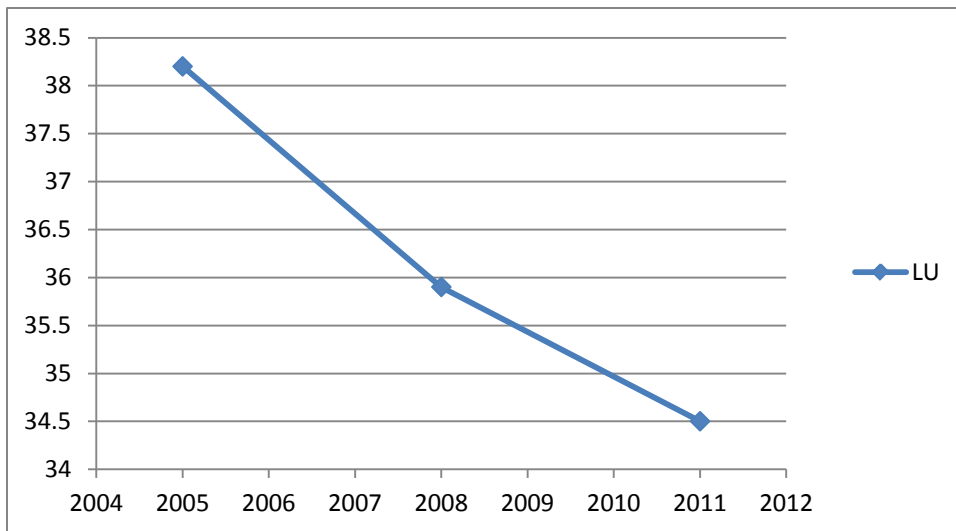
Figure 4. NSSE Student-Faculty Interaction—Seniors, 2005–2011



Source: NSSE 2011 Multi-Year Benchmark Report, Detailed Statistics, p. 7. NSSE describes “benchmark” scores as “the weighted average of the students’ scores.” Thus, a benchmark score of zero would mean that every student chose the lowest response option for every item in the benchmark, while 100 would mean that every student chose the highest response to every item.

Student-faculty interaction scores for Longwood first-year students are currently undistinguished compared to other institutions’ but, as seen in Figure 5, have fallen significantly from 2005.

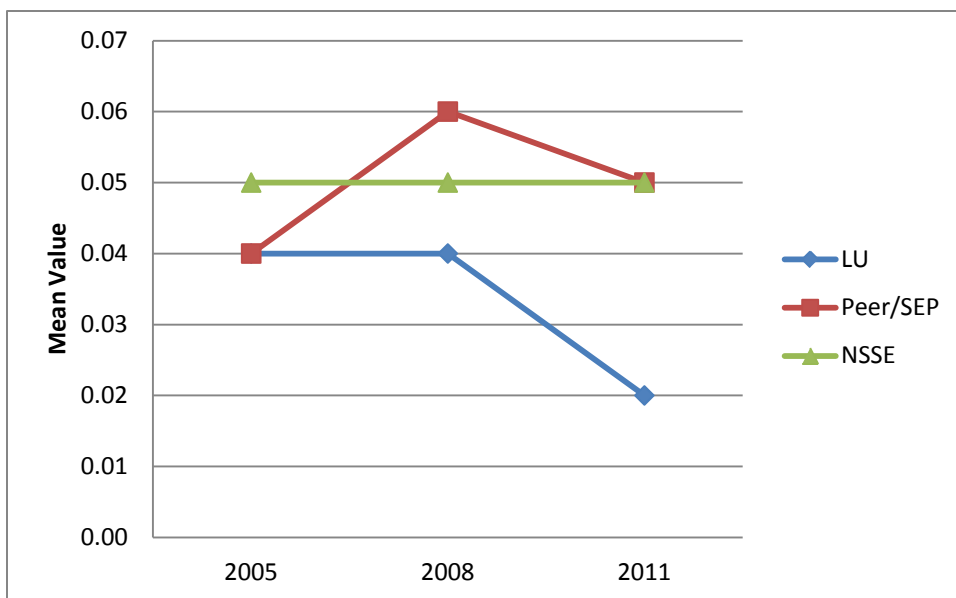
Figure 5. NSSE Student-Faculty Interaction—First-Year Students, 2005–2011



Source: NSSE 2011 Multi-Year Benchmark Report, Detailed Statistics, p. 5. NSSE describes “benchmark” scores as “the weighted average of the students’ scores.” Thus, a benchmark score of zero would mean that every student chose the lowest response option for every item in the benchmark, while 100 would mean that every student chose the highest response to every item.

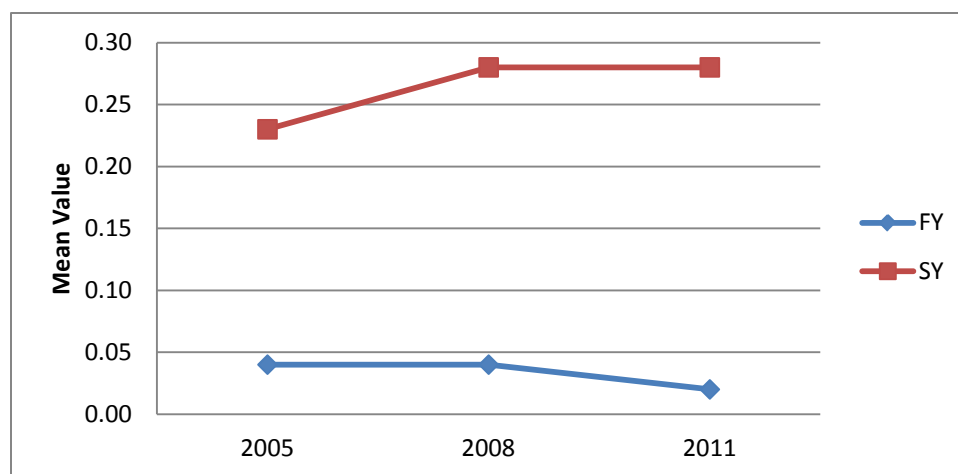
Responses to the specific question related most closely to undergraduate research paint an even starker picture. Question number 7 on the NSSE asks students: “Which of the following have you done or do you plan to do before you graduate from your institution?” For the option “Work on a research project with a faculty member outside of course or program requirements,” the mean response of Longwood first-year students has declined precipitously over time and has also diverged more from the mean response of peer or Southeastern public institutions and overall NSSE institutions, as Figure 6 shows.

Figure 6. Institutional First-Year Mean Comparisons, 2005–2011



At Longwood, the variance between how first-year students view the possibility of working on research with a faculty member and the actual experience of seniors has widened over time, as shown in Figure 7.

Figure 7. Longwood First-Year and Senior Mean Comparison, 2005–2011



The institutional assessment reflected in these graphs underscores the importance of introducing first-year students to the possibility, practice, and importance of research and supports the selection of student research as the topic of Longwood’s QEP.

Research and core competencies

The literature review reveals that the practice of undergraduate research and academic inquiry is related to improved student learning in critical thinking, information literacy, and communication. For example, in “Undergraduate Research as a Catalyst for Liberal Learning,” David Lopatto reports results of qualitative and quantitative research showing that “students reported gains in a variety of skills, including design and hypothesis formation, data collection and interpretation, information literacy, communication, and computer work” (*Peer Review* [Winter 2006], p. 23). The “Research Skills Development Framework” formulated at the University of Adelaide in 2006 analyzes the six steps of the research process or six “facets of inquiry” that are applicable to inquiries ranging from a freshman’s English Composition research paper to a rising senior’s summer research project to a music major’s senior recital. One of the three core competencies—critical thinking, information literacy, or communication—clearly underlies each of the six steps, as Figure 8 illustrates:

Figure 8. Steps in the Research Process Related to Core Competencies

Step in the Research Process*	Core Competency
1. Students embark on inquiry and so determine a need for knowledge/understanding.	Critical Thinking
2. Students find/generate needed information/data using appropriate methodology.	Information Literacy
3. Students critically evaluate information/data and the process to find/generate this information/data.	
4. Students organize information collected/generated and manage the research process.	Critical Thinking
5. Students synthesize and analyze and apply new knowledge.	
6. Students communicate knowledge and the processes used to generate it, with an awareness of ethical, social, and cultural issues.	Written and Oral Communication

*Based on the Facets of Inquiry from the Research Skills Development Framework (University of Adelaide, 2006)

Critical thinking, oral and written communication, and information literacy are competencies the Commonwealth of Virginia and Longwood University have identified as core competencies for our students. Over the past several years, faculty teams have defined the desired student learning outcomes associated with these competencies, have developed assessment plans that have been approved by the SCHEV, and have begun the implementation of assessment. Improved learning in these areas is an institutional priority that this QEP will address.

Core competency assessment

Following are results of the assessment of the core competencies; this assessment informed the identification of Longwood University’s QEP topic and the subsequent development of the plan. **Results in critical thinking and written communication are consistently below 3 (on a scale of 1–4 measuring increasing levels of proficiency, from low to high), thereby confirming the opinion of survey respondents that performance in these two areas of student learning are deficient even though they are among the five areas of student learning ranked highest in importance.** (For the survey results, see Survey 2 in Section II, Process Used to Develop the QEP; for the methodology of the competency testing, see Section X, Assessment.)

Written Communication Competency (WCC)

Longwood University defines “competent writing” as writing that provides “evidence of suitable content, effective organization and reasoning, appropriate rhetoric, and compliance with standard conventions of writing and documentation.”

Students demonstrate competency in written communication by fulfilling four basic outcomes. Students should be able to:

- identify and summarize the topic/problem and relevant questions and issues that inform the assignment;
- organize ideas into paragraphs that cohere and support the main argument through appropriate transitions, explanations, and engaging examples;
- develop ideas with rhetorically appropriate examples and explanations; and
- demonstrate proficiency in conventional use of grammar, spelling, and documentation.

These outcomes both reflect Longwood’s philosophy of general education and correspond to commonly accepted academic norms. These outcomes and the rubric used to assess them were influenced by the *Writing Program Administrators Outcomes Statement for First-Year Composition* adopted by the Council of Writing Program Administrators in April 2000.

Recent WCC assessment results are summarized in Figure 9, which provides the average point score on four criteria, ranked on a scale of 1–4 measuring increasing levels of proficiency.

Figure 9. WCC Assessment Results, Average Point Score, 2011 and 2012

Criteria	Spring 2011 (52 papers)	Spring 2012 (104 papers)
Analysis	2.79 out of 4	2.77 out of 4
Organization	2.86 out of 4	2.80 out of 4
Audience (2011)/Style (2012)	2.88 out of 4	2.80 out of 4
Mechanics	2.56 out of 4	2.59 out of 4
Overall Average	2.77	2.74

Critical Thinking Competency (CTC)

Longwood University's outcomes for critical thinking reflect both institutional standards and common external norms. For the purpose of this competency testing, Longwood University defined critical thinking as "the ability to present, explain, and evaluate arguments in support of a position."

Students who possess critical thinking skills should be able to:

- identify the main issue and take a position on it;
- present and explain the argument; and
- evaluate assumptions, evidence, and inferences.

The definition above, and the outcomes derived from it, both reflect Longwood's philosophy of general education and correspond to commonly accepted academic norms. In determining its definition of critical thinking and the associated educational outcomes and rubric, Longwood University has been influenced by the definition and rubrics offered by the Association of American Colleges and Universities (AAC&U). The AAC&U defines critical thinking as "a habit of mind characterized by the comprehensive exploration of issues, ideas, artifacts, and events before accepting or formulating an opinion or conclusion." The AAC&U's VALUE Critical Thinking rubric (<http://www.aacu.org/value/rubrics/CriticalThinking.cfm>) served as the initial template from which Longwood's current CTC rubric was produced (Association of American Colleges and Universities, 2010).

The critical thinking competency rubric used for the 2011 pilot also was adapted from the VALUE rubrics developed by the AA&U. These rubrics were developed by educators from many colleges and universities representing diverse disciplines, and they have been widely adopted and used. The reliability of the VALUE rubrics is considered in Finley (2011–12).

Recent CTC assessment results are summarized in Figure 10, which provides the average point score on five criteria, ranked on a scale of 1–4 measuring increasing levels of proficiency.

Figure 10. CTC Assessment Results, Average Point Score, 2011 and 2012

Criteria	2011 (90 papers)	2012 (106 papers)
Main Issue	2.66 out of 4	2.31 out of 4
Stakeholder and Context (not used in 2012)	2.39 out of 4	N/A
Presents/Explains	2.36 out of 4	2.45 out of 4
Evaluates	2.31 out of 4	1.80 out of 4
Point of View (not used in 2012)	2.07 out of 4	N/A
Overall Average	2.36	2.19

Information Literacy Competency (ILC)

Longwood University defines information literacy as "the ability to recognize when information is needed and effectively locate, evaluate, and use the needed information."

Students demonstrate that they possess competency in information literacy by fulfilling five basic outcomes. Students should be able to:

- determine the extent of information needed;
- evaluate information and its sources critically;
- incorporate selected information into one's knowledge base;
- use information effectively to accomplish a specific purpose; and
- understand the legal and social issues surrounding the use of information and access and use information ethically and legally.

The definition above, and the outcomes derived from it, both reflect Longwood's philosophy of general education and correspond to commonly accepted academic norms. In setting these outcomes, Longwood was influenced by the definition of information literacy proffered by the American Library Association's Presidential Committee on Information Literacy.

Recent ILC assessment results are summarized in Figure 11, which provides the average point score on nine criteria, ranked on a various scales measuring increasing levels of proficiency.

Figure 11. ILC Assessment Results, Average Point Score, 2011 and 2012

Criteria	2011	2012
Information Use Relevancy	2.3 out of 3	2.4 out of 3
Presentation of Source Content	2.18 out of 3	2.2 out of 3
Student or Source	1.43 out of 2	1.6 out of 2
End/Footnotes, Parenthetical	0.62 out of 1	0.74 out of 1
Correspondence to Bibliography	0.79 out of 1	0.76 out of 1
Bibliography Source Types (revised in 2012)	2.19 out of 3	6.2 out of 8
Citation (revised in 2012)	1.97 out of 3	5.2 out of 8
Number of Sources	1.57 out of 2	1.5 out of 2
Currency	1.58 out of 2	1.4 out of 2
Overall Average	14.63 out of 20 (73%)	22.1 out of 30 (74%)

Oral Communication Competency (OCC)

Longwood University defines oral communication as “the ability to speak logically, clearly, and knowledgeably in an organized fashion, the ability to actively listen and respond to oral communication from others, and the ability to use these skills effectively for professional and personal oral expression of ideas, concerns, beliefs, and needs.”

Students demonstrate that they possess competency in oral communication by fulfilling four basic outcomes. Students should be able to:

- deliver a presentation with a clear, compelling, strongly supported central message;
- organize ideas into a presentation that support the main argument through appropriate transitions, explanations, and engaging examples;
- make language choices that enhance the effectiveness of the presentation and are appropriate to the audience; and
- use delivery techniques that make the presentation compelling and effectively use supporting materials to enhance the effectiveness of the presentation.

These outcomes both reflect Longwood's philosophy of general education and correspond to commonly accepted academic norms. In setting these outcomes, Longwood was influenced by the Oral Communication VALUE Rubric developed by the AAC&U, which is employed by many universities for the purposes of assessment.

Recent OCC assessment results are summarized in Figure 12, which provides the average point score on five criteria, ranked on a scale of 1–4 measuring increasing levels of proficiency.

Figure 12. OCC Assessment Results, Average Point Score, 2012

Criteria	Spring 2012 (81 presentations)
Organization	2.60 out of 4
Language	2.56 out of 4
Delivery	2.35 out of 4
Supporting Material	2.66 out of 4
Central Message	2.47 out of 4
Overall Average	2.53

Importance of the Topic

The importance of Longwood's QEP topic, including its relationship to core competencies, is confirmed in a recent survey of employers, conducted for the AAC&U. Entitled *It takes more than a major: Employer priorities for college learning and student success*, the report of the survey results notes the following:

Employers recognize capacities that cut across majors as critical to a candidate's potential for career success, and they view these skills as more important than a student's choice of undergraduate major.

- Nearly all those surveyed (93%) agree, "a candidate's demonstrated capacity to think critically, communicate clearly, and solve complex problems is more important than their undergraduate major."
- More than nine in ten of those surveyed say it is important that those they hire demonstrate ethical judgment and integrity; intercultural skills; and the capacity for continued new learning.
- More than three in four employers say they want colleges to place *more emphasis* on helping students develop five key learning outcomes, including: critical thinking, complex problem-solving, written and oral communication, and applied knowledge in real-world settings.
- Employers endorse several educational practices as potentially helpful in preparing college students for workplace success. These include practices that require students to a) conduct research and use evidence-based analysis; b) gain in-depth knowledge in the major and analytic, problem solving, and communication skills; and c) apply their learning in real-world settings. (p. 1)

The triadic capacity referred to above—"demonstrated capacity to think critically, communicate clearly, and solve complex problems"—relates directly to the critical thinking and written communication competencies that institutional assessment has shown to be less than optimal among Longwood undergraduate students.

When survey respondents answered a question about the "degree to which various new approaches to learning have potential to help students succeed," the development of research skills received the highest rating, one of 83% (p. 10).

Conclusion

The student research initiative Longwood University has identified as its QEP topic clearly promotes the University's mission and institutional priorities; responds to institutional assessment, including NSSE and core competency testing; and promises to give Longwood graduates the proficiencies and experiences employers prize and society needs.

IV. DESIRED STUDENT LEARNING OUTCOMES

Core Competencies and Student Learning Outcomes

The SACSCOC Leadership Team wrote in its email announcing the choice of a QEP topic that it had considered among other things “the potential for making a significant difference in students’ learning at multiple points in their time at Longwood” (July 17, 2013 email from President). In formulating the specific student learning outcomes the plan would address, the QEP Working Group consulted the Research Skills Development Framework developed by the University of Adelaide. The working group identified the core competency most closely linked to each of the six steps in the research process, as derived from the Research Skills Development Framework, and then formulated three student learning outcomes that render explicit the relationships, as demonstrated in Figure 13.

Figure 13. Steps in the Research Process Related to Core Competencies and Student Learning Outcomes

Step in the Research Process*	Core Competency	Student Learning Outcomes
1. Students embark on inquiry and so determine a need for knowledge/understanding.	Critical Thinking	Students will exercise critical thinking in setting a problem and conducting an inquiry (SLO-A).
2. Students find/generate needed information/data using appropriate methodology.	Information Literacy	Students will demonstrate information literacy in finding, evaluating, and using sources and considering evidence (SLO-B).
3. Students critically evaluate information/data and the process to find/generate this information/data.	Information Literacy	Students will demonstrate information literacy in finding, evaluating, and using sources and considering evidence (SLO-B).
4. Students organize information collected/generated and manage the research process.	Critical Thinking	Students will exercise critical thinking in setting a problem and conducting an inquiry (SLO-A).
5. Students synthesize and analyze and apply new knowledge.	Critical Thinking	Students will exercise critical thinking in setting a problem and conducting an inquiry (SLO-A).
6. Students communicate knowledge and the processes used to generate it, with an awareness of ethical, social, and cultural issues.	Oral and Written Communication	Students will communicate effectively in expressing results (SLO-C).

*Based on the Facets of Inquiry from the Research Skill Development Framework (University of Adelaide, 2006)

Figure 13 above links student actions (that is, steps in the research process) to the core competencies the QEP is designed to improve and to measurable student learning outcomes. Students will undertake these actions in several contexts, including: 1) individually as parts of assignments within the revised curriculum designed to teach aspects of research to students during their first one to three years (e.g., any of the steps 2–5 in the research process can be part of an assignment in a lower-level class in a discipline) and 2) collectively as part of a sustained undergraduate research project.

Communication of student knowledge (research step 6) will have several outlets, starting with, but not limited to, sharing within the class. Perhaps more importantly, students will also have the opportunity to communicate and disseminate through the student research portal, as well as on a special day devoted to showcasing student research at the University, or through attendance at undergraduate or professional conferences.

Environmental Outcomes

In addition to improving student learning outcomes, the QEP will affect the institution at the department, college, and community levels. Below is a list of the measurable environmental outcomes from the QEP:

- Number of students presenting undergraduate research to academic and civic communities will increase (EO-A).
- Opportunities for student participation in research and creative activities on and off campus will expand (EO-B).
- Capacity of faculty members to mentor students and encourage their creativity will be enhanced (EO-C).
- The curriculum will provide a scaffolded approach to student research skills development (EO-D).
- Faculty will have the skills and abilities needed for integrating research in instruction gained through participation in faculty development (EO-E).
- Undergraduate research and scholarly activities will be appropriately recognized in faculty evaluation and workloads (EO-F).

Figure 14 below summarizes all of the goals, actions, and outcomes of the QEP. It provides an overall framework that shows how the actions are tied to the goals and which outcomes are expected from each, both for students and the program. Further, the actions are categorized as direct or indirect measures.

Figure 14. Longwood University Student Research Initiative: Topic and Conceptual Framework—Goals, Actions, Environmental and Student Learning Outcomes

Goals The purpose of Longwood's OEP is:	Actions	Environmental Outcomes							Student Learning Outcomes			
		A: Number of students presenting undergraduate research to academic and civic communities will increase.	B: Opportunities for student participation in research and creative activities on and off campus will expand.	C: Capacity of faculty members to mentor students and encourage their creativity will be enhanced.	D: The curriculum will provide a scaffolded approach to student research skills development.	E: Faculty will have the skills and abilities needed for integrating research in instruction gained through participation in faculty development.	F: Undergraduate research and scholarly activities will be appropriately recognized in faculty evaluation and workloads.	A: Students will exercise critical thinking in setting problems and conducting an inquiry.	B: Students will demonstrate information literacy in finding, evaluating, and using sources and considering evidence.	C: Students will communicate effectively in expressing results.		
Goal 1. To improve students' learning by promoting their discovery of new knowledge through research.	1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses	■	■	■	■	■	■	■	■	■	■	■
	1.2. Make available a faculty-guided summer undergraduate research program in all disciplines	■	■	■	■	■	■	■	■	■	■	■
	2.1. Establish Office of Student Research	■	■	■	■	■	■	■	■	■	■	■
	2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research	■	■	■	■	■	■	■	■	■	■	■
Goal 2. To improve students' learning by facilitating student-faculty collaboration in research.	2.3. Use electronic portal, the "student research portal," to draw attention to possibilities for student research and completed student research, to track students' research skills development, and to assess core competencies addressed in the OEP	■	■	■	■	■	■	■	■	■	■	■
	3.1. Link undergraduate research and community engagement	■	■	■	■	■	■	■	■	■	■	■
	3.2. Provide grants for undergraduate research and/or presentations at conferences	■	■	■	■	■	■	■	■	■	■	■
Goal 3. To improve students' learning by advancing an understanding of the importance of disseminating the results of research in academic and civic communities.	3.3. Organize annual student research showcase day for Longwood students	■	■	■	■	■	■	■	■	■	■	■
	3.4. Highlight senior honors research program and other student research on the student research portal	■	■	■	■	■	■	■	■	■	■	■

■ = promotes directly; □ = promotes indirectly

V. LITERATURE REVIEW AND BEST PRACTICES

The focus of Longwood University's QEP is the development of research skills and the practice of research as a vehicle for improving student competency in critical thinking, information literacy, and communication. For this reason, considerable attention is given to these three topics, especially critical thinking. Critical thinking involves not just skills but also attitudes and habits that extend to the areas of both information literacy and communication. Furthermore, it is important to emphasize that current research on best teaching practices indicates that undergraduate research is an ideal method for improving student competencies in all three of these areas.

This section will first present the Boyer Commission's finding: that undergraduate research is key to making needed changes in undergraduate education so that it better serves society. It presents Longwood's definition of research and evidence of the benefits of undergraduate research for students, faculty, departments, and Longwood University as a whole. After linking undergraduate research to the three core competencies that the QEP will improve (critical thinking, information literacy, and communication), it describes how a focus on undergraduate research promotes the personal development and community engagement that are hallmarks of citizen leadership. Next, it presents the characteristics of excellence in undergraduate research (COEUR) and links that list to the elements of Longwood's QEP. Finally, it lists the best practices that Longwood University has followed in developing the QEP.

The Importance of Research in Undergraduate Education

The Boyer Commission report, *Reinventing Undergraduate Education*, (1998) argues that undergraduate education needs radical changes in order to better serve the needs of society. One basic problem is the large divide that exists between research and teaching. On one side, undergraduates are treated as passive recipients of knowledge that is to be transmitted to them by teaching professors, while on the other, research professors and graduate students generate new discoveries and conduct investigations. Teaching is not valued in research institutions, and researchers are not trained to teach. The negative result of this is a severe fragmentation of what should be a holistic community devoted to inquiry, investigation, and discovery (pp. 9–10).

One key element of the solution to this problem is the development and promotion of undergraduate research. By involving undergraduates in research right from the start of their first year, students become involved in education not merely as passive learners, but as active investigators. As they progress through their college education, they can experience learning as an inquiry-based, investigative, and creative process, rather than as a passive rote learning of a closed, pre-determined list of facts. In doing so, they will better develop their information literacy as well as their critical thinking and communication skills.

The Council on Undergraduate Research (CUR) was founded in 1978 by a group of chemists from private liberal arts colleges who wanted to provide information about research that was being conducted at liberal arts colleges by faculty, often in collaboration with students. Since that time, CUR has grown to include all disciplines and all types of institutions. Today, members include nearly 10,000 individuals and more than 650 colleges and universities (Council on Undergraduate Research, 2009).

Definition of Research

According to CUR, undergraduate research is "an inquiry or investigation conducted by an undergraduate student that makes an original intellectual or creative contribution to the discipline" (Council on Undergraduate Research, 2009).

In order to accommodate research and academic inquiry as practiced in the sciences, the humanities, and the arts, as well as to address the desired student learning outcomes, Longwood University has adapted the above definition as follows:

Research—*a deliberate process that involves setting a problem and conducting an inquiry (critical thinking), identifying, evaluating, and using sources and considering evidence (information literacy), and expressing results (communication) that make an intellectual or creative contribution*

The Benefits of Undergraduate Research

According to CUR, undergraduate research has many benefits; it:

- enhances student learning through mentoring relationships with faculty;
- increases retention;
- increases enrollment in graduate education and provides effective career preparation;
- develops critical thinking, creativity, problem solving, and intellectual independence;
- develops an understanding of research methodology; and
- promotes an innovation-oriented culture.

These benefits closely match the goals of Longwood's student research initiative, those of improving students' learning by:

- promoting the discovery of new knowledge through research (Goal 1);
- facilitating student-faculty collaboration in research (Goal 2); and
- advancing an understanding of the importance of disseminating the results of research in academic and civic communities (Goal 3).

Benefits for students

Many studies have shown that undergraduate research better prepares students for both career goals and advanced study (Association of American Colleges and Universities, 2007; Chapman, 2003; Crowe, 2007; Felder, 2010; Hart Research Associates, 2010; Healey and Jenkins, 2009; Hu et al., 2008; Hunter, Laursen, and Seymour, 2007; Lei and Chuange, 2009; Levenson, 2010; Osborn and Karukstis, 2009).

Osborn and Karukstis (2009) summarize these benefits, which correspond with Longwood University's QEP student learning outcomes:

- Increased creativity and critical thinking (SLO-A)
- Enhanced problem solving skills (SLO-A)
- Enhanced communication skills, both oral and written (SLO-C)
- Greater gains in mastering both content and contextual knowledge
- Enhanced ability to put classroom knowledge into practice
- Greater understanding of the intersections of disciplines
- Greater increase in course grades
- Greater persistence in the major
- Higher graduation rates (p. 43)

The Hart Research Associates (2010) report points out that employers see a positive benefit from educational programs that foster active learning and research skills, and employers are more positive about the value of practices that enable students to develop the ability to conduct research and evidence-based analysis (p. 7).

In addition, the greater student-faculty interaction promoted by faculty mentoring of undergraduate research has been shown to benefit undergraduate students' cognitive and affective development (Hakim, 2000; Osborn and Karukstis, 2009).

Undergraduate research also has been shown to improve students' writing and communication skills (Boyd and Wesemann, 2009; Hu, Kuh, and Gayles, 2007; Hu et al., 2008).

Benefits for faculty

Faculty mentors report that undergraduates can bring new perspectives to research that have significant value in highlighting areas that may have been overlooked (Boyer Commission, 1998; Hu et al., 2008; Merkel and Baker, 2002).

Studies have shown that faculty mentoring of undergraduate research can improve faculty development and teaching in several ways (Chopin, 2002; Hu et al., 2008; Russell, 2006; Boyer Commission, 1998; Burks and Chumchal, 2009). These studies emphasize that good teaching requires successful research; that everyone, both professor and student, is both a teacher and researcher; that the educational process is not just knowledge transmission, but a process of discovery; and that communication is an essential part of the process.

Finally, given that faculty mentors value the chance to be role models for students, undergraduate research provides motivation for them to identify with and participate in the university community as a whole, rather than see themselves as isolated workers (Lei and Chuang, 2009; Osborn and Karukstis, 2009).

Benefits for departments and the institution

It is worth repeating the last three benefits of Osborn and Karukstis (2009) that go beyond the individual student and faculty level:

- Greater increase in course grades
- Greater persistence in the major
- Higher graduation rates (p. 43)

Furthermore, undergraduate research allows for self-assessment that can result in curricular changes to improve lower-level preparatory courses (Chapman, 2003).

Undergraduate Research and the Core Competencies

The literature underlines the ways undergraduate research relates to the core competencies targeted in Longwood's student research initiative.

The main conclusion argued for in the Boyer Report, *Reinventing Undergraduate Education*, is that undergraduate research improves student learning, and this conclusion led to the formation of the CUR, as noted earlier. R.E.A.L. Inquiry further specifies the kinds of learning that Longwood University especially wants to improve among its undergraduate students: critical thinking, information literacy, and communication. The next three sections will discuss each of these competencies in detail, starting with critical thinking. This first section is longer than the next two because critical thinking is both an independently desired outcome as well as an integral part of information literacy and communication. Thus, much of what is noted here about critical thinking, especially its improvement through undergraduate research, applies to information literacy and communication as well.

Undergraduate research improves critical thinking

The definition of critical thinking comes in large part from work in philosophy and psychology, although education has made its own contribution (Lewis and Smith, 1993; Sternberg, 1986).

Although areas of disagreement exist among the disciplines, there are also areas of agreement that collectively provide a good idea of what is meant by critical thinking.

According to the American Philosophical Association, a critical thinker is one who is inquisitive, open-minded, flexible, and fair-minded; one who wants to be well informed and to understand diverse viewpoints (Facione, 1990). Note that this characterization is presented in terms of character traits. On the other hand, psychologists tend to focus on particular skills or procedures, characterizing a critical thinker as one who uses cognitive skills or strategies such as analysis, interpretation, and synthesis (Lai, 2011). The most influential work coming from education is that of Benjamin Bloom (1956). His taxonomy of information processing skills puts analysis, synthesis, and evaluation at the highest level, which represents critical thinking (Kennedy et al., 1991).

According to Lai (2011), the areas of agreement among the three disciplines of philosophy, psychology, and education include the kinds of abilities and dispositions that are required for critical thinking, as well as the importance of background knowledge. The dispositions are important for two reasons. First, thinkers can have the ability to think critically but fail to exercise it due to lack of interest or laziness or some other reason. Second, critical thinking cannot be reduced to its constituent skills because it is possible to fulfill those and yet fail to think critically (Facione, 1990; Van Gelder, 2005; Bailin, 2002). Thus, proper dispositions are necessary in addition to the component skills. The key abilities and dispositions of critical thinking are summarized in Figure 15.

Figure 15. Critical Thinking Abilities and Dispositions

Abilities	Dispositions
Analyzing arguments, claims, and evidence	Being open-minded
Making inferences using inductive or deductive reasoning	Being fair minded
Judging and evaluating	The propensity to seek reasons
Making decisions and solving problems	Inquisitiveness
Asking and answering questions for clarification	The desire to be well-informed
Defining terms	Flexibility
Identifying assumptions	Respect for others' viewpoints
Interpreting and explaining	
Reasoning verbally (thinking "out loud")	
Seeing both sides of an issue	

The importance of background knowledge cannot be underestimated. While critical thinking is in some sense general and cross-disciplinary, nevertheless it is impossible to fully achieve without knowing a fair amount about the discipline within which one is working. Furthermore, the knowledge of the discipline itself requires critical thinking—it is not just a heap of facts that needs no analysis itself: "Too much of value is lost if critical thinking is conceived of *simply* as a list of logical operations and domain-specific knowledge is conceived of *simply* as an aggregation of information" (Facione, 1990; emphasis added).

In addition to these areas of general agreement about critical thinking, there are some other important aspects to consider. Although experts disagree about how critical these additional aspects are, it is clear that they are closely related to critical thinking, and that, ideally, they would be improved during college. These aspects are:

- **Transferability**—the extent to which critical thinking skills and dispositions can be transferred from one area of expertise to a new context

- The relationship of critical thinking to three other important concepts, metacognition, motivation, and creativity:
 - **Metacognition**—“thinking about thinking” (Lai, 2011), or perhaps more helpfully, the attempt to regulate one’s cognitive processes (Hennessey, 1999) or the monitoring and control of thought (Martinez, 2006). Kuhn (1999) characterizes critical thinking as a form of metacognition whereas Van Gelder (2005) sees metacognition as a part of critical thinking.
 - **Motivation**—This is where disposition comes into play—the traits of effort, persistence, and desire to work hard to solve problems are all considered essential to critical thinking (Facione, 2000; Halpern, 1998).
 - **Creativity**—interestingly, critical thinking is closely connected to creativity because critical thinking without creativity is often overly skeptical and negative, whereas creativity without critical thinking suffers from too much emphasis on novelty for its own sake (Bailin, 2002; Bonk and Smith, 1998; Paul and Elder, 2006; Thayer-Bacon, 2000).

These important concepts are difficult to teach. According to Lai (2011), “instructional programs aimed at improving students’ metacognitive skills have demonstrated more successful transfer than training programs for basic cognitive processes, such as observing, measuring, and classifying. Moreover, stand-alone approaches to instruction in general critical thinking appear to be less successful than approaches in which critical thinking instruction is infused into discipline-specific courses alongside traditional academic content” (p. 16).

Similarly, some motivation research suggests that difficult or challenging tasks, particularly those emphasizing higher-order thinking skills, may be more motivating to students than easy tasks that can be solved through the rote application of a pre-determined algorithm (Lai, 2001; Turner, 1995).

It is evident that critical thinking is a complicated undertaking involving many difficult skills, as well as the proper disposition and background knowledge. It is perhaps no surprise then, that research shows that even educated adults are quite poor at critical thinking (Halpern, 1998; Kennedy et al., 1991; Van Gelder, 2005). For example, the general public often finds personal experience more compelling than scientific studies (Lai, 2011).

Educational practices are blamed for part of this deficiency, because they tend to encourage rote learning rather than the higher-order skills that compose critical thinking, and thus students memorizing material without understanding the logic behind it is typical (Paul, 1992). However, though typical educational practices are unhelpful, **research shows that proper educational practices, such as those encouraged by a well-run undergraduate research program, produce significant gains in critical thinking** (Osborn and Karukstis, 2009).

According to Kuhn (1999), people can be ranked at one of three stages as far as critical thinking goes. The first stage is the simplest, the Absolutist position. People at this stage believe that all truths can be known (at least potentially) either through personal experience or the opinions of experts. This stage characterizes most young people as they enter high school. By the time they enter college, though, many students have progressed to the second stage, which is almost polar opposite, the Subjectivist stage. Here, people realize that even experts with all the information available to them still disagree. Unfortunately, at this stage people go further and tend to conflate uncertainty in some areas with complete uncertainty; they are so respectful of the fact that everyone has a right to her or his own opinion that they go further and think that all opinions are equally valid, that there is no truth. Many, if not most, college students never leave this stage. In fact, few people progress to the third, most sophisticated stage. In this stage the critical thinker is aware that there are areas of disagreement among experts and respects the

opinions of diverse views, but also realizes that some opinions have little worth and that even when there is permanent disagreement, that does not mean that some positions are not better than others. It is the critical thinking skills that propel thinkers to this final position, because it requires (among other things) evaluation of the evidence that supports the conflicting claims.

This has important implications for teaching critical thinking. In general, critical thinking emphasis of any sort can be beneficial, but some ways have been found to be more effective than others (Abrami et al., 2008). Researchers have compared four approaches to the teaching of critical thinking:

1. **The general approach**—This is characterized by the “stand-alone” critical thinking course, often taught through Philosophy or English departments and often designed to satisfy a core curriculum critical thinking component. These courses typically teach general informal logic and practical thinking principles, while requiring the students to practice their thinking skills on problems drawn from real life. For instance, students might be required to keep a journal of news clippings to analyze using critical thinking skills. In such a course, the critical thinking skills are generalized, designed to be applicable across all disciplines and in non-academic “real” life as well.
2. **The infusion approach**—This approach mixes explicit instruction on critical thinking in a discipline with extensive teaching of the background material of that subject matter.
3. **The immersion approach**—In this approach, students are not given specific instruction on critical thinking in the discipline. Instead, the students are given instruction on the subject matter and are expected to absorb the critical thinking component through careful modeling by the instructor and as exhibited in the readings and practices of the discipline. This approach is probably the most common approach used in upper-level discipline-specific courses.
4. **The mixed approach**—A combination of the general and infusion approaches, this approach is explicit about critical thinking in general, but also specifically with respect to the discipline itself.

While all of these approaches are effective to some degree, a meta-analysis of 117 studies on these approaches shows that the immersion approach has the smallest effect, while the mixed approach has the largest (Abrami et al., 2008). This suggests that instructors need to be explicit about the critical thinking skills that they employ in their discipline and that these skills are best taught both separately and integrated into the discipline. The authors also found that the largest learning effect occurred when the instructors had previously undergone specific training in teaching critical thinking, which suggests that the professional development component of the Longwood QEP is a key part of the overall student research initiative.

In order to successfully teach transferable critical thinking, Kennedy et al. (1991) suggest that students need to be given plenty of opportunities to apply their skills across a wide range of contexts and that students need to be taught metacognitive skills such as goal-setting, planning, and monitoring progress towards a goal. Again, these metacognitive skills are necessary in successfully executing an undergraduate research project, so undergraduate research provides an appropriate context for teaching transferability (provided, of course, that students are given specific instruction in these metacognitive skills).

Undergraduate research requires the exercise of metacognition, judgment, and analysis, plus it starts with a loosely defined problem that the student herself must help to refine. All of these tasks have been shown to elicit critical thinking to a far greater degree than rote learning (Fischer et al., 2009).

Another instructional method that has been promoted by several researchers is collaborative learning (Abrami et al., 2008; Bailin et al., 1999; Bonk and Smith, 1998). While these studies

focus primarily on student-student collaboration, one model is of more experienced students mentoring and sharing with less experienced students, which is certainly applicable to faculty-student collaboration.

Constructivist instruction is another technique that is recommended by researchers (Bonk and Smith, 1998; Paul, 1992). It is “less structured than traditional instruction, amplifying students’ roles in their own learning and de-emphasizing the role of the teacher. Educators should model critical thinking in their own instruction by making their reasoning visible to students” (Lai, 2011). Again, this kind of instruction is easily accomplished within the framework of student-teacher collaborations that we envision for Longwood University’s student research initiative.

To summarize Lai’s (2011) suggestions for critical thinking instruction:

Educators are urged to use open-ended problem types and to consider learning activities and assessment tasks that make use of authentic, real-world problem contexts. In addition, critical thinking assessments should use ill-structured problems that require students to go beyond recalling or restating learned information and also require students to manipulate the information in new or novel contexts. Such ill-structured problems should also have more than one defensible solution and should provide adequate collateral materials to support multiple perspectives. Stimulus materials should attempt to embed contradictions or inconsistencies that are likely to activate critical thinking. Finally, such assessment tasks should make student reasoning visible by requiring students to provide evidence or logical arguments in support of judgments, choices, claims, or assertions. (p. 44)

All of these suggestions are incorporated into R.E.A.L. Inquiry. First, students will receive discipline-specific critical thinking training in lower-level courses early in their undergraduate careers. This will constitute the “scaffolding” upon which at least some students will be able to build their undergraduate research projects, and those who do so will have to work on “ill-structured” problems—they will have to manipulate information in new contexts, and they will collaborate with faculty, will use constructivist learning techniques, and will certainly be at the center of the learning process.

Undergraduate research improves information literacy

A Presidential Committee of the American Library Association has defined Information literacy as “a set of abilities requiring individuals to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information” (American Library Association, 1989).

And, according to the Association of College and Research Libraries (2000):

Information literacy is:

- acquiring concepts that enable a person to use information effectively, regardless of format;
- applying these concepts to all information needs; and
- using critical thinking and problem-solving skills.

Information literacy is NOT:

- technical skill in using a computer;
- understanding a particular program, software, or database;
- simply finding information/articles on a specific topic; or
- knowing how to search the Web.

An information literate person is one who can:

- determine the extent of information needed;
- access the needed information effectively and efficiently;
- evaluate information and its sources critically;
- incorporate selected information into his/her knowledge base;
- use information effectively to accomplish a specific purpose;
- understand the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally;
- understand a particular program, software, or database;
- find information/articles on a specific topic; and
- know how to search the Web.

In addition, according to the Presidential Committee on Information Literacy of the American Library Association, “Ultimately, information literate people are those who have learned how to learn. They know how to learn because they know how knowledge is organized, how to find information, and how to use information in such a way that others can learn from them. They are people prepared for lifelong learning, because they can always find the information needed for any task or decision at hand” (American Library Association, 1989).

It is clear from the above that information literacy is closely linked to critical thinking, in that the latter is a requirement for the former. This is no surprise, since an important part of information literacy is the ability to evaluate sources, and evaluation is one of the skills required for critical thinking. Information literacy is required for undergraduate research projects because research usually begins with a literature review, which requires information literacy skills to complete. Thus, it is clear that the QEP focusing on undergraduate research is an ideal way to improve information literacy skills as well as critical thinking.

The Boyer Commission Report, *Reinventing Undergraduate Education*, recommends strategies that require the student to engage actively in “framing of a significant question or set of questions, the research or creative exploration to find answers, and the communications skills to convey the results.” Courses structured around such strategies create student-centered learning environments where inquiry is the norm, problem solving becomes the focus, and thinking critically is part of the process. Such learning environments require information literacy competencies (Association of College and Research Libraries, 2000).

Undergraduate research improves communication

Research without communication is incomplete. Communication, both written and oral, is necessary to complete the process:

Every university graduate should understand that no idea is fully formed until it can be communicated, and that the organization required for writing and speaking is part of the thought process that enables one to understand material fully. Dissemination of results is an essential and integral part of the research process, which means that training in research cannot be considered complete without training in effective communication. Skills of analysis, clear explanation of complicated materials, brevity, and lucidity should be the hallmarks of communication in every course. (Boyer Commission, 1998, p. 24)

Good communication skills are also a necessity for students who want jobs. Of the top skills found to be important in surveys of employers by Microsoft, the BBC, and others, both oral and written communication were in the top ten, and oral was listed as the most important overall skill (<http://www.kent.ac.uk/careers/sk/top-ten-skills.htm>). This is not news. The importance of communication has always been recognized.

But as the Boyer report points out, while all universities pay lip service to communication, in many it is just that. Written communication skills are sometimes taught in depth only in English classes, and professors of other disciplines often do not reinforce those skills and are content to blame the English professors for students' lack of writing skill (Boyer Commission, 1998, p. 24). The same can likely be said of oral communication skills and classes in communication studies. In effect, other disciplines often view communication as something separate from their own discipline, and therefore not their concern.

Furthermore, most student communication is done for professors, who naturally have a far greater expertise in the area than the student. Thus, students “write up” or “speak up” to their professors—that is, they are required to communicate mastery of a subject to experts who know far more than they do. But this is the opposite of what students will need to do once they are out in the real world. There, the graduates will be the experts and will need to “write down” or “speak down” to their audiences, who will almost always know far less about the topic than the authors do (Boyer Commission, 1998, p. 24).

Therefore, the Boyer report makes a number of recommendations for teaching communication, many of which go hand in hand with undergraduate research and all of which are part of Longwood University's QEP. First, and most important, communication skills should be taught alongside discipline-specific material in every course, from freshman seminar to senior capstone. The Boyer report suggests that this be accomplished as follows:

- All student grades should reflect both mastery of content and ability to convey content. Both expectations should be made clear to students.
- Writing courses need to emphasize writing “down” to an audience which needs information, to prepare students directly for professional work.
- Courses throughout the curriculum should reinforce communication skills by routinely asking for written and oral exercises. (Boyer Commission, 1998, p. 25)

Longwood's QEP ensures that the experiences students have as part of the student research initiative—whether in the freshman writing courses or the disciplinary research-focused courses or the summer research and individual mentored research—address these communication skills through the written or oral dissemination of the research results. Once again, it is clear that undergraduate research is an excellent vehicle for improving student competencies.

Undergraduate research promotes personal development and community engagement

According to CUR, undergraduate research, while improving a wide range of important skills and abilities in college students, also has another important effect, fostering personal growth, which relates to Longwood's mission of developing citizen leadership:

Personal development, including the growth of self-confidence, independence, tolerance for obstacles, interest in the discipline, and sense of accomplishment, centers on the increasing understanding of one's self and one's capabilities. Undergraduate researchers reported gains on these dimensions and, when asked to indicate which benefits of undergraduate research were most important, included personal gains among those benefits. Personal development grows with professional development but may contradict it. A student reaching a new level of independence and self-confidence may have the insight that he or she will not be fulfilled by continuing on the career path taken thus far. Personal development has a humanistic quality, providing general benefits regardless of the career path the student takes. By fostering personal growth, undergraduate research experiences realize the goals of liberal education. (Lopatto, 2006, p. 23)

Another way Longwood University's QEP promotes citizen leadership is to link undergraduate research and community engagement. Students involved in community-based research will perceive the importance of research for the good of society. Osborn and Karukstis (2009) summarize the literature that has developed on this subject:

Community-based research—research developed and conducted in service of unmet community-identified needs—is an increasingly popular experiential opportunity for undergraduates that can have beneficial outcomes both inside and beyond institutional walls (Paul, 2003, 2008).

The collaborative nature of community-based research ensures that all participants—each with different perspectives and complementary skills—contribute to and benefit from the experience (Nyden, 2003; Paul, 2003; Karukstis, 2005). Non-profit community organizations often are understaffed, have insufficient financial resources, or lack access to the skills and expertise necessary to conduct the critical research necessary to meet a particular need. In exchange for the desired technical assistance and resources, community partners contribute extensive professional and “life based” expertise and experience to the project (Paul, 2003). For faculty members, community-based research provides a connection to the local community and an opportunity to become involved and invested in the community in which they reside (Karukstis, 2005). New research avenues, additional funding sources, and new outlets for publication and dissemination are often additional tangible outcomes. Furthermore, faculty members find a powerful active-learning experience often absent in traditional curricula. Students, too, see the practical value of their work and gain significant satisfaction from making a meaningful contribution to their community (Karukstis, 2005). Experiencing the human dimension of a research question can be a motivating force that brings deeper understanding of social issues (Nyden, 2003). (pp. 49–50)

The authors note that by linking undergraduate research to community projects, students will gain “life” experience as well as professional expertise from the community. In return, undergraduate research will help the community; this shows the importance of research to society and how conducting research can make the students aware of social issues. Perhaps most importantly, community-based research can show students the practical value of their work, which provides a high level of community engagement that works to motivate students, one of the key elements of successful instruction in critical thinking.

The Council on Undergraduate Research and COEUR

Recently, the Council on Undergraduate Research published a report, *Characteristics of Excellence in Undergraduate Research (COEUR)*, that is “based on the collective experience, over many years, of CUR members who have engaged undergraduate students in research, developed undergraduate research programs, mentored new faculty to include undergraduate research in their teaching repertoire, and coached universities in the development of undergraduate research programs” (Hensel, 2012). In the report, CUR identifies twelve characteristics of excellence in undergraduate research; Figure 16 shows elements of Longwood's QEP that relate to each of these characteristics.

Figure 16. CUR's Twelve Characteristics of Excellence in Undergraduate Research Related to Elements of Longwood's R.E.A.L. Inquiry Plan

Characteristic of Excellence in Undergraduate Research	Element of R.E.A.L. Inquiry Plan
1. Campus mission and culture	• QEP
2. Administrative support	• Office of Student Research • Faculty reassigned time • Student travel grants
3. Research infrastructure	• Resources
4. Faculty professional development opportunities	• Faculty development workshops • Graduate student assistants
5. Recognition	• Awards for excellence in mentoring
6. External funding	• Resources
7. Dissemination	• Student travel grants • Annual student research showcase day • Online student research portal
8. Student-centered issues	• Scaffolded curriculum
9. Curriculum	• Scaffolded curriculum
10. Summer research program	• Summer research program
11. Assessment activities	• Assessment
12. Strategic planning	• Organizational structure

Best Practices

The QEP Working Group has taken several steps to study established best practices for developing an undergraduate research program. In addition to the review of relevant literature described above, these steps include reviewing websites and QEP documents from other institutions that focus on undergraduate research, attending pertinent conferences, visiting schools with exemplary undergraduate research programs, and consulting suitable experts, as summarized in Figure 17.

Figure 17. Development Related to QEP and Best Practices

Means	People	Area of Focus
Attendance at SACSCOC Summer Institutes, Annual Meetings, and Reaffirmation Orientation at various times in 2009, 2010, 2011, 2012, 2013	Various, including Mc Amoss, Jennifer Capaldo, David Locascio, Jake Milne, Chuck Ross, Cathy Roy, Susan Stinson	• Meaningful learning experiences • Assessment • QEP evaluation • Critical thinking • Transformative QEPs • Engaging faculty
Visit of consultant, director of undergraduate research at a similar university, 2013	QEP Working Group members	• Summer research program • Competitive funding for students and faculty • Office of Student Research • Annual student research showcase day
National Conference on Undergraduate Research 2013	Shelby Waugh	• Dissemination of student research results
Visit to Furman University 2013	Chuck Ross	• Summer research program • Annual student research showcase day

Means	People	Area of Focus
George Mason University QEP	QEP Working Group members	<ul style="list-style-type: none"> • Scaffolded curriculum • Office of Student Research • Web portal • Input of outside reviewer of Longwood QEP
Abilene Christian University QEP	QEP Working Group members	<ul style="list-style-type: none"> • Faculty reassigned time for mentoring • Sequential mentored research • Office of Student Research
Milligan College QEP	QEP Working Group members	<ul style="list-style-type: none"> • Student perceptions of undergraduate research survey
University of Houston QEP	QEP Working Group members	<ul style="list-style-type: none"> • Transformative power of QEP • Undergraduate research as related to core competencies

VI. ACTIONS TO BE IMPLEMENTED

This section explains the actions that will be implemented in support of each goal, detailing associated strategies and the timing of their implementation.

» *Goal 1: To improve students' learning by promoting their discovery of new knowledge through research.*

Action 1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses

Premise

As noted earlier, the Boyer Commission report, *Reinventing Undergraduate Education*, (1998) identifies a large divide between research and teaching, and one key element of the solution to this problem is the development and promotion of student inquiry, investigation, and discovery (see Section V, Literature Review and Best Practices). Many studies have been conducted in response to the Boyer Report and have shown that undergraduate research better prepares students for both career goals and advanced study (Association of American Colleges and Universities, 2007; Chapman, 2003; Crowe, 2007; Felder, 2010; Hart Research Associates, 2010; Healey and Jenkins, 2009; Hu et al., 2008; Hunter, Laursen, and Seymour, 2007; Lei and Chuang, 2009; Levenson, 2010; Osborn and Karukstis, 2009).

Given the recommendations of the Boyer Report, which suggest that students need to be explicitly introduced to research and academic inquiry early in their academic career and progress to a more sophisticated stage involving problem solving and thinking critically using research and inquiry-based activities, the R.E.A.L. Inquiry plan will employ a scaffolded approach, providing students with significant research and academic inquiry opportunities at the beginning, middle, and end of their college career. This will involve exposing students early on to the idea of scholarly research and inquiry; later, providing them with opportunities to participate in research and creative activities both on and off campus; and finally, for those students seeking an advanced experience, enabling faculty and students to work one-on-one in an independent fashion to create new knowledge via their scholarship and/or academic inquiry.

Specifically, R.E.A.L. Inquiry will achieve this by implementing three strategies: emphasizing academic inquiry skills development in English 150 (Strategy 1.1.1); identifying, enhancing, and/or developing a series of twelve disciplinary research-focused courses that focus on discipline-specific research and academic skills development (Strategy 1.1.2); and using the upper-level, QEP-associated disciplinary courses designated as 490, 498, 499, and CHEM/PHYS 496 as a means of enabling top-tier undergraduate scholars to participate in and produce new contributions within their disciplines (Strategy 1.1.3).

Course sections designated as “enhanced for research skills development” must show how they help students improve their SCHEV competencies in the context of research. They should require at a minimum that students:

- set a problem (research question or thesis) and conduct an inquiry (**critical thinking**);
- find, evaluate, and use sources and consider evidence, for example by producing an annotated bibliography (**information literacy**); and
- communicate results, for example through a paper, poster, abstract, artist statement, program notes, lab report, or case study (**oral and written communication**).

To ensure success of the overarching purpose of the QEP, in which students across the disciplines will understand the value of active scholarship, it is critical that Longwood University give busy faculty a sense of the QEP landscape, including the goals and expected outcomes, and offer principles that guide planning for enhancing the curriculum. Therefore, Longwood will be committed to offering faculty development programs to promote active learning in a nurturing environment while building confidence and competence in areas of undergraduate research and academic inquiry. The resources devoted to curriculum and faculty development will be made available through both annual and summer initiatives.

Strategy 1.1.1 English 150

English 150 is a course required as part of the general education program and is the introduction to writing in the academy for many, though not all, incoming undergraduates. The number of students taking English 150 each semester allows Longwood to reach a targeted percentage of its students as they begin their academic career.

In Year 0 (2013–14), a pilot course will run to improve research and academic inquiry enhancements to English 150 to fit within the R.E.A.L. Inquiry framework. For example, students will be introduced to the research methods, evidentiary standards, and argumentative techniques of five different disciplines (broadly defined): the natural sciences, business and economics, the social sciences (including education and religious studies), history, and literature. In each unit, students will study the academic conventions and methodology of the discipline and read examples of writing in the discipline. At the end of each unit, each student will write and present a brief reflection summing up the methods of research, types of evidence, and argumentative strategies accepted in this discipline. Longwood will compensate the pilot course faculty member with a \$3,500 stipend to enhance and teach his/her English 150 sections and the Composition Coordinator \$3,500 yearly to oversee the introduction of the enhancement and the continued growth of QEP enhancements to the freshmen composition curriculum.

In Year 1 (2014–15), Longwood will provide a stipend to three faculty members to make R.E.A.L. Inquiry-associated research and inquiry enhancements to three English 150 sections. Again, as an incentive to generate faculty participation, we will offer the selected faculty members a \$3,500 stipend to enhance their sections to include the aforementioned methodologies of academic research and inquiry in various disciplines.

In Years 2–5 (2015–19), in consultation with the Composition Coordinator and based on the results of the pilot and three enhanced sections, selected enhancements will be made to the English 150 course curriculum in order to accommodate QEP expansion at this introductory level.

Strategy 1.1.2 Disciplinary research-focused courses

In Year 0 (2013–14), the QEP Working Group will solicit one faculty member from each of the three colleges to develop and offer (in Year 1) an enhanced version of a course that focuses on discipline-based research and inquiry skills development. To reward faculty time and effort for this endeavor, Longwood will offer the selected faculty members a \$3,500 stipend to enhance and teach their disciplinary research-focused courses.

In Year 1 (2014–15), those three faculty selected in Year 0 will offer their enhanced courses. The Director of Student Research will work with the three selected faculty members to ensure the assessment of these courses is formalized at the beginning and end of each semester.

The Director of Student Research also will work to assist interested faculty members in identifying, enhancing, and/or developing courses that focus on discipline-based research and inquiry skills development. It should be noted that “interdisciplinary” courses can also be

enhanced as part of this group of specified research-focused courses. In the selection process, the director will consult the college deans, department chairs, and program coordinators across the colleges to compile a complete list of existing courses that focus on developing research and academic inquiry skills. Additionally, a second list will be generated identifying the programs within departments that do not currently have research-focused courses in order to track participation over the five-year implementation. An invitation will be issued to faculty to apply for the opportunity to offer an enhanced version of a course that would be intentionally tied into the QEP framework. Out of the submissions, the director will select three faculty/courses to incorporate into the QEP. To reward faculty time and effort for this endeavor, Longwood will offer the three faculty members chosen a \$3,500 stipend to enhance and teach their disciplinary research-focused courses.

After notifying the college deans and department chairs, the director will contact program coordinators whose programs do not have research methods/skills or student-inquiry courses and provide mentoring and support for individual faculty members in those programs who are interested in enhancing or developing a course and applying for QEP participation. As an example, the director will make available templates from other accepted research-skills development courses. The director will also issue an invitation to apply to attend the First Annual Summer Faculty Development session (see Action 1.2 below). Participants will write a brief statement, based on that session's offering, explaining why they wish to attend and articulating the type of research-focused course they would plan on teaching. Selected participants will be provided with a \$250 stipend for attending.

In Years 2–5 (2015–19), the director will annually notify the college deans and department chairs of his or her intention to contact program coordinators of all programs in order to solicit faculty applications for participation in the QEP. The director will also assure that programs without research methods/skills or student-inquiry courses are provided mentoring and support for individuals in those programs who are interested in developing a course and applying for QEP participation. Each year, out of the submissions received, the director will select three faculty members/courses to assimilate into the QEP. As an incentive to generate faculty participation, Longwood will continue to offer the three faculty members selected to participate a \$3,500 stipend to enhance or develop and teach the research-focused courses. The director will work with the three selected faculty members to ensure that assessment of these courses is formalized at the beginning and end of each semester.

Strategy 1.1.3 Individual mentored research course offerings

Using upper-level disciplinary courses designated as 490, 498, 499, and CHEM/PHYS 496, faculty will be encouraged to work one-on-one with top-tier student scholars in an independent fashion to produce or create new contributions and knowledge. As it currently exists in the Longwood University catalog, each discipline already has a research-based course designated as 490, 498, and/or 499. Courses designated as 490 consist of a directed reading, research project, research program, or independent study administered by qualified specialists in the department; courses designated as 498/499 consist of students conducting research in their discipline under the direction of a faculty member and the Senior Honors Research Committee. The R.E.A.L. Inquiry plan will draw on these existing courses by allowing faculty to enhance those specific disciplinary courses to fit within the QEP framework. By modifying existing courses rather than establishing new courses, we will eliminate the curricular process of creating a new course, hopefully making it easier for interested faculty members to participate. Based on the increased exposure to research/academic inquiry in English 150 and disciplinary research-focused courses, we anticipate a growth in the number of students seeking to participate in an advanced research and/or academic inquiry experience within their discipline or in an interdisciplinary manner. It should be noted that courses designated as 490, 498, 499, and

CHEM/PHYS 496 satisfy Longwood University's General Education Goal 14: The application of knowledge and skills developed in the student's course of study through completion of an internship, guided field experience, or directed research.

Beginning during Year 0 (2013–14), and continuing throughout the QEP implementation, regular announcements will be made to the faculty regarding the option of participating in R.E.A.L. Inquiry on a one-on-one basis with students via courses designated 490, 498, and/or 499.

During Years 1–5 (2014–19), faculty members will be invited to submit an application. The offering of the enhanced disciplinary courses designated as 490, 498, and/or 499 by the selected faculty members will begin in Year 2. Expanding on the QEP-associated 490, 498, and/or 499 course offerings will be the primary goal during Years 3–5. (Please refer to Section VII, Timeline.)

R.E.A.L. Inquiry-associated 490, 498, and/or 499 disciplinary courses will be further developed as directed research/academic inquiry courses. Individual course syllabi will be required and approved by the Director of QEP to ensure that they align with QEP student outcomes. The Director of QEP will work with the selected faculty members to ensure the assessment of these courses is formalized. Faculty will identify the methodologies and outcomes used in the courses to ensure alignment with QEP student outcomes. Tracking the assessment figures and recording student development over a series of years (during the QEP implementation and evaluation) will be coordinated by the director.

Faculty will be paid according to the normal per-student, per-credit formula applied to 490, 498, and/or 499 courses across the colleges (assuming those payments are the same) or provided with incentives. In addition to the per course, per credit, and per attendant funds needed, appropriate levels of funding will be made available (perhaps capped) for students and faculty members interested in presenting at conferences such as CUR or BIG SUR in relation to work conducted as part of the QEP. (Those faculty and students who wish to obtain such funds but are not part of an English 150, QEP-associated disciplinary research-focused course, or QEP-associated 490, 498, and/or 499 course would be ineligible for this particular funding pool.)

Outreach in support of Action 1.1

Naturally, it will be imperative to work with the primary stakeholders (faculty members and students) to promote the understanding of and participation in R.E.A.L. Inquiry for the strategies associated with Action 1.1 to be successful. Thus, ongoing discussions among college deans and department chairs will be beneficial in identifying, recruiting, and supporting faculty to enhance and/or develop course offerings with a foundation in student research and academic inquiry. In order to inform and remind the faculty of the opportunities, including incentives, being made available to them via the QEP, regular announcements will be made at the various levels (e.g., General Faculty Meeting, College- and Department-wide meetings); email reminders will be sent; and printed brochures, website/online postings, and other social networking forums will be used as vehicles to reach the faculty. These materials will be developed and updated on a semi-annual basis to promote offerings and disseminate outcomes related to the QEP.

In addition to the aforementioned strategies, we will also engage in the following:

In Years 3 and 4 (2016–18), we will develop a strategy for enhancing incentives to engage departments and programs not currently participating in the QEP.

In Year 5 (2018–19), we will catalog and assess current courses participating in the QEP, and we will document reasons why certain programs are not interested in being represented.

Professional development in support of Action 1.1

Longwood University will be committed to offering programs that include interactive professional development workshops for faculty interested in developing or enhancing courses with a focus on research and academic-inquiry skills at any one of the three levels described above. Thus, in addition to the aforementioned strategies, we will encourage the development of a robust faculty learning community by establishing an ongoing series of roundtable sessions and offering summer faculty development workshops.

Ongoing series of roundtable sessions

In Year 0 (2013–14), Longwood will plan for an ongoing series of roundtable sessions to support the establishment of a stable faculty learning community that will have both an online and in-person presence.

In Year 1 (2014–15), we will implement a pilot series of roundtable sessions, to be held once a semester in Year 1, with the goal of initiating discussions on best practices for creating and enhancing courses focused on research and academic inquiry, including discussions of outcomes assessment, issues, and challenges associated with offering such courses.

In Years 2–5 (2015–19), we will expand our ongoing series of roundtables to at least twice a semester in order to establish a stable faculty learning community that will have both an online and in-person presence. The roundtable series will include topics such as, but not limited to, teaching grant writing, curriculum and course development, and finding sources of research funding.

Summer faculty development workshops and course assessments

In Year 0 (2013–14), Longwood will plan for an initial summer faculty development workshop by identifying a topic and soliciting plenary speakers. In Summer 2014, Longwood will provide a specialized pilot workshop, in collaboration with other stakeholders, consisting of a small number of faculty members interested in teaching student research and/or student-inquiry methods. Interested faculty members will apply to participate, and those who are selected to participate will receive a \$250 stipend for attending.

The Director and Composition Coordinator will also use the summer months to review the assessments of the effectiveness of the initial English 150 enhancements, and reports will be provided to participating faculty.

In Year 1 (2014–15), we will identify themes and plenary speakers for each of the following four years of summer workshops. In summer 2015, the Longwood Teaching and Learning Institute will focus on teaching student research and/or student-inquiry methods. Again, interested faculty members will apply to participate, and those who are selected to participate will receive a \$250 stipend for attending.

The assessments of the four courses that are part of the QEP in Year 1 (English 150 and the initial three disciplinary research-focused course offerings) will be reviewed over the summer months, and reports will be provided to participating faculty.

In summers 2016–18, between Years 2 through 5, we will hold the annual summer faculty development workshops on teaching and producing student research and/or student inquiry. Again, there will be an application and selection process for interested faculty, who will, in turn, be paid a stipend of \$250 for attending.

The assessments of the courses that are part of the QEP, (English 150, the disciplinary research-focused course offerings, and individual mentored research courses designated as 490, 498, and/or 499 course sections), will be reviewed over the summer months and reports will be generated for participating faculty.

In summer 2019, all of the work from the previous 6 years will be culminated with a festival featuring poster sessions to highlight effective research models in departments at Longwood.

Summary of Action 1.1

The scaffolded approach to implementing the research and academic inquiry QEP initiative outlined above (Strategies 1.1.1, 1.1.2, and 1.1.3) will continue during years 3, 4, and 5. At the end of QEP implementation, we will have the English 150 curriculum enhanced for research skills development, twelve QEP-associated disciplinary research-focused courses, and QEP-associated individually mentored research courses designated as 490, 498, and/or 499.

Action 1.2. Make available faculty-guided summer undergraduate research program in all disciplines

Recently, in an effort to increase participation in productive research by both faculty and undergraduates, Longwood University developed a summer research program, Longwood University Perspectives on Research in Science and Mathematics (LU-PRISM). The objectives of the LU-PRISM program are to:

- increase the number of undergraduates conducting meaningful research;
- provide opportunities outside of the classroom for students to engage in experiential learning of skills that will benefit them after leaving Longwood; and
- financially support faculty research during the summer, when faculty have the most time to dedicate to projects.

In Year 0 (2013–14), the LU-PRISM pilot ran for eight weeks during the 2013 Summer Session and included eleven faculty and fourteen undergraduates from the Biological and Environmental Sciences, Chemistry and Physics, and Mathematics and Computer Sciences departments. Each participating faculty member worked directly with one or two students for 40 hours per week on projects designed by the faculty member. To foster a supportive group dynamic and scholarly communication, all participants in the LU-PRISM program met semi-regularly during the summer to discuss progress, troubleshoot issues, and learn new techniques. Several specific deliverables were required as well. At the end of the second week of the program, students gave an initial oral presentation to the LU-PRISM group, to ensure that all participants were progressing appropriately. At the end of the program, students discussed their summer's work via poster presentation and submitted a formal research paper that summarized their findings.

R.E.A.L. Inquiry will expand the student summer research program such that faculty and students from all disciplines are invited to participate. This process will be undertaken in three major steps, as follows:

1. Demonstrate the value of such a program through the LU-PRISM pilots.
2. Write an expanded version of the program, called the Longwood University Summer Research Fund (LU-SRF), to be implemented within the QEP framework, thus allowing specific funds to be directed to this program.
3. Expand participation to include 28 faculty and 28 students by 2019.

In Years 1 and 2 (2014–16), additional pilots of the LU-PRISM program will be run (Summer 2014 and Summer 2015), and the QEP Working Group members will work with LU-PRISM organizers to assess the program and write an expanded version of the program (LU-SRF) for implementation in Years 3–5. The collaboration between these groups will ensure that the successful aspects of the LU-PRISM program are advanced within the framework of QEP goals.

In Years 3–5 (2016–19), the full LU-SRF program will be implemented each summer.

More specifically, beginning in 2014 (Year 1) for LU-PRISM and 2016 (Year 3) for LU-SRF, Longwood faculty and students will be invited to participate in the summer research program through a competitive application process. Faculty will be notified of their acceptance into the program prior to the start of the Spring Semester and will receive a stipend of \$6,000 for their participation. All continuing Longwood students will be invited to apply. Participating faculty will then select students that are best suited to assist on their research project. Students will be notified of their acceptance into the program prior to Spring Break and will receive a stipend of \$3,500, boarding in a dormitory room, and meal-plan fees. Students not requiring on-campus housing will receive a stipend to cover their living expenses.

Impact of Goal 1

Figure 18 shows the projected number of students affected by the curricular initiatives and the summer research program that are the actions in support of Goal 1:

Figure 18. Projected Number of Students Affected by Goal 1 Actions

Year 0 (2013–14)	Year 1 (2014–15)	Year 2 (2015–16)	Year 3 (2016–17)	Year 4 (2017–18)	Year 5 (2018–19)	Totals for Goal 1
ACTION 1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses						
1.1.1. English 150 (18 students per section)						
2 sections in spring semester = 36 students	8 sections each semester = 288 students	8 sections each semester = 288 students	8 sections each semester = 288 students	8 sections each semester = 288 students	8 sections each semester = 288 students	1,476 students
1.1.2. Other courses (assumes 20 students per section)						
	3 sections = 60 students	6 sections = 120 students	9 sections = 180 students	12 sections = 240 students	12 sections = 240 students	840 students
1.1.3. Senior Honors Research Program and Individual Mentored Research						
	18 students	24 students	30 students	36 students	36 students	144 students
ACTION 1.2. Make available faculty-guided summer undergraduate research program in all disciplines						
14 students in PRISM	14 students in PRISM	14 students in PRISM	28 students in LU-SRF	28 students in LU-SRF	28 students in LU-SRF	126 students
YEARLY SUBTOTALS						
50 students	380 students	446 students	526 students	592 students	592 students	2,576 students

» **Goal 2: To improve students' learning by facilitating student-faculty collaboration in research.**

Premise

Engaging students in research and creative activities is a proven and powerful practice for enhancing educational outcomes and expanding student learning. At Longwood University, the value of this high-impact practice as an important activity for student learning and professional development is evidenced in the current opportunities for student participation in research and inquiry.

Longwood students have a variety of curricular and co-curricular opportunities to engage in research and inquiry. The most common approach is through a capstone or required upper-division course or senior honors project. Other programs include research methods courses,

advanced seminars, directed independent study, internships, and field work or practica (See 1.1.2 and 1.1.3 above).

While opportunities exist for students to participate in research and inquiry, a coordinated approach is needed to expand participation and create access for a greater number of students.

One of the most effective ways to cultivate student interest and participation in research and inquiry is to establish a designated student research office to coordinate efforts and increase awareness about existing opportunities. Providing administrative support and recognition to faculty mentors is also important, as is fostering a culture of research through effective communication and dissemination of research opportunities and outcomes.

Action 2.1. Establish Office of Student Research

Integral to the implementation and sustainability of the QEP will be a centrally located, formally designated Office of Student Research (OSR). The establishment of a designated office for student research clearly signifies the importance of and the institutional commitment to R.E.A.L. Inquiry. The purpose of the office will be to increase campus-wide awareness of and participation in student research and inquiry activities across disciplines and to facilitate student-faculty collaborations. The Provost has committed to housing the OSR in the new Student Success Center, a building that, once completed in Spring 2016, will be easily accessible to both students and faculty. The OSR will be responsible for providing campus-wide oversight of student research activities, coordinating current undergraduate and graduate programs as well as developing and managing new programs, facilitating the development of research-related skills training, and providing professional development and peer-mentoring support for students and faculty. In addition, the OSR will be responsible for coordinating and promoting the annual Longwood University Student Research Showcase Day.

The OSR staff will include a full-time director and two graduate assistants. The director will have undergraduate student mentoring and assessment experience in order to effectively perform his or her assigned duties (Appendix G). Faculty support and campus-wide participation will be imperative to the success of the QEP. Therefore, the director will work closely with faculty, university administration, and the community to build support and provide resources to facilitate faculty engagement. Managerial and day-to-day operations also will be the responsibility of the full-time Director of Student Research. A Student Research Advisory Council composed of faculty, staff, students, and community members will: 1) provide guidance and recommendations to the director; 2) assist with the review of applications for programs, grants, and faculty development support; 3) promote research activities and opportunities for external funding; and 4) support the assessment of OSR-related programs and activities.

Strategy 2.1.1 Space and infrastructure

Establishing an Office of Student Research (OSR) will create an infrastructure that minimizes bureaucracy, coordinates activities, and facilitates faculty-student interactions. Well-intentioned positioning of the office in the hub of student services and programs will increase the visibility and accessibility of the program for students and faculty. The planned placement for the OSR is within the future Student Success Center, which is slated for completion in early 2016 and intentionally co-locates student support and administrative services, providing close proximity to important campus partners. The OSR will provide a physical space for faculty and students to obtain and share information. Office facilities will include space for hosting workshops, group/team meeting areas, and general workspace.

Strategy 2.1.2 Office activities

The OSR will serve to increase communication and awareness of undergraduate and graduate research and inquiry opportunities among students and faculty, and it will facilitate student-faculty collaborations. OSR services and activities will be prominently featured on an informative and easy-to-navigate website. The OSR staff will have access to and control over this website in order to ensure it is easily updated and adapted to reflect current OSR activities. Topical content will include current and forthcoming opportunities for undergraduate research and inquiry, fellowships, workshops, grant deadlines, and direct links to existing campus-wide research and inquiry initiatives and honors programs. Additional web-based resources will include a database of faculty research interests and opportunities for student research assistantships.

The OSR will also coordinate with Longwood's service learning and community services program to cultivate community partnership opportunities and to support students and faculty who seek to work collaboratively with local organizations to develop projects that address community-identified needs.

Strategy 2.1.3 Alignment with campus resources

The OSR will collaborate and coordinate on a continuous basis with units such as the Office of Assessment and Institutional Research, the Center for Academic Success, the Writing Center, the College of Graduate and Professional Studies, and Greenwood Library. The OSR will also partner with non-academic units such as Development, Alumni Relations, Admissions, and Public Relations as well as with external and governmental organizations.

The director will work with the Center for Academic Faculty Enrichment (CAFÉ) and the Senior Honors Research Committee to organize, publicize, and implement faculty development workshops and training.

Action 2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research

Two of CUR's characteristics of excellence in undergraduate research are administrative support and recognition (2012). To promote student-faculty collaboration in research, R.E.A.L. Inquiry provides funding for reassigned time, awards, and research grants.

Strategy 2.2.1 Reassigned Time

Mentoring student scholarly endeavors requires extensive time from a faculty member. Thus, the QEP budget includes funds for facilitating reassigned time for those faculty members with significant undergraduate and/or graduate research obligations (see Section IX, Resources).

Strategy 2.2.2 Excellence in Mentoring Awards

The QEP budget includes funds to provide an increasing number of \$1,000 Excellence in Mentoring awards each year to faculty who have shown excellence in mentoring students in research activities. Incremental increases over the five years are planned, with the budget allotting for three awards in Year 1, five awards in Year 2, seven awards in Year 3, eight awards in Year 4, and ten awards in Year 5.

Strategy 2.2.3 Undergraduate Research Grants

Undergraduate research grants provide incentives to faculty for engaging in faculty-student research collaborations. Faculty members apply for these grants in January. The QEP budget includes funding to support up to \$10,000 in undergraduate research grants for each year of the five-year QEP plan. With a typical grant of \$500, this would allow up to 20 grants each year.

Action 2.3. Use electronic portal, the “student research portal,” to draw attention to possibilities for student research and completed student research, to track students’ research skills development, and to assess core competencies addressed in the QEP

The Office of Student Research (OSR) will foster a culture of research within the University and create an awareness of ongoing faculty and student accomplishments via an effective and flexible website devoted to communication, origination, and dissemination of research announcements and opportunities. This approach is based on a survey of similar programs at peer and aspirant institutions. In order for the OSR website to be effective, it must:

- state the mission and purpose of the OSR;
- organize and publicize grants and other funding opportunities for student and faculty research (for example, BIG SUR and CUR);
- organize and highlight opportunities for student and faculty presentations at conferences;
- organize submission of content for the annual Longwood University Student Research Showcase Day;
- organize important research-related due dates and deadlines;
- provide and profile up-to-date news on research-related activity happening within the University and involving alumni;
- highlight the senior honors research program;
- provide links to the Digital Commons institutional repository as well as individual department websites;
- provide contact and profile information for a student research advisory committee; and
- provide examples of effective grant proposals that students can use as models for their research endeavors.

The website for the OSR will be designed by the Department of Theatre, Art, and Graphic Design’s “Design Lab.” Design Lab’s mission is to create professionally designed and well-produced print, web, and interactive products. The work produced by Design Lab is an example of applied student research and, thus, is a fitting way to build the new OSR website. Since Design Lab does not charge for their services, the design and construction of the OSR website will not require additional funding. The cost of hosting the site will depend on the type of service used, which will be discussed with Design Lab and university administration at the appropriate time. Additional funding may be required for staffing within the OSR to continually maintain and organize content on the website, which will serve as the main interface between the university community and the OSR.

In Year 0 (2013-14), the Design Lab will be commissioned to create a website with easily updateable content.

In Years 1–2 (2014–16), OSR will input all appropriate information, assess the website’s functionality, and work with the Design Lab as needed to streamline and improve the site.

In Year 3 (2016–17), OSR will assess university-wide satisfaction with the website and its effectiveness in disseminating research information.

In Years 4–5 (2017–19), OSR, in consultation with the Design Lab, will continue to assess the effectiveness of the website and make improvements to address concerns raised.

- » *Goal 3: To improve students' learning by advancing an understanding of the importance of disseminating the results of research in academic and civic communities.*

Action 3.1. Link undergraduate research and community engagement

Research has shown that students who actively engage in their communities will attain an experiential dimension to their education as they test classroom learning firsthand, feel better connected to their academic and social communities, and receive valuable preparation for their future educational and professional careers (Nyden, 2003; Karukstis 2005). Therefore, the R.E.A.L. Inquiry initiative will provide another avenue for Longwood University to promote community engagement in which students directly connect their academic interests and skills to projects that positively impact their communities. Longwood University maintains a strong belief in the potential for communities and universities to work together in a scholarly manner to make a tangible difference in the effectiveness of the civil society sector, the quality of university education and research, and the lives of local people. The QEP initiative will support the following goals:

- Ensure the knowledge base of the University is accessible to its local community.
- Develop a collaborative community of faculty involved in community-based scholarship.
- Help faculty and students create publishable scholarship from community-based research.

The OSR will serve as the intersection of student learning, faculty research and creative activity, and community engagement by partnering with community organizations on several community outreach projects. These outreach projects facilitate collaboration among faculty, community members, and students, allowing them to work together to address important issues in the community. Longwood currently has organizational units that provide targeted outreach programs serving the community. Selected examples of outreach activities conducted by Longwood University organizational units include: Hull Springs Farm; Institute for Teaching through Technology and Innovative Practices; Longwood Center for the Visual Arts; Speech, Hearing, and Learning Services (formerly the Longwood Center for Communication, Literacy, and Learning); Longwood Small Business Development Center; and the SNVC Institute for Leadership and Innovation. In addition to these university programs, Longwood University works with many local organizations that serve the public (e.g., Clean Virginia Waterways, Robert Russa Moton Museum) and provide support for local schools. R.E.A.L. Inquiry will draw on these existing outreach programs and community partnerships, as well as create new ones, to link undergraduate research initiatives with community outreach efforts that align with the QEP framework.

The OSR will offer incentives for faculty and students to become involved with community engaged learning and research at Longwood, including several different funding opportunities, such as awards, mini-grants, and tuition waivers. Additionally, the new OSR website will include a “welcoming” page for community partners and for anyone interested in Longwood’s community outreach activities. The web page will provide ideas and information about Longwood’s faculty, academic courses, and current community outreach projects. It will also invite community partners to engage with Longwood University and find ways to connect with faculty and students to help meet needs in the community. For example, the website will provide an avenue for community members to list their ideas for new projects, post information about ongoing research, pose questions, and provide program evaluation outcomes.

Action 3.2. Provide grants for undergraduate research and/or presentations at conferences

In order to mitigate the financial barriers that might discourage student participation in scholarly work, the Office of Student Research will offer a limited number of grants to support research and travel. Grants will be awarded on a competitive basis and typically made in amounts up to \$500.

Strategy 3.2.1 Research grants

Research grants will be awarded by the Director of the Office of Student Research in consultation with the dean of the college of the applying student-mentor team. Monies awarded are to be used to defray costs associated with conducting research. (Note: Equipment and software purchased with research grant funds become the property of Longwood University.)

Examples of applicable research expenses include:

- laboratory equipment;
- media equipment;
- equipment for work in the field;
- art supplies;
- software;
- photocopying, printing, and film processing;
- communication costs (postage, phone, etc.); and
- travel to support the investigative phase of the student's work, such as travel to field sites, museums, archives, or libraries. (Travel support to attend conferences should typically come from travel grants, as outlined below).

Strategy 3.2.2 Travel grants

Travel grants will be awarded by the Director of the Office of Student Research in consultation with the Provost/Vice President for Academic Affairs (or his/her designee). These grants are to be used to support student travel to conferences or professional meetings to disseminate the results of their scholarship. Examples of applicable travel expenses include:

- airfare and mileage,
- lodging,
- conference registration,
- food, and
- materials for posters or other displays.

Students who receive travel grants will be expected to be active participants in the conference or meeting they attend. Active participation includes making oral presentations, presenting posters, participating in a panel discussion, or performing or exhibiting artistic work.

In addition to presenting their work at the conference or meeting to which they travel, students who receive research or travel grants will be expected to share their work in a Longwood University venue, such as the Digital Commons and/or the annual Longwood University Student Research Showcase Day.

Action 3.3. Organize annual student research showcase day for Longwood students

The annual Longwood University Student Research Showcase Day (LUSRSD) will provide an opportunity for students to share their research with the campus community. This research day will benefit the University by allowing students to develop an awareness of research

methodologies and results of creative inquiry, providing opportunities for faculty across disciplines to collaborate on research efforts and design, and giving students practice in communicating about their research to a public audience. The LUSRSD will showcase the research, scholarship, and artistic endeavors completed by Longwood University students as part of a course, internship, or the summer research program.

Currently the Cook-Cole College of Arts and Sciences (C-CCAS) hosts an annual student showcase. This is a very successful long-standing event for the Longwood community and, thus, will serve as an appropriate model for the new LUSRSD. In order to expand the research day event such that faculty and students from all disciplines are involved, the following plan will be implemented:

In Year 0 (2013–14), to promote and develop interest in the future LUSRSD among faculty from all academic disciplines, the QEP Co-Director invited interested faculty to attend the C-CCAS Student Showcase in November 2013.

In Year 1 (2014-15), the QEP Working Group members assigned to the LUSRSD Committee will work with the organizers of the C-CCAS Student Showcase to create an expanded version of the event that includes academic disciplines outside of the C-CCAS. To recruit participants for the LUSRSD, the committee will contact faculty who are currently teaching or have recently taught research methods classes in their departments. These faculty members will be a strong source of potential student presentations, as their courses directly involve students in research. Further planning for the first of the campus-wide LUSRSD events will begin early in Spring 2015. Email reminders will be sent out and other social networking forums will be used to disseminate information about the event. Faculty members who express interest in participating will be contacted, and by the end of February, deadlines will be posted for student submissions.

For Years 2–5 (2015–19), it will be critical to work with both administration and faculty to promote additional representation and participation in LUSRSD. LUSRSD Committee members will conduct personal meetings with the deans and department chairs to encourage, identify, recruit, and support faculty to become involved in undergraduate research and, ultimately, the LUSRSD. In addition, the committee will continue to disseminate information about the LUSRSD to all members of the university community via email reminders, website postings, other social networking forums, and announcements made at the university, college, and department levels. Methods for engaging student participation will include presentations at student organization meetings and at certain university scholarship and study programs (e.g., the Senior Honors Research program). By Year 5 (2018–19), the goal is to have all interested departments represented at the LUSRSD.

With regard to the development and promotion of LUSRSD, an important order of business is to secure the proper materials, rooms, and space for the event. The choice of venue is critically important as the location can have serious effects on attendance. The C-CCAS Student Showcase has been held in various locations throughout the years; however, it has been most successful when held in Longwood's centrally located Dorrill Dining Hall, as this is an area that can support poster presentations, presentations of artwork, traditional "talk" presentations, and small performances. Therefore, we will plan to hold the LUSRSD in the Dining Hall. Requests to secure the needed spaces via the Office of Conferences and Scheduling and the Dining Hall building manager will be made one semester in advance of the showcase each year. Arrangements for additional logistical considerations (e.g., technology, easels) will also be made at this time.

Action 3.4. Highlight senior honors research program and other student research on the student research portal

The Office of Student Research will capitalize on the opportunity the Web provides to showcase and share exemplary student work with the world. An effective program for disseminating successful student work will:

- raise enthusiasm for undergraduate research among a broad range of campus constituents,
- elevate Longwood’s profile as an institution for academic excellence, and
- secure a broad audience for high-quality research and creative work.

In order to facilitate Longwood’s contributions to scholarly communication online, the University is in the process of implementing the Digital Commons @ Longwood, a digital repository that enables scholars to share their academic and creative work in a professional-looking, online environment that is well-organized, easy to access, and searchable. The Digital Commons @ Longwood boasts several features that make it ideal for showcasing student research projects, including:

- **Flexibility**—The Digital Commons @ Longwood allows scholars to display their work in a variety of formats, not just text. The repository supports embedded slide shows, picture galleries, and streaming audio and video. It also allows content creators to include supplemental files that users can download from the repository. Examples include this photo gallery from Pacific University Oregon (<http://commons.pacificu.edu/todayq1/>) and this online lecture from Utah State University (http://digitalcommons.usu.edu/ub_biochem/1/).
- **Searchability**—Content in the Digital Commons @ Longwood is searchable by Google and other search engines, making high-quality student work accessible on a global scale.
- **Persistent Links**—Each entry in the Digital Commons includes a persistent link that can be used to direct readers to student research via Facebook and other social media, blogs, websites, etc. This feature allows students, faculty, and administrators to link directly to student work in a variety of contexts. Figure 19 shows some of the possible channels that can be used to showcase student work in the Digital Commons @ Longwood.

Figure 19. Repository, Channel, and Audience for Student Research

Repository	Channel	Audience	
Papers and exhibits in Digital Commons @ Longwood (digitalcommons.longwood.edu)	Office of Student Research web page	<ul style="list-style-type: none"> • Students • Faculty 	<ul style="list-style-type: none"> • Administrators • Potential Donors
	Departmental web pages	<ul style="list-style-type: none"> • Students • Faculty 	<ul style="list-style-type: none"> • Administrators • Community
	Student eportfolios (eportfolios.longwood.edu)	<ul style="list-style-type: none"> • Family 	<ul style="list-style-type: none"> • Potential Employers
	Social media	<ul style="list-style-type: none"> • Students • Faculty • Administrators 	<ul style="list-style-type: none"> • Community • Potential Donors
	Google and other search engines	<ul style="list-style-type: none"> • Researchers • Community 	<ul style="list-style-type: none"> • Students

VII. TIMELINE

Figure 20 offers an overview of the projected timeline for implementation of the various R.E.A.L. Inquiry components.

Figure 20. Implementation Timeline

Goal, Activity, and Task	Persons Responsible
YEAR 0: 2013–14	
GOAL 1. To improve students' learning by promoting their discovery of new knowledge through research.	
1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses	
<ul style="list-style-type: none"> • Pilot an enhanced section of English 150 • Invite and select 3 faculty to enhance/develop existing discipline-specific research courses to fit within the QEP framework • Explore best practices for offering series of roundtable discussions to support curriculum and faculty development • Investigate conduits for promoting R.E.A.L. Inquiry 	OSR Director; Composition Coordinator; selected faculty members teaching QEP-associated courses; QEP working groups
1.2. Make available a faculty-guided summer undergraduate research program in all disciplines	
<ul style="list-style-type: none"> • Invite faculty to apply to attend the first summer faculty development session • Initiate collaboration between LU-PRISM and QEP Working Groups 	OSR Director; LU-PRISM Director; LU-SRF Director; CAFÉ Director
GOAL 2. To improve students' learning by facilitating student-faculty collaboration in research.	
2.1. Establish Office of Student Research	
<ul style="list-style-type: none"> • Appoint OSR Director, coordinator, student assistant, advisory team 	Provost; OSR Director; Facilities Management; Information Technology Unit; directors of relevant programs (e.g., CAFÉ) and non-academic units
2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research	
<ul style="list-style-type: none"> • Determine reassigned time 	Provost; OSR Director; Student Research Advisory Council
2.3. Use electronic portal, the "student research portal," to draw attention to possibilities for student research and completed student research, to track students' research skills development, and to assess core competencies addressed in the QEP.	
<ul style="list-style-type: none"> • Design and construct OSR website, employing Design Lab • Develop surveys to track students' research skills development 	OSR Director; Information Technology Unit; Department of Theatre, Art and Graphic Design; Office of Assessment and Institutional Research
GOAL 3. To improve students' learning by advancing their understanding of the importance of disseminating the results of research in academic and civic communities.	
3.3. Organize annual student research showcase day for Longwood students	
<ul style="list-style-type: none"> • Invite faculty members to attend the College of Arts and Sciences Research Day in November 2013 	QEP Co-Director

Goal, Activity, and Task	Persons Responsible
YEAR 1: 2014–15	
GOAL 1	
<p>1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses</p> <ul style="list-style-type: none"> • Enhance/teach 3 sections of English 150 • Offer the 3 disciplinary research-focused courses • Invite and select an additional 3 faculty to enhance/develop existing disciplinary research-focused courses • Offer 1 roundtable per semester to establish an annual initiative for curriculum/faculty development • Establish online and in-person presence to promote R.E.A.L. Inquiry <p>1.2. Make available a faculty-guided summer undergraduate research program in all disciplines</p> <ul style="list-style-type: none"> • Invite faculty to apply/attend the second summer faculty development session • Advance LU-PRISM to fit within the QEP framework 	<p>OSR Director; Composition Coordinator; selected faculty members teaching QEP-associated courses; QEP Working Group</p> <p>OSR Director; LU-PRISM Director; LU-SRF Director; CAFÉ Director</p>
GOAL 2	
<p>2.1. Establish Office of Student Research (OSR)</p> <ul style="list-style-type: none"> • Work with relevant constituencies to build the Student Success Center • Establish website featuring OSR services/activities • Develop alignment with campus resources <p>2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research</p> <ul style="list-style-type: none"> • Implement reassigned time • Establish annual Excellence in Mentoring Awards • Create and determine funding for undergraduate research and travel grants <p>2.3. Use electronic portal, the “student research portal,” to draw attention to possibilities for student research and completed student research, to track students’ research skills development, and to assess core competencies addressed in the QEP</p> <ul style="list-style-type: none"> • Streamline and make improvements to OSR website • Implement surveys to track students’ research skills development • Collect baseline metrics, analyze results, and implement regular reporting 	<p>Provost; OSR Director; Facilities Management; Information Technology Unit; directors of relevant programs (e.g., CAFÉ) and non-academic units</p> <p>Provost; OSR Director; Student Research Advisory Council</p> <p>OSR Director; Information Technology Unit; Department of Theatre, Art and Graphic Design; Office of Assessment and Institutional Research</p>
GOAL 3	
<p>3.1. Link undergraduate research and community engagement</p> <ul style="list-style-type: none"> • Appoint a Community Engagement Advisor (CEA) • Develop website for community partners • Investigate funding opportunities <p>3.2. Provide grants for undergraduate research and/or presentations at conferences</p> <ul style="list-style-type: none"> • Establish and provide student travel funds/grants • Establish and provide faculty travel/equipment grants <p>3.3. Organize annual student research showcase day for Longwood students</p> <ul style="list-style-type: none"> • Invite faculty members to apply to the first Longwood University Student Research Showcase Day (LUSRSD) to be held in Spring 2015 • Secure needed spaces and technology <p>3.4. Highlight senior honors research program and other student research on the student research portal</p> <ul style="list-style-type: none"> • Showcase student research online by implementing Digital Commons @ Longwood 	<p>OSR Director; Community representative on Student Research Advisory Council</p> <p>Provost; OSR Director</p> <p>OSR Director; LUSRSD Director and Planning Committee</p> <p>OSR Director; Information Literacy Team; directors of relevant programs</p>

Goal, Activity, and Task	Persons Responsible
YEAR 2: 2015–16	
GOAL 1	
<p>1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses</p> <ul style="list-style-type: none"> • Expand on enhancements to be made to the English 150 curriculum • Offer the 6 disciplinary research-focused courses • Invite and select an additional 3 faculty to enhance/develop existing disciplinary research-focused courses • Solicit/expand on QEP-associated individually mentored research courses • Offer 1–2 roundtables per semester to sustain curriculum/faculty development • Develop strategies for enhancing incentives for departments and programs not participating in the QEP • Review/assess the QEP-associated courses at all levels <p>1.2. Make available a faculty-guided summer undergraduate research program in all disciplines</p> <ul style="list-style-type: none"> • Invite faculty to apply/attend the summer faculty development session • Offer expanded program, to be called Longwood University Summer Research Fund (LU-SRF) 	<p>OSR Director; Composition Coordinator; selected faculty members teaching QEP-associated courses; QEP working groups; Office of Assessment and Institutional Research</p> <p>OSR Director; LU-PRISM Director; LU-SRF Director; CAFÉ Director</p>
GOAL 2	
<p>2.1. Establish Office of Student Research (OSR)</p> <ul style="list-style-type: none"> • Complete the Student Success Center in Spring 2016 • Continually update website featuring OSR services/activities • Expand on alignment with campus resources <p>2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research</p> <ul style="list-style-type: none"> • Assess/modify reassigned time • Provide annual Excellence in Mentoring Awards • Continue to offer funding for undergraduate research and travel grants <p>2.3. Use electronic, the “student research portal,” portal to draw attention to possibilities for student research and completed student research, to track students’ research skills development, and to assess core competencies addressed in the QEP</p> <ul style="list-style-type: none"> • Enhance OSR website • Implement surveys to track students’ research skills development • Collect baseline metrics, analyze and report results regularly 	<p>Provost; OSR Director; Facilities Management; Information Technology Unit; directors of relevant programs (e.g., CAFÉ) and non-academic units</p> <p>Provost; OSR Director; Student Research Advisory Council</p> <p>OSR Director; Information Technology Unit; Department of Art and Graphic Design; Office of Assessment and Institutional Research</p>
GOAL 3	
<p>3.1. Link undergraduate research and community engagement</p> <ul style="list-style-type: none"> • Enhance website for community partners • Implement and expand on funding opportunities • Continue to explore additional avenues for promoting community engagement in a scholarly manner <p>3.2. Provide grants for undergraduate research and/or presentations at conferences</p> <ul style="list-style-type: none"> • Provide student travel funds/grants and faculty travel/equipment grants <p>3.3. Organize annual student research showcase day for Longwood students</p> <ul style="list-style-type: none"> • Expand participation in LUSRSD, with focus on non-participating colleges • Secure needed spaces and technology <p>3.4. Highlight senior honors research program and other student research on the student research portal</p> <ul style="list-style-type: none"> • Showcase student research online by implementing Digital Commons @ Longwood 	<p>OSR Director; Community representative on Student Research Advisory Council</p> <p>Provost; OSR Director</p> <p>OSR Director; LUSRSD Director and Planning Committee</p> <p>OSR Director; Information Literacy Team; directors of relevant programs</p>

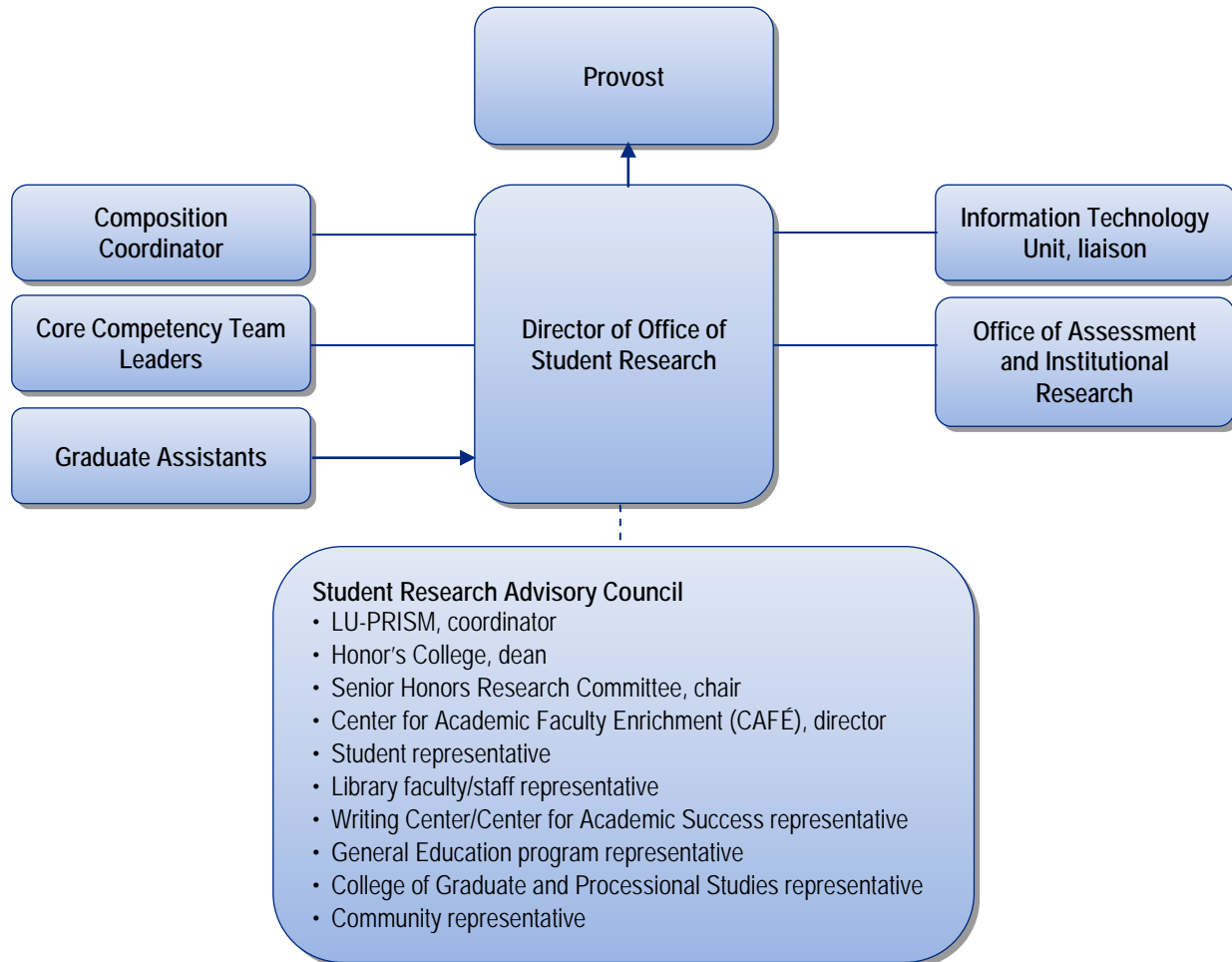
Goal, Activity, and Task	Persons Responsible
YEARS 3 and 4: 2016–18	
GOAL 1	
<p>1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses</p> <ul style="list-style-type: none"> • Expand on enhancements to be made to the English 150 curriculum • Offer the 9 (Yr 3) and 12 (Yr 4) disciplinary research-focused courses • Invite and select an additional 3 faculty each year to enhance/develop existing disciplinary research-focused courses • Solicit/expand on QEP-associated individually mentored research courses • Offer 1–2 roundtables per semester to sustain curriculum/faculty development • Develop strategies for enhancing incentives for departments and programs not participating in the QEP • Review/assess the QEP-associated courses at all levels <p>1.2. Make available a faculty-guided summer undergraduate research program in all disciplines</p> <ul style="list-style-type: none"> • Invite faculty to apply to attend the summer faculty development session • Continue to expand participation in LU-SRF 	<p>OSR Director; Composition Coordinator; selected faculty members teaching QEP-associated courses; QEP working groups; Office of Assessment and Institutional Research</p> <p>OSR Director; LU-PRISM Director; LU-SRF Director; CAFÉ Director</p>
GOAL 2	
<p>2.1. Establish Office of Student Research (OSR)</p> <ul style="list-style-type: none"> • Continually update website featuring OSR services/activities • Expand on alignment with campus resources <p>2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research</p> <ul style="list-style-type: none"> • Assess/modify reassigned time • Provide annual Excellence in Mentoring Awards • Continue to offer funding for undergraduate research and travel grants <p>2.3. Use electronic portal, the “student research portal,” to draw attention to possibilities for student research and completed student research, to track students’ research skills development, and to assess core competencies addressed in the QEP</p> <ul style="list-style-type: none"> • Assess and revise OSR website based on university-wide satisfaction • Establish baseline metrics in Yr 3 (Spring 2017) • Analyze results and continue to report 	<p>Provost; OSR Director; Facilities Management; Information Technology Unit; directors of relevant programs (e.g., CAFÉ) and non-academic units</p> <p>Provost; OSR Director; Student Research Advisory Council</p> <p>OSR Director; Information Technology Unit; Department of Theatre, Art and Graphic Design; Office of Assessment and Institutional Research</p>
GOAL 3	
<p>3.1. Link undergraduate research and community engagement</p> <ul style="list-style-type: none"> • Enhance website for community partners • Expand on funding opportunities • Continue to explore additional avenues for promoting community engagement in a scholarly manner <p>3.2. Provide grants for undergraduate research and/or presentations at conferences</p> <ul style="list-style-type: none"> • Provide student travel funds/grants and faculty travel/equipment grants <p>3.3. Organize annual student research showcase day for Longwood students</p> <ul style="list-style-type: none"> • Expand participation in LUSRSD, with focus on non-participating departments and programs • Secure needed spaces and technology <p>3.4. Highlight senior honors research program and other student research on the student research portal</p> <ul style="list-style-type: none"> • Showcase student research online by implementing Digital Commons @ Longwood 	<p>OSR Director; Community representative on Student Research Advisory Council</p> <p>Provost; OSR Director</p> <p>OSR Director; LUSRSD Director and Planning Committee</p> <p>OSR Director; Information Literacy Team; directors of relevant programs</p>

Goal, Activity, and Task	Persons Responsible
YEAR 5: 2018–19	
GOAL 1	
1.1. Identify or develop courses to be enhanced for research skills development and prepare faculty through development grants and workshops to offer these courses	
<ul style="list-style-type: none"> • Continue to expand enhancements to English 150 curriculum • Offer the 15 enhanced disciplinary research-focused courses • Expand on QEP-associated individually mentored research courses • Assess and catalog the effectiveness of QEP 	OSR Director; Composition Coordinator; selected faculty members teaching QEP-associated courses; Office of Assessment and Institutional Research
1.2. Make available a faculty-guided summer undergraduate research program in all disciplines	
<ul style="list-style-type: none"> • Prepare for and implement Summer 2019 poster sessions to highlight effective research models in departments at Longwood University 	OSR Director; LU-PRISM Director; LU-SRF Director; CAFÉ Director
GOAL 2	
2.1. Establish Office of Student Research (OSR)	
<ul style="list-style-type: none"> • Continually update website featuring OSR services/activities • Expand on alignment with campus resources 	Provost; OSR Director; Facilities Management; Information Technology Unit; Directors of relevant programs (e.g., CAFÉ) and non-academic units
2.2. Establish competitive funding for recognizing excellence in faculty mentoring of undergraduate research	
<ul style="list-style-type: none"> • Assess and catalog reassigned time • Provide annual Excellence in Mentoring Awards • Continue to offer funding for undergraduate research and travel grants 	Provost; OSR Director; Student Research Advisory Council
2.3. Use electronic portal, the “student research portal,” to draw attention to possibilities for undergraduate research and completed student research, to track students’ research skills development, and to assess core competencies addressed in the QEP	
<ul style="list-style-type: none"> • Maintain OSR website • Analyze results and continue to report 	OSR Director; Information Technology Unit; Department of Theatre, Art and Graphic Design; Office of Assessment and Institutional Research
GOAL 3	
3.1. Link undergraduate research and community engagement	
<ul style="list-style-type: none"> • Maintain website for community partners • Expand on funding opportunities • Continue to explore additional avenues for promoting community engagement in a scholarly manner 	OSR Director; Community representative on Student Research Advisory Council
3.2. Provide grants for undergraduate research and/or presentations at conferences	
<ul style="list-style-type: none"> • Provide student travel funds/grants and faculty travel/equipment grants 	Provost; OSR Director
3.3. Organize annual student research showcase day for Longwood students	
<ul style="list-style-type: none"> • Expand participation in LUSRSD, with focus on non-participating departments and programs • Secure needed spaces and technology 	OSR Director; LUSRSD Director and Planning Committee
3.4. Highlight senior honors research program and other student research on the student research portal	
<ul style="list-style-type: none"> • Showcase student research online by implementing Digital Commons @ Longwood 	OSR Director; Information Literacy Team; directors of relevant programs

VIII. ORGANIZATIONAL STRUCTURE

Figure 21, the QEP organizational chart, reflects the system we will put in place to ensure appropriate reporting, monitoring, and supervision. The arrows represent a direct reporting line, while the solid lines represent coordination across all of the different units. The dotted line represents the advisory role of the Student Research Advisory Council.

Figure 21. QEP Organizational Chart



As seen in the chart above, the Director of the Office of Student Research, also serving as the Director of the QEP, will report to the Provost. The OSR, created with the intention to support the QEP, will fall under the Provost's portfolio in his role as Chief Academic Officer, and thus not under any specific academic unit. The director will work closely with faculty, university administration, and the community to build support and provide resources to facilitate faculty engagement. Another key duty of the director is intentionally to inform prospective students of R.E.A.L. Inquiry at student orientations, admissions activities, open houses, etc., in order to set the research and academic inquiry expectations of potential future students. Reporting to the Director of OSR will be the two graduate assistants; collaborating with the Director of OSR will be a member of the Information Technology Unit, a member of the Office of Assessment and Institutional Research, and the Core Competency Team Leaders. The roles of these collaborators are outlined in Figure 22 below. Additionally, a Student Research Advisory Council for the student research and academic inquiry initiative will be assigned to work in partnership

with the Director of OSR in providing resources to support the development and enhancement of the QEP, as well as in collecting and analyzing data about the activities included in the QEP.

Figure 22. Student Research Initiative Collaborators

R.E.A.L. Inquiry Collaborators	Role
Composition Coordinator	Develop English 150 courses supporting QEP; ensure formalized assessment of the enhanced English 150 courses
Graduate Assistants	Assist the director in managerial and day-to-day operations of the OSR; assist in providing resources to facilitate faculty and student engagement
Information Technology Unit	Provide Design Lab and Digital Commons @ Longwood technology and support for OSR website; provide additional technology resources and support for student research projects and showcasing and sharing exemplary student work
Office of Assessment and Institutional Research	Provide data and collaborate on assessment
Core Competency Team Leaders	Collaborate on QEP student learning outcomes in distributed academic courses; advise on research/academic-inquiry courses based on annual assessments

R.E.A.L. Inquiry will be counseled by the Student Research Advisory Council, composed of nine members and chaired by the Director of OSR. This team will be tasked with the following:

- 1) provide guidance, feedback, and recommendations to the director on general issues;
- 2) assist with the review of applications for programs, grants, and faculty development support offered;
- 3) promote research activities and opportunities for external funding for participants;
- and 4) support the assessment of programs supported by OSR.

Additional tasks of the Student Research Advisory Council will include, but not be limited to:

- 1) supporting changes and enhancements to existing programs related to the QEP (e.g., LU-SRF, LUSRD);
- 2) encouraging the creation of programs that fall within the QEP framework (e.g., roundtable series, Summer Faculty Development sessions);
- 3) providing the resources to assist faculty to create or enhance academic programming around general education and student research/ academic inquiry-based courses that support the QEP;
- 4) providing expertise to academic and non-academic units within the Longwood community in implementing the goals, actions, and environmental/student learning outcomes of the QEP; and
- 5) supporting publicity for disseminating successful student research and academic inquiry projects.

The OSR will be associated with the aforementioned collaborators and advisory team in organizational and leadership structure throughout the implementation of the QEP. Initially, these committees will be organized around promoting student discovery of new knowledge through research-skills-development courses, supporting faculty development through grants and workshops, and facilitating student-faculty collaboration through research and academic inquiry. However, reorganization of the committees may be needed as the R.E.A.L. Inquiry initiative and programming grow. These committees may also bring in ad hoc members with relevant experience as needed.

IX. RESOURCES

The implementation of Longwood's QEP will rely in part on collaboration with existing programs and offices, will build on funding already in place for related efforts, and will require additional funding to facilitate expanded and enhanced undergraduate research activities. Provisions for these additional funds have been made in the University's budget, pending SACSCOC approval of the QEP.

Collaboration with Existing Programs and Offices

Writing Center—Peer consultants help students handle their writing challenges.

Center for Academic Success—The Center for Academic Success offers an opportunity for scholars across the Longwood campus to supplement their learning and integrate it into their in- and out-of-classroom experiences. The center provides a range of services to meet diverse learning processes and an environment of sensitive and responsive support. In addition, the center provides a forum through which faculty may delve into and share ideas about alternate instructional methods. Through all of its activities, the center encourages all individuals to explore the learning process.

Greenwood Library—The Greenwood Library supports Longwood's mission of developing citizen leaders through a comprehensive array of services and resources. It is a learning-centered environment that fosters intellectual exchange, scholarly communication, cultural enrichment, lifelong information literacy, and creative expression.

Office of Sponsored Programs and Research—While the Office of Sponsored Programs and Research is primarily designed to work directly with faculty and staff, their services in researching and helping with grant applications play a role in some student research projects.

Office of Assessment and Institutional Research—The Office of Assessment and Institutional Research analyzes institutional data and coordinates assessment activities across campus.

Office of Leadership and Service Learning—The Office of Leadership and Service Learning strives to provide meaningful service and leadership opportunities for individuals and groups of students in the surrounding community and on campus.

Funding Already in Place

Cook-Cole Undergraduate Research Fund—The Cook-Cole College of Arts and Sciences allots approximately \$20,000 each year in a fund to facilitate undergraduate scholarly endeavors. This funding is typically used for equipment and supplies and for helping students travel to professional disciplinary conferences where they can present their work.

Cook and Cole Awards—These \$1,000 awards are given each August to a junior and a senior faculty member who have exhibited excellence in mentoring undergraduate research.

Higher Education Equipment Trust Fund—These funds are available for purchase of equipment costing more than \$500 and are instrumental in providing the necessary tools for undergraduate research in several disciplines.

PRISM Summer Research Program—A funding allocation for STEM activities from the Commonwealth of Virginia to Longwood has made possible a summer research program in science and mathematics called PRISM. In the summer of 2013, 14 students engaged in projects with 11 STEM faculty members. Students received a \$3,500 stipend plus room and board for the eight-week program. Faculty members received a \$6,000 stipend for the program.

Funding for New Resources

Enhanced Professional Development—The QEP budget provides funding for additional money in the Center for Academic Faculty Enrichment (CAFÉ) budget specifically dedicated to providing increased and enhanced opportunities for faculty to develop their abilities in incorporating research skills development in courses and in mentoring undergraduate research, primarily through summer workshops and academic-year roundtable sessions.

Reassigned Time—Mentoring student scholarly endeavors requires extensive time from a faculty member and thus the QEP budget includes funds for facilitating reassigned time or stipends for those faculty members with significant undergraduate research obligations.

Office of Student Research—The QEP budget includes funds for operations and staffing an Office of Student Research. This office will coordinate the undergraduate research experience across the campus.

Excellence in Mentoring Awards—The QEP budget includes funds to provide ten \$1,000 Excellence in Mentoring awards each year to faculty who have shown excellence in mentoring student scholarly activities.

Longwood Student Research Showcase Day—The QEP budget includes funds to support a campus-wide day of celebrating student research efforts. The day will include multiple venues for presentations and exhibits as well as award ceremonies.

LU-SRF (Expanded Summer Research Program)—In order to make the current summer research experience available to all disciplines, the QEP budget includes funding for doubling the size of the current summer program. This expanded program will allow any undergraduate student the opportunity to apply to the program.

Travel—In order to facilitate more students traveling to present research results and engage in scholarly work, the QEP budget includes funding for expanded travel opportunities.

Undergraduate Research Grants—These grants provide funding for equipment or travel for faculty-student collaborations. Faculty members apply for these grants in January. The QEP budget includes funding to support up to \$10,000 in undergraduate research grants for each year of the five-year QEP plan. With a typical grant of \$500, this would allow up to 20 grants each year.

Figure 23 shows the year-by-year allocation of new funds for R.E.A.L. Inquiry.

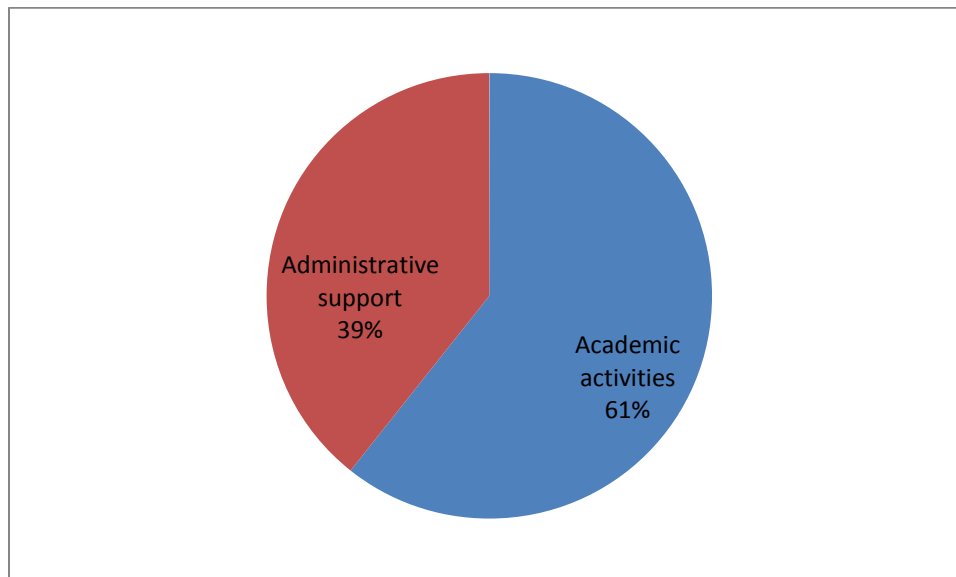
Figure 23. New Funding for QEP

Strategy	Year 1 (2014–15)	Year 2 (2015–16)	Year 3 (2016–17)	Year 4 (2017–18)	Year 5 (2018–19)	Totals
GOAL 1. To improve students' learning by promoting their discovery of new knowledge through research.						
Summer workshop/teaching institute	\$4,500	\$20,000	\$4,500	\$4,500	\$4,500	\$38,000
Roundtables	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000	\$5,000
English 150 enhancement	\$14,000	\$3,500	\$3,500	\$3,500	\$3,500	\$28,000
Disciplinary research-focused course enhancement	\$10,500	\$10,500	\$10,500	\$10,500	\$0	\$42,000
Expanded summer research program	\$0	\$0	\$175,000	\$175,000	\$175,000	\$525,000
Subtotal	\$30,000	\$35,000	\$194,500	\$194,500	\$184,000	\$638,000

Strategy	Year 1 (2014–15)	Year 2 (2015–16)	Year 3 (2016–17)	Year 4 (2017–18)	Year 5 (2018–19)	Totals
GOAL 2. To improve students’ learning by facilitating student-faculty collaboration in research.						
Student research director	\$80,000	\$80,000	\$80,000	\$80,000	\$80,000	\$400,000
Graduate assistants	\$28,000	\$28,000	\$28,000	\$28,000	\$28,000	\$140,000
CUR institutional membership	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$10,000
Student research office budget	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
Reassigned time or stipends	\$18,000	\$24,000	\$30,000	\$36,000	\$36,000	\$144,000
Mentoring awards	\$3,000	\$5,000	\$7,000	\$8,000	\$10,000	\$33,000
Research grants	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
Subtotal	\$151,000	\$159,000	\$167,000	\$174,000	\$176,000	\$827,000
GOAL 3. To improve students’ learning by advancing an understanding of the importance of disseminating research to academic and civic communities.						
Student travel	\$10,000	\$10,000	\$10,000	\$10,000	\$10,000	\$50,000
Annual student research showcase day	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$25,000
Subtotal	\$15,000	\$15,000	\$15,000	\$15,000	\$15,000	\$75,000
Assessment support						
Syllabus review and additional NSSE administration	\$0	\$1,000	\$1,000	\$1,000	\$6,000	\$9,000
Yearly Totals	\$196,000	\$210,000	\$377,500	\$384,500	\$381,000	\$1,549,000

Figure 24 illustrates the allocation of new funds for the student research initiative over the course of the five-year plan.

Figure 24. Distribution of New Funds



Key: Academic activities = summer workshops and teaching institute, roundtables, course enhancement, expanded summer research program, reassigned time and stipends, mentoring awards, research grants, student travel, annual research day; Administrative support = student research director, graduate assistants, CUR institutional membership, student research office budget, additional assessment support.

Figure 25 shows the year-by-year allocation of funding already in place that supports the activities of R.E.A.L. Inquiry.

Figure 25. Continuing Funding for QEP Activities

Activity	Year 1 (2014–15)	Year 2 (2015–16)	Year 3 (2016–17)	Year 4 (2017–18)	Year 5 (2018–19)	Totals
C-CCAS Undergraduate Research Fund	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000	\$100,000
C-CCAS Faculty Awards	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$10,000
PRISM summer research program	\$175,000	\$175,000	\$175,000	\$175,000	\$175,000	\$875,000
Assessment support (competency testing and NSSE administration)	\$12,000	\$7,000	\$12,000	\$7,000	\$7,000	\$45,000
Totals	\$209,000	\$204,000	\$209,000	\$204,000	\$204,000	\$1,030,000

X. ASSESSMENT

From Goals and Actions to Outcomes

Longwood University is committed to assessing the effectiveness of its QEP and using the results for continuous improvement. Just as the plan itself grew from the University's mission, academic priorities, and institutional assessment, assessment of the QEP will build on and enhance ongoing assessment of student learning outcomes and will initiate assessment of specific QEP environmental outcomes.

A key to implementing this QEP successfully is the ability to assess students' development of research skills, their participation in the research process, and the improvement of their core competencies. Providing a comprehensive program that is assessable will enable us to understand how well students are performing and also to identify areas where improvement might be made.

Longwood University's QEP has established three broad goals and associated actions (see Section I, Summary). The results of actions taken are further categorized as "student learning outcomes" and "environmental outcomes." This section describes the assessment of these outcomes.

Assessment of Student Learning Outcomes

R.E.A.L. Inquiry identifies three student learning outcomes (SLO). They are:

SLO-A. Students will exercise critical thinking in setting problems and conducting an inquiry.

SLO-B. Students will demonstrate information literacy in finding, evaluating, and using sources and considering evidence.

SLO-C. Students will communicate effectively in expressing results.

These student learning outcomes are derived from aligning the facets of research inquiry defined in the Research Skill Development Framework (University of Adelaide, 2006) with core competencies that are required by the State Council of Higher Education for Virginia. The identification of these learning outcomes is also guided by the definitions developed by AAC&U ("Essential Learning Outcomes" in Association of American Colleges and Universities, 2009) and the standards set by SACSCOC (see Comprehensive Standard 3.5.1) as well as by various specialized professional organizations.

Method for measuring student learning outcomes

The method used for measuring student learning for this QEP is summarized below:

- Two groups of students, students with or without QEP-enhanced instruction, will be identified for tracking data and student progress.
- A set of direct and indirect measures will be used in SLO assessment.
- As a direct measure of the competencies in four areas—critical thinking, information literacy, written communication, and oral communication—a sample of written papers and recorded oral presentations from writing- and speaking-intensive courses will be selected by the Office of Assessment and Institutional Research to represent students with/without QEP instruction.
- Inspired by the VALUE rubrics developed by AAC&U, four rubrics that specifically target the four competencies (mentioned above) were developed by a team of Longwood faculty members. For this QEP, these four rubrics will be used as the instruments for directly measuring student learning outcomes (Appendices I–L).

- Four separate teams of faculty raters will evaluate the selected papers/presentations for each of the four competencies. To ensure the inter-rater reliability, prior to evaluating the sample, these faculty will participate in a norming session on interpreting and applying the rubric in a consistent manner. Specifically:
 - Prior to the scoring day, the Assessment Coordinator from the Office of Assessment and Institutional Research will select 3 anchor papers from the sample papers representative of various disciplines and make the copies available to the team leaders. The team leaders will be responsible for conducting the norming session with the group of faculty raters to ensure a reasonable level of consistency among the team members when the scoring takes place.
 - On the day of scoring, the faculty leader will distribute the first anchor paper, a score sheet, and the rubric to each faculty rater. Each discrete element of the rubric will be explained and questions from faculty will be addressed. After scoring the first paper, a follow-up discussion will focus on types of difficulties that arise as well as further clarification needed by the raters. This discussion will be followed by the group exercise of scoring a second anchor paper. If ratings are consistently no more than 1 point difference, the team will begin the assessment process. Otherwise, the norming process will continue with the third anchor paper until the intended consistency is achieved.
- Upon the completion of the norming session, faculty will rate each of the four discrete elements in the rubric. Each element will receive a score on the rubric's 4-point scale. Each paper/oral presentation from the sample will be rated by two faculty raters; the average between their scores determines the rating for each discrete element. If there is a difference of 2 points or more on the 4-point scale between the two raters' scores, a third rater will score the paper. The two closer faculty ratings will then be averaged to determine scores. An overall average will be obtained from the averages for each discrete element.
- Observations of the process and feedback from faculty will be documented by the four faculty competency leaders and discussed in a debriefing meeting with the Assessment Coordinator from the Office of Assessment and Institutional Research.
- As indirect measures, students' responses to questions from the National Survey of Student Engagement (NSSE) and Longwood's Office of Student Research Student Survey will be analyzed.
 - The three selected NSSE questions (NSSE, 2013 ed.) for analysis are:
 - Question 17.a, "Writing clearly and effectively"
 - Question 17.b, "Speaking clearly and effectively"
 - Question 17.c, "Thinking critically and analytically"
 - According to the agreement reached with NSSE, beginning from 2013, the agency will provide Longwood with two special reports on student self-reported "experiences with writing and information literacy." We anticipate that this information, if received, will further enhance our assessment of student learning outcomes from student perspectives.
 - Longwood's Office of Student Research Student Survey will be developed to measure the changes in student attitudes and perceptions of their learning experiences. The survey will be administered to the students as a pre and post measure for QEP enhanced courses. The survey results will be used in planning actions for curriculum and faculty development improvement.
 - Based on the data collected from direct and indirect measures, a comparison of the group (students with/without QEP instruction) mean values and the level of the statistical significance of the group difference will be analyzed and reported.

SLO competency definitions and criteria

At Longwood, the development of the definitions and criteria for each competency is guided by the University's mission statement, SACSCOC Comprehensive Standard 3.5.1, and the standards set by professional associations such as AAC&U. At the core of our mission is to develop "well-informed citizen leaders who are prepared to make significant contributions to the good of society." Longwood's general education program serves as the foundation that enables students to be successful. In full compliance with SACSCOC *Principles of Accreditation*, Longwood's process of assessing student learning outcomes is led by faculty members who possess expertise in a discipline related to the competency, and it is coordinated by the professional staff from the Office of Assessment and Institutional Research. The following section details the definitions, criteria, and measurements for the core competencies associated with each student learning outcome.

For SLO A, the competency to be measured is "critical thinking."

A citizen leader must be able to apply critical thinking to contemporary situations and problems for the common good. In this regard, critical thinking is defined as "the ability to present, explain, and evaluate arguments in support of a position." As found in Longwood's Undergraduate catalog, "The purpose of Longwood's General Education program is the development of disciplined, informed, creative minds," and students are to demonstrate the "ability to use critical thinking and analysis in all aspects of student life, and preparation for assuming the role of citizen leader working for the common good." General Education courses are designed to, "teach a disciplinary mode of inquiry...and provide students with practice in applying their disciplinary mode of inquiry, critical thinking, or problem solving strategies" (Longwood 2013–14 Undergraduate Catalog, p. 55)

To achieve this competency, Longwood students must demonstrate the ability to:

- identify the main issue and take a position on it;
- present and explain the argument; and
- evaluate assumptions, evidence, and inferences.

For a draft of the Critical Thinking Competency assessment rubric, see Appendix I.

For SLO B, the competency to be measured is "information literacy."

At Longwood, Information literacy is defined as "the ability to recognize when information is needed and effectively locate, evaluate, and use the needed information." This definition is endorsed by the American Library Association's *Presidential Committee on Information Literacy: Final Report*. Additionally, our commitment to information literacy is reflected in the University's mission statement of graduating "lifelong learners who stay connected to what is new in the world" and the General Education course criteria. It states that the goal of the program is "to provide opportunities for students to increase information literacy through contemporary techniques of gathering, manipulating, and analyzing information and data" and "develop the ability to acquire, organize, present, and document information and ideas."

To achieve this competency, students must demonstrate the ability to:

- determine the extent of information needed;
- evaluate information critically;
- use information effectively to accomplish a specific purpose; and
- understand the legal and social issues surrounding the use of information and access and use information ethically and legally.

Specific criteria are included in the information literacy rubric (Appendix J).

For SLO C, the competencies to be measured include two areas, “written communication” and “oral communication.”

At Longwood, we believe that a citizen leader must be able to communicate with others effectively. The skills for conducting effective written communication and oral communication are essential to achieve this goal. According to the Longwood *Faculty Policies and Procedures Manual*, competent writing should provide evidence of suitable content, effective organization and reasoning, appropriate rhetoric, and compliance with standard conventions of writing and documentation (p.25). With the QEP-enhanced instruction, Longwood students will develop their competency in the written communication area by demonstrating the ability to:

- identify and summarize the topic/problem and relevant questions and issues that inform the assignment;
- organize ideas into paragraphs that cohere and support the main argument through appropriate transitions, explanations, and engaging examples;
- develop ideas with rhetorically appropriate examples and explanations; and
- demonstrate proficiency in conventional use of grammar, spelling, and documentation.

For the criteria used in assessing written communication competency, see the written communication rubric (Appendix K).

With the QEP-enhanced instruction, Longwood students will also develop their competency in oral communication by demonstrating the ability to speak logically, clearly, and knowledgeably, and in an organized fashion. Specifically, students are to demonstrate the ability to:

- deliver a presentation with a clear, compelling, strongly supported central message;
- organize ideas into a presentation that support the main argument through appropriate transitions, explanations, and engaging examples;
- make language choices that enhance the effectiveness of the presentation and are appropriate to the audience; and
- use appropriate delivery techniques that make the presentation compelling and supporting materials that enhance the effectiveness of the presentation.

For the criteria used in assessing oral communication competency, see the oral communication competency rubric (Appendix L).

Figure 26 highlights the three student learning outcomes, the assessment measures, the implementation timeline, the target performance criteria, and the offices responsible for conducting assessment.

Figure 26. Student Learning Outcomes Assessment

Outcome and Assessment Measures	Implementation	Target	Office Responsible for Assessment	Reported to
SLO-A: Students will exercise critical thinking in setting problems and conducting an inquiry.				
Direct: SCHEV Competency Assessment: Critical Thinking	Testing each spring beginning in Year 3; results evaluated each fall	“QEP students” will have results higher than “All students”	Office of Assessment and Institutional Research	OSR Director, Student Research Advisory Council, and Provost
Indirect: NSSE questions	NSSE administered in 2014, 2016, 2018			
OSR Student Survey	Pre and post surveys administered in QEP-enhanced courses			

Outcome and Assessment Measures	Implementation	Target	Office Responsible for Assessment	Reported to
SLO-B: Students will demonstrate information literacy in finding, evaluating, and using sources and considering evidence.				
Direct: SCHEV Competency Assessment: Information Literacy	Testing each spring beginning in Year 3; results evaluated each fall	"QEP students" will have results higher than "All students"	Office of Assessment and Institutional Research	OSR Director, Student Research Advisory Council, and Provost
Indirect: NSSE questions	NSSE administered in 2014, 2016, 2018			
OSR Student Survey	Pre and post surveys administered in QEP-enhanced courses			
SLO-C: Students will communicate effectively in expressing results.				
Direct: SCHEV Competency Testing: Written Communication; Oral Communication	Testing each spring beginning in Year 3; results evaluated each fall	"QEP students" will have results higher than "All students"	Office of Assessment and Institutional Research	OSR Director, Student Research Advisory Council, and Provost
Indirect: NSSE questions	NSSE administered in 2014, 2016, 2018			
OSR Student Survey	Pre and post surveys administered in QEP-enhanced courses			

NOTE: SCHEV = State Council of Higher Education for Virginia; NSSE = National Survey of Student Engagement; OSR = Office of Student Research

Assessment of Environmental Outcomes

Six outcomes related to the environment for student learning were identified. Through faculty development and course enhancement, students will have opportunities to develop their research skills and to disseminate the research they produce. With each of the outcomes, multiple measures will be used.

Environmental Outcome A. The number of students presenting undergraduate research to academic and civic communities will increase.

Measures:

- Number of students making proposals to present for the annual Longwood University Student Research Showcase Day
- Number of students receiving QEP research grants for research or travel to conferences

Environmental Outcome B. Opportunities for student participation in research and creative activities on and off campus will expand.

Measures:

- Number of students receiving QEP grants for research, completing an upper-tier research course, or participating in the summer research program
- Number of student posters/presentations accepted by conferences
- Number of student publications resulting from undergraduate research

Environmental Outcome C. Capacity of faculty members to mentor students and encourage their creativity will be enhanced.

Measures:

- Number of faculty members who received stipends/reassigned time attributable to faculty members' mentoring undergraduate research
- Number of faculty workshops and roundtable sessions
- Number of faculty participating in faculty development
- Participants' self-reported learning via pre- and post-workshop surveys

Environmental Outcome D. The curriculum will provide a scaffolded approach to student research skills development.

Measures:

- Faculty working group will identify the key elements of student research skills.
- Faculty working group will conduct systematic review of syllabi of courses enhanced for research skills development to ensure the scaffolding of instruction and learning in this area.
- The Director of OSR will work with faculty to review syllabi of courses.

Environmental Outcome E. Faculty will have the skills and abilities needed for integrating research in instruction gained through participation in faculty development.

Measures:

- Number of faculty workshops and roundtable sessions
- Number of faculty members participating in faculty development
- Participants self-reported learning via pre- and post-workshop surveys
- Faculty working group will conduct systematic review of syllabi of courses enhanced for research skills development to ensure the scaffolding of instruction and learning in this area.

Environmental Outcome F. Undergraduate research and scholarly activities will be appropriately recognized in faculty evaluation and workloads.

Measures:

- Annual report of the amount of funding for stipends
- Annual report of the amount of reassigned time attributable to faculty members' mentoring undergraduate research
- Number of faculty members receiving awards for mentoring undergraduate research projects

Performance targets will be established after a review of baseline results obtained during the first year of implementing the QEP in 2014–15.

Figure 27 highlights the six environmental outcomes, the assessment measures, implementation procedures, target performance criteria, and the persons or offices responsible for conducting assessment.

Figure 27. Environmental Outcomes Assessment

Environmental Outcome and Assessment Measures	Implementation	Target	Person or Office Responsible for Assessment	Reported to
EO-A: Number of students presenting undergraduate research to the academic and civic communities will increase.				
Number of students who receive funding for travel to present their research and number of students who apply and who present on the Longwood University Student Research Showcase Day	OSR will create a database to track this information.	To be determined following baseline data collection in 2014–15	OSR Director	Student Research Advisory Council and Provost
EO-B: Opportunities for student participation in research and creative activities on and off campus will expand.				
Number of students who receive a research grant or who participate in enhanced sections of English 150, mid-tier disciplinary courses, mentored research courses, or the summer research program	OSR will create a database that will track yearly participation in faculty-supported research projects.	For the summer research program: 2013–14: 14 students 2014–15: 14 students 2015–16: 14 students 2016–17: 28 students 2017–18: 28 students 2018–19: 28 students	OSR Director	Student Research Advisory Council and Provost
EO-C: Capacity of faculty members to mentor students and encourage their creativity will be enhanced.				
Number of CAFÉ- and OSR-sponsored research workshops Number of faculty members participating in CAFÉ- and OSR-sponsored research workshops and faculty responses to pre- and post-workshop surveys Amount of funding (stipends and reassigned time) attributable to faculty members' mentoring of student research	OSR will create a database to track the number of faculty who participate in CAFÉ- and OSR-sponsored research workshops and will formulate pre- and post-workshop surveys.	To be determined following baseline data collection in 2014–15	OSR Director and CAFÉ Director	Student Research Advisory Council and Provost
EO-D: The curriculum will provide a scaffolded approach to student research skills development.				
Syllabi of courses enhanced for research skills development reviewed to ensure a scaffolded approach to instruction and learning in research/academic inquiry	The OSR Director will work with faculty to review syllabi annually.	Three instructors' sections of English 150 and three other courses will be appropriately enhanced in 2014–15; three additional courses will be appropriately enhanced in each of the three subsequent years (2015–16, 2016–17, and 2017–18)	OSR Director	Student Research Advisory Council and Provost

Environmental Outcome and Assessment Measures	Implementation	Target	Person or Office Responsible for Assessment	Reported to
EO-E: Faculty will have the skills and abilities needed for integrating research in instruction gained through participation in faculty development.				
Number of faculty members participating in research skills development workshops and faculty responses to post-workshop surveys. Syllabi of courses enhanced for research skills development reviewed to ensure a scaffolded approach to instruction and learning in research/academic inquiry	The OSR Director will create a database to track faculty participation in workshops and will evaluate post-workshop survey responses. The OSR Director also will work with faculty to review syllabi annually.	To be determined following baseline data collection in 2014–15	OSR Director	Student Research Advisory Council and Provost
EO-F: Undergraduate research and scholarly activities will be appropriately recognized in faculty evaluation and workloads.				
Amount of funding for stipends or reassigned time attributable to faculty members' mentoring student research. Number of faculty members receiving awards for mentoring undergraduate research projects.	The OSR Director will create a database to track this information and will analyze the data for breadth of participation in areas such as academic discipline.	To be determined following baseline data collection in 2014–15	OSR Director	Student Research Advisory Council and Provost

Dissemination of Findings

In keeping with institutional assessment practice, the QEP assessment report will be produced annually by the Office of Student Research with collaboration from the staff of the Office of Assessment and Institutional Research and leaders of the four competency teams. This report will be disseminated among members of the four core competency teams, the Committee on General Education, the Student Research Advisory Council, and academic officers. Upon its dissemination, a campus wide discussion on using the QEP assessment data for continuous improvement will be organized via the Longwood Assessment Conference. (This annual conference has been in place since 2010). The focus of the discussion will include, but not be limited to:

- summarizing the results;
- identifying areas in need of improvement;
- developing strategies for improvement; and
- determining the assessment strategy for future years.

XI. APPENDICES

Appendix A. Bibliography of Works Cited

- Abilene Christian University (2011). *Pursuit: A journey of research and creation: Research literacy initiative*. A Quality Enhancement Plan prepared for the Southern Association of Colleges and Schools Commission on Colleges.
- Abrami, P. C., Bernard, R. M., Borokhovski, E., Wade, A., Surkes, M. A., Tamim, R., and Zhang, D. (2008). Instructional interventions affecting critical thinking skills and dispositions: A stage 1 meta-analysis. *Review of Educational Research, 78*(4), 1102–1134.
- American Library Association. (1989). *Presidential Committee on Information Literacy: final report*. Retrieved September 19, 2013 from <http://www.ala.org/acrl/publications/whitepapers/presidential>.
- Association of American Colleges and Universities. (2007). Liberal Education and America's Promise (LEAP): Top 10 things employers look for in college graduates. Retrieved September 19, 2013 from <http://www.aacu.org/leap/students/employerstopten.cfm>
- Association of American Colleges and Universities. (2009). Liberal Education and America's Promise (LEAP): Essential Learning Outcomes. Retrieved from <http://www.aacu.org/leap/vision.cfm>
- Association of American Colleges and Universities. (2010). VALUE: Valid Assessment of Learning in Undergraduate Education: Critical Thinking VALUE Rubric. Retrieved from <http://www.aacu.org/value/rubrics/CriticalThinking.cfm>
- Association of American Colleges and Universities. (2013). *It takes more than a major: employer priorities for college learning and student success*. Washington, DC. Retrieved June 3, 2013 from www.aacu.org/leap/documents/2013_EmployerSurvey.pdf
- Association of College and Research Libraries. (2000). *Information literacy competency standards for higher education*. Retrieved September 19, 2013 from <http://www.ala.org/ala/mgrps/divs/acrl/standards/standards.pdf>
- Bailin, S., Case, R., Coombs, J. R., and Daniels, L. B. (1999). Conceptualizing critical thinking. *Journal of Curriculum Studies, 31*(3), 285–302.
- Bailin, S. (2002). Critical thinking and science education. *Science and Education, 11*(4), 361–375.
- Bloom, B. S. (1956). *Taxonomy of educational objectives book 1: Cognitive domain*. White Plains, NY: Longman.
- Bonk, C. J., and Smith, G. S. (1998). Alternative instructional strategies for creative and critical thinking in the accounting curriculum. *Journal of Accounting Education, 16*(2), 261–293.
- Boyd, M. K., and Wesemann, J. L. (Eds.). (2009). *Broadening participation in undergraduate research: Fostering excellence and enhancing the impact*. Washington, DC: Council on Undergraduate Research.
- Boyer Commission on Educating Undergraduates in the Research University. (1998). *Reinventing undergraduate education: A blueprint for America's research universities*. Stony Brook, NY: State University of New York at Stony Brook.

- Burks, R. L., and Chumchal, M. M. (2009). To co-author or not to co-author: How to write, publish, and negotiate issues of authorship with undergraduate research students. *Science Signaling*, 2(94), 1–7.
- Chapman, David W. (2003). Undergraduate research: Showcasing young scholars. *The Chronicle of Higher Education*. Retrieved September 19, 2013 from <http://chronicle.com/article/Undergraduate-Research-/9284>
- Chopin, S. F. (2002). Undergraduate research experiences: The translation of science education from reading to doing. *Anatomical Record (New Anatomist)*, (269), 3-10.
- Council of Writing Program Administrators. (2000). WPA Outcomes Statement for First-Year Composition. Retrieved from <http://wpacouncil.org/positions/outcomes.html>
- Council on Undergraduate Research. (2009). *CUR Factsheet*. Retrieved September 19, 2013 from http://www.cur.org/about_cur/fact_sheet/
- Crowe, M. (2007). The role of campus-wide undergraduate research centers in supporting a research-rich curriculum. In K. K. Karukstis and T. E. Elgren (Eds.), *Developing and sustaining a research-supportive curriculum: A compendium of successful practices* (pp. 495–505). Washington, DC: Council on Undergraduate Research.
- Facione, P. A. (1990). *Critical thinking: A statement of expert consensus for purposes of educational assessment and instruction*. Millbrae, CA: The California Academic Press.
- Facione, P. A. (2000). The disposition toward critical thinking: Its character, measurement, and relation to critical thinking skill. *Informal Logic*, 20(1), 61–84.
- Felder, R. (2010). The link between teaching and research—Does it exist? *Chemical Engineering Education*, 42(2), 109–110.
- Finley, A. P. (2011/12). How reliable are the VALUE rubrics? *Peer Review*, 13–14(4/1), 31–33.
- Fischer, S. C., Spiker, V. A., and Riedel, S. L. (2009). *Critical thinking training for army officers, volume 2: A model of critical thinking*. (Technical Report). Arlington, VA: U.S. Army Research Institute for the Behavioral and Social Sciences.
- George Mason University (2011). *Students as Scholars: Fostering a Culture of Student Scholarship*. A Quality Enhancement Plan prepared for the Southern Association of Colleges and Schools Commission on Colleges.
- Hakim, T. M. (2000). *How to develop and administer institutional undergraduate research programs*. Washington, DC: Council on Undergraduate Research.
- Halpern, D. F. (1998). Demystifying critical thinking. *Teaching of Psychology*, 22(1), 75–81.
- Hart Research Associates. (2010). *Raising the bar: Employers' views on college learning in the wake of the economic downturn*. Association of American Colleges and Universities. Retrieved September 19, 2013 from http://www.aacu.org/leap/documents/2009_EmployerSurvey.pdf
- Healey, M., and Jenkins, A. (2009). *Developing undergraduate research and inquiry*. The Higher Education Academy. Retrieved September 19, 2013 from http://www.heacademy.ac.uk/assets/York/documents/resources/publications/Developing Undergraduate_Final.pdf.
- Hennessey, M. G. (1999). *Probing the dimensions of metacognition: Implications for conceptual change teaching-learning*. Paper presented at the annual meeting of the National Association for Research in Science Teaching, Boston, MA.

- Hensel, N. (Ed.). (2012). *Characteristics of Excellence in Undergraduate Research*. Washington, DC: Council on Undergraduate Research.
- Hu, S., Kuh, G. D., and Gayles, J. G. (2007). Engaging undergraduate students in research activities: Are research universities doing a better job? *Innovative Higher Education*, 32, 167–177.
- Hu, S., Scheuch, K., Schwartz, R., Gayles, J. G., and Li, S. (2008). *Reinventing undergraduate education: Engaging college students in research and creative activities*. ASHE Higher Education Report (Vol. 33). San Francisco: Jossey-Bass.
- Hunter, A. B., Laursen, S. L., and Seymour, E. (2007). Becoming a scientist: The role of undergraduate research in students' cognitive, personal, and professional development. *Science Education*, 91, 36–74.
- Jefferson, T. (1853). *Notes on the state of Virginia*. Richmond: J.W. Randolph.
- Karukstis, K. K. (2005). Community-Based Research: New Paradigm for Undergraduate Research in the Sciences. *Journal of Chemical Education*, 82, 15–16.
- Karukstis, K. K., and Elgren, T. E. (Eds.). (2007). *Developing and sustaining a research-supportive curriculum: A compendium of successful practices*. Washington, DC: Council on Undergraduate Research.
- Kennedy, M., Fisher, M. B., and Ennis, R. H. (1991). Critical thinking: Literature review and needed research. In L. Idol and B. F. Jones (Eds.), *Educational values and cognitive instruction: Implications for reform* (pp. 11–40). Hillsdale, NJ: Lawrence Erlbaum and Associates.
- Kuhn, D. (1999). A developmental model of critical thinking. *Educational Researcher*, 28(2), 16–26.
- Lai, E. R. (2011). Critical thinking: A literature review. Pearson. Retrieved October 31, 2013 from <http://www.pearsonassessments.com/hai/images/tmrs/criticalthinkingreviewfinal.pdf>
- Lei, S. A., and Chuang, N. (2009). Undergraduate research assistantship: A comparison of benefits and cost from faculty and students' perspectives. *Education*, 130(2), 232–240.
- Levenson, C. W. (2010). Enhancing undergraduate research in the arts and the humanities. *Peer Review* 12(2), 13–15.
- Lewis, A., and Smith, D. (1993). Defining higher order thinking. *Theory into Practice*, 32(3), 131–137.
- Longwood University. NSSE Reports 2005, 2008, 2011. Office of Assessment and Institutional Research.
- Lopatto, D. (2006). Undergraduate research as a catalyst for liberal learning. *Peer Review* 8(1), 22–25.
- Martinez, M. E. (2006). What is metacognition? *Phi Delta Kappan*, 87(9), 696–699.
- Merkel, C. A., and Baker, S. M. (2002). *How to mentor undergraduate researchers*. Washington, DC: Council on Undergraduate Research.
- Milligan College (2012). *Rise above: Research increases student engagement*. A Quality Enhancement Plan prepared for the Southern Association of Colleges and Schools Commission on Colleges.

- NSSE Agreement with Longwood University (2013). Office of Assessment and Institutional Research.
- Nyden, P. (2003). Academic incentives for faculty participation in community-based participatory research. *Journal of General International Medicine*, 18(7), 576–585.
- Osborn, J. M., and Karukstis, K. K. (2009). The benefits of undergraduate research, scholarship, and creative activity. In M. K. Boyd and J. L. Wesemann (Eds.), *Broadening participation in undergraduate research: Fostering excellence and enhancing the impact* (pp. 41–53). Washington, DC: Council on Undergraduate Research.
- Paul, E. L. (2003). Undergraduate research for the public good: Engaging undergraduates in community-based research. *CUR Quarterly*, 23, 180–185.
- Paul, E. L. (2008). Downtown: A community-campus collaborative course to prepare students for community-based research. *Liberal Learning*, 94, 48–55.
- Paul, R. W. (1992). Critical thinking: What, why, and how? *New Directions for Community Colleges*, 1992(7), 3–24.
- Paul, R. W., and Elder, L. (2006). Critical thinking: The nature of critical and creative thought. *Journal of Developmental Education*, 30(2), 34–35.
- Rowlett, R.S., Blockus, L., and Larson, S. (2012). Characteristics of excellence in undergraduate research (COEUR). In Hensel, N. (Ed.), *Characteristics of excellence in undergraduate research* (pp. 2–19). Washington, DC: Council on Undergraduate Research.
- Russell, S. H. (2006). *Evaluation of NSF support for undergraduate research opportunities: Synthesis report executive summary*. Arlington, VA.: SRI International
- Sternberg, R. J. (1986). *Critical thinking: Its nature, measurement, and improvement*. National Institute of Education. Retrieved from <http://eric.ed.gov/PDFS/ED272882.pdf>
- Thayer-Bacon, B. J. (2000). *Transforming critical thinking: Thinking constructively*. New York, NY: Teachers College Press.
- Turner, J. C. (1995). The influence of classroom contexts on young children's motivation for literacy. *Reading Research Quarterly*, 30(3), 410–441.
- University of Adelaide. (2006). Research skills development framework. Retrieved from <https://www.adelaide.edu.au/rsd/framework/>
- University of Houston. (2008). *Discovery-Based Learning: Transforming the undergraduate experience through research*. A Quality Enhancement Plan prepared for the Southern Association of Colleges and Schools Commission on Colleges.
- Van Gelder, T. (2005). Teaching critical thinking: Some lessons from cognitive science. *College Teaching*, 53(1), 41–48.

Appendix B. Table of Figures

Figure 1. Process Used to Develop the QEP 2

Figure 2. Evaluating Areas of Student Learning..... 6

Figure 3. First and Second Choice QEP Topics Selected by Longwood Faculty, Staff, and Students..... 8

Figure 4. NSSE Student-Faculty Interaction—Seniors, 2005–2011 12

Figure 5. NSSE Student-Faculty Interaction—First-Year Students, 2005–2011 13

Figure 6. Institutional First-Year Mean Comparisons, 2005–2011 13

Figure 7. Longwood First-Year and Senior Mean Comparison, 2005–2011 14

Figure 8. Steps in the Research Process Related to Core Competencies..... 14

Figure 9. WCC Assessment Results, Average Point Score, 2011 and 2012 15

Figure 10. CTC Assessment Results, Average Point Score, 2011 and 2012 16

Figure 11. ILC Assessment Results, Average Point Score, 2011 and 2012..... 17

Figure 12. OCC Assessment Results, Average Point Score, 2012 18

Figure 13. Steps in the Research Process Related to Core Competencies and Student Learning Outcomes 19

Figure 14. Longwood University Student Research Initiative: Topic and Conceptual Framework—Goals, Actions, Environmental and Student Learning Outcomes 21

Figure 15. Critical Thinking Abilities and Dispositions 25

Figure 16. CUR's Twelve Characteristics of Excellence in Undergraduate Research Related to Elements of Longwood's R.E.A.L. Inquiry Plan 32

Figure 17. Development Related to QEP and Best Practices..... 32

Figure 18. Projected Number of Students Affected by Goal 1 Actions 40

Figure 19. Repository, Channel, and Audience for Student Research 47

Figure 20. Implementation Timeline..... 48

Figure 21. QEP Organizational Chart 53

Figure 22. Student Research Initiative Collaborators 54

Figure 23. New Funding for QEP 56

Figure 24. Distribution of New Funds..... 57

Figure 25. Continuing Funding for QEP Activities 58

Figure 26. Student Learning Outcomes Assessment 62

Figure 27. Environmental Outcomes Assessment 65

Appendix C. Members of QEP Topic Selection Committee

Name	Title (at time of appointment)	Unit
Cheryl Adkins*	Professor of Management	College of Business and Economics
McRae Amoss	QEP Director and Professor of French	Cook-Cole College of Arts and Sciences
Brenda Atkins*	Executive Assistant to the President for Governmental Affairs and Special Projects	President's Office
Jennifer Capaldo	Assistant Professor of Music	Cook-Cole College of Arts and Sciences
Jackie Hall	Associate Professor of Mathematics	Cook-Cole College of Arts and Sciences
David Locascio	Associate Professor of Education	College of Education and Human Services
Jake Milne*	Assistant Professor of Sociology	Cook-Cole College of Arts and Sciences
Tracy Nelson*	Assistant Vice President for Financial Operations	Administration and Finance
Jamie Riley	Director for Diversity and Inclusion	Student Affairs
Cathy Roy	Associate Professor of Exercise Science	College of Education and Human Services
Mary Meade Saunders*	Director of the Academic and Career Advising Center	Academic Affairs
Nancy Shelton*	Director of Alumni Relations	University Advancement
Susan Stinson	Lecturer in English	Cook-Cole College of Arts and Sciences
Billy Tucker	Instructional Design and Development Specialist	Information and Instructional Technology Services
Benjamin Tyree	Student	Student Government Association
Ling Whitworth (ex officio)	Director of Assessment and Institutional Research	Academic Affairs

*Alumni

Appendix D. List of QEP Communications for Outreach and Input

Means	Date	Presenter
Faculty Senate	Nov. 11, 2010 Nov. 10, 2011	Mc Amoss, Jackie Hall
President's Welcome	Aug. 12, 2011	Mc Amoss
Opening Faculty Meeting	Aug. 19, 2011	Mc Amoss
Academic and Career Advising Center	Sept. 21, 2011	Mary Meade Saunders
Art Department	Nov. 1, 2011	Jennifer Capaldo
Athletics	Nov. 8, 2011	Cathy Roy
Biology and Environmental Science Department	Nov. 1, 2011	Mc Amoss
College of Business and Economics	Sept. 20, 2011	Cheryl Adkins
Communication Studies and Theatre	Oct. 25, 2011	Jennifer Capaldo
Education and Special Education	Oct. 4, 2011	David Locascio
English and Modern Languages	Oct. 4, 2011	Susan Stinson
Health, Recreation, and Kinesiology	Oct. 4, 2011	Cathy Roy
Information and Instructional Technology	video	Billy Tucker (video)
Library	Nov. 10, 2011	Jennifer Capaldo
Mathematics and Computer Science	Oct. 4, 2011	Jackie Hall
Music	Oct. 4, 2011	Jennifer Capaldo
Nursing	Oct. 19, 2011	Cathy Roy
Social Work and Communication Science Disorders	Oct. 4, 2011	Susan Stinson
Sociology, Anthropology, and Criminal Justice Studies	Nov. 17, 2011	Jake Milne
Student Government Association	Sept. 13, 2011, Oct. 3, 2011	Benjamin Tyree, Jamie Riley, Jake Milne
University Advancement	Oct. 25, 2011	Nancy Shelton
Staff Advisory Committee	Oct. 20, 2011	Tracy Nelson
Board of Visitors	Dec. 3, 2011	Patrick Finnegan
Alumni Association Board	Sept. 17, 2011	Nancy Shelton
Student Affairs Directors	Sept. 22, 2011	Mary Meade Saunders
Longwood University Foundation	Sept. 30, 2011	Ken Perkins, Jackie Hall
Admin. and Finance Directors	Oct. 11, 2011	Tracy Nelson
Intercollegiate Athletic Council	Nov. 1, 2011	Jake Milne
Email to faculty and staff to present proposals	March 9, 2012	Mc Amoss via Teresa Irish
Email to students to present proposals	March 19, 2012	Mc Amoss via Tim Pierson
Student Government Association Meetings	March 20, 2012 April 3, 2012	Brandon Fry Mc Amoss, Cathy Roy, Jake Milne
Focus Group for students, faculty, and staff	March 20 at 8:15	QEP Topic Selection Committee members
Focus Group for students, faculty, and staff	March 20, 2012 at 3:30	QEP Topic Selection Committee members

Means	Date	Presenter
Focus Group for students, faculty, and staff	March 21, 2012 at 12:00	QEP Topic Selection Committee members
Article in Rotunda (student newspaper): "Quality Enhancement Plan Focuses on Longwood's Future with Student Help"	March 28, 2012	Sarah Adams
General Faculty Meeting	March 29, 2012	QEP Topic Selection Committee members
Board of Visitors Meeting	March 30, 2012	Mc Amoss
Executive Council Meeting	April 4, 2012	Mc Amoss
Student Affairs Professionals Meeting, including Directors	April 5, 2012	Mary Meade Saunders
Email to Staff Advisory Committee	April 3, 2012	Brenda Atkins via Keary Mariannino
Email to IITS staff	April 4, 2012	Frank Moore
Article in Rotunda: "SGA Approves Budget"	April 4, 2012	Becca Lundberg
The Link (faculty and staff electronic newsletter)	February, 2012 March, 2012 April, 2012	Mc Amoss
Article in Rotunda: "Longwood's QEP to be Determined"	April 11, 2012	Becca Lundberg
Email to faculty and staff inviting survey participation	April 11, 2012	Mc Amoss via Teresa Irish
Email to students inviting survey participation	April 11, 2012	Mc Amoss via Tim Pierson
Email to alumni groups inviting survey participation	April 11, 2012	Mc Amoss via Nancy Shelton
Email to Board of Visitors members inviting survey participation	April 11, 2012	Mc Amoss via Patrick Finnegan and Jeanne Hayden
Email to faculty and staff reminding of survey	April 17, 2012	Mc Amoss via Teresa Irish
Meetings with various department chairs and others, including Alix Fink, Wade Znosco, Adam Franssen, Chris Gulgus, Jake Milne, Regina Maldve, Mike Mergen, Adam Paulek, and department chairs Eric Laws, Bennie Waller, David Coles, David Shoenthal, Brian Bates, Charlie Kinzer, Pat Lust, Naomi Johnson, Melody Eaton	various	Mc Amoss
Article in "Insider" (faculty/staff online newsletter): "QEP Working Group Invites Suggestions"	October 18, 2012	Mc Amoss
Article in "Insider": "The QEP: Garnering the Benefits of Student Research, Part 1"	January 28, 2013	Mc Amoss
Article in Rotunda (student newspaper): "Longwood's Quality Enhancement Plan Aims to Improve Student Research"	February 6, 2013	Becca Lundberg
Article in "Insider": "The QEP: Garnering the Benefits of Student Research, Part 2"	February 18, 2013	Mc Amoss
Article in "Insider": "The QEP: Garnering the Benefits of Student Research, Part 3"	March 11, 2013	Mc Amoss
Consultant meets with members of QEP Working Group and others, including and Bryan Rowland, Courtney Hodges, Leigh Lunsford, Amorette Barber	March 20, 2013	consultant
Open forum for faculty, staff, and students	March 20, 2013	consultant
Article in Rotunda: "Development of the Quality Enhancement Plan Continues"	March 27, 2013	Becca Lundberg

Means	Date	Presenter
Presentation at general faculty meeting	March 27, 2013	Mc Amoss
Survey on current situation and future possibilities for student research at Longwood sent to all faculty members	March 28, 2013	Mc Amoss via Teresa Irish
Article in "Insider": "QEP: Year in Review and What's Ahead"	May 9, 2013	Mc Amoss
President's Welcome	August 16, 2013	Taylor Reveley
History, Political Science, and Philosophy	August 20, 2013	Eric Moore
Student Research Initiative QEP blog with draft posted	August 23, 2013	Mc Amoss and Carol Anderson
General Faculty Meeting	August 23, 2013	Cathy Roy
Email to faculty and staff announcing QEP blog and containing link	August 27, 2013	Cathy Roy via Teresa Irish
Health, Athletic Training, Recreation and Kinesiology	September 3, 2013	Cathy Roy
English and Modern Languages	September 3, 2013	Susan Stinson
Forums for faculty, staff, students	September 10, 2013 September 11, 2013	Cathy Roy, Susan Stinson Cathy Roy
Student Affairs Assessment Team	September 19, 2013	Linda Townsend
Staff Advisory Committee	September 19, 2013	Linda Townsend
College of Business and Economics	October 1, 2013	Bennie Waller
Social Work and Communication Sciences and Disorders	October 1, 2013	Susan Stinson
Nursing	October 1, 2013	Cathy Roy
Student Affairs	October 3, 2013	Linda Townsend and Cathy Roy
Student Government Association	October 18, 2013	Jake Milne
Article in Insider: "Name That QEP"	October 25, 2013	Cathy Roy
Math and Computer Science	November 4, 2013	Eric Moore
Education and Special Education	November 5, 2013	Regina Maldve
Student Government Association	November 5, 2013	Joe Gills
Communication Studies	November 11, 2013	Jake Milne
Staff Advisory Committee	October	Linda Townsend
Academic Affairs Council (chairs)	November 12, 2013	Cathy Roy
Article in Insider: "QEP Endeavor Endorses CAS Student Showcase"	November 19, 2013	Cathy Roy
Student Government Association	December 3, 2013	Jake Milne and Joe Gills
Faculty Senate	December 5, 2013	Jake Milne and Ken Perkins
Article in Insider: "R.E.A.L. Inquiry: Research Experience for Aspiring Leaders"	December 5, 2013	Cathy Roy
Meetings with selected faculty, staff, and students	January 27, 2014 January 28, 2014	Cathy Roy and SACSCOC Leadership Team

Appendix E. QEP Topic Proposal Survey

QEP Topic Proposals

Identify

*** 1. I am...**

Rate

The QEP Topic Selection Committee has developed four topic proposals based on the suggestions you offered the first week of December and on our review of institutional practices, aspirations, and assessment. The four topics are listed below. You may read the summaries or use the hyperlinks to view the full proposals:

- [Developing the Citizen Leader Through Global Diversity](#)
A focus on global diversity as part of a collegiate experience has been shown to improve students' critical thinking and life skills. This QEP proposal is a collection of various ways that the traditional and international student population interactions and services can be improved or adjusted to meet the needs identified by our research. These include increased diversification and offerings of Goal 9 - Global Diversity course offerings and improvements in Faculty Support Services as well as in Student Support Services to further Longwood University's goal of increased focus on Global Diversity in Education.
- [Making Internships Work for Students](#)
This proposal addresses the key issue of providing consistent practices to guide all students during the internship search, set up and completion processes. Also proposed is that a standardized system be implemented for assessing and reporting on student learning outcomes.
- [Creating Knowledge in the 21st Century: A Focus on Student Research](#)
The student research QEP is designed to support and assess students at all stages of the research process, from introductory methodologies to senior capstone projects. The University would provide institutional support in the form of funding for student research development and conference travel as well as the development of a Student Research Center that would provide resources for students engaged in the research process.
- [Active Citizen Leadership in a Culturally Diverse World](#)
Research indicates that curricular diversity aids in retention efforts and that participation in racial and cultural awareness experiences leads to measurable gains in critical thinking skills for students at the end of their first year of college. The Active Citizen Leadership in a Culturally Diverse World QEP uses writing assignments and reading selections (academic critical thinking experiences) associated with topics related to cultural diversity to enhance existing Goal courses [1: LSEM 100 and 13: ENG 400 / GNED 400] and co-curricular programming initiatives to enrich the understanding Longwood students have of life in a culturally diverse world.

Click "Next" below when you are ready to proceed.

Rate

Please rate the proposals based on the criteria below.

QEP Topic Proposals

*** 2. Check one or more proposals for each statement.**

	<u>Developing the Citizen Leader Through Global Diversity</u>	<u>Making Internships Work for Students</u>	<u>Creating Knowledge in the 21st Century: A Focus on Student Research</u>	<u>Active Citizen Leadership in a Culturally Diverse World</u>
This topic is a key issue at Longwood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic is directly related to Longwood's mission.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic lends itself to definable and measurable student learning outcomes.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic will generate active support among students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic will generate active support among faculty and staff members.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic will generate active support among alumni.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic represents a wise expenditure of university funds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rate

Please rate the proposals based on the criteria below.

QEP Topic Proposals

*** 3. Check one or more proposals for each statement.**

	<u>Developing the Citizen Leader Through Global Diversity</u>	<u>Making Internships Work for Students</u>	<u>Creating Knowledge in the 21st Century: A Focus on Student Research</u>	<u>Active Citizen Leadership in a Culturally Diverse World</u>
This topic will affect the learning of the most students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic will most affect the learning of particular students.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic is an area needing improvement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic is an area of strength but susceptible to enhancement.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic will increase students' learning at Longwood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic lends itself to a focus on improving core competencies such as writing and critical thinking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic will help prepare Longwood students for life after Longwood.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
This topic is the one I personally would most like to be involved with.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rank

4. Based on your answers above, please let us know what topic proposals you think the Topic Selection Committee should recommend.

	<u>Developing the Citizen Leader Through Global Diversity</u>	<u>Making Internships Work for Students</u>	<u>Creating Knowledge in the 21st Century: A Focus on Student Research</u>	<u>Active Citizen Leadership in a Culturally Diverse World</u>
My First Choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My Second Choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My Third Choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My Fourth Choice	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Comment

Appendix F. Members of QEP Working Group

Name	Title (at time of joining)	Unit
McRae Amoss	Professor of French and QEP Director	Cook-Cole College of Arts and Sciences
Adam Franssen	Assistant Professor of Biology	Cook-Cole College of Arts and Sciences
Connor Freeland (beginning fall 2013)	student	Student Government Association
Joseph Gills	student	Cormier Honors College, Student Government Association
Mark Lenker (beginning spring 2013)	Associate Professor and Reference Services Librarian	Greenwood Library
Heather Lettner-Rust (through spring 2013)	Assistant Professor of English and Coordinator of Composition	Cook-Cole College of Arts and Sciences
Regina Maldve	Director of Sponsored Programs and Grants	Academic Affairs
Jason Milne	Assistant Professor of Sociology	Cook-Cole College of Arts and Sciences
Eric Moore	Associate Professor of Philosophy	Cook-Cole College of Arts and Sciences
Adam Paulek (through spring 2013)	Assistant Professor of Art	Cook-Cole College of Arts and Sciences
Carson Reeher (beginning fall 2013)	student	Longwood Ambassadors
Jen Rentschler (through fall 2012)	Assistant Director of Leadership and Civic Engagement	Student Affairs
Charles Ross	Professor of Physics and Dean	Cook-Cole College of Arts and Sciences
Cathy Roy	Associate Professor of Exercise Science and QEP Co-Director (beginning Summer 2013)	College of Education and Human Services
Susan Stinson	Senior Lecturer in English	Cook-Cole College of Arts and Sciences
Linda Townsend (beginning Fall 2013)	Assessment Coordinator	Academic Affairs
Bennie Waller	Professor of Finance and Real Estate and Chair	College of Business and Economics
Shelby Waugh (through summer 2013)	student	Cormier Honors College

With additional consultations in:

- Budget: Tracy Nelson (Assistant Vice President for Financial Operations)
- Assessment: Ling Whitworth (Director of the Office of Assessment and Institutional Research)
- Faculty Development: Pam Tracy (Director of Center for Academic Faculty Enrichment)
- Public Relations: Sabrina Brown (Associate Vice President for Marketing and Communications)

Appendix G. Position Description for Director of Student Research

Responsibilities of the Director of the Office of Student Research:

- Develop and oversee programs aimed at recruiting faculty and students to undergraduate research activities.
- Coordinate and expand the LU-PRISM – Longwood University Perspectives on Research in Science and Mathematics program.
- Implement LU-SRF – Longwood University Summer Research Fund.
- Plan and oversee the annual Longwood University Student Research Showcase Day.
- Work with Undergraduate Admissions to present information to prospective students and parents regarding undergraduate research.
- Work with Associate Deans to coordinate applications and data gathering for fellowships, scholarships and awards related to undergraduate research.
- Collaborate with Office of Sponsored Programs to host workshops for faculty to inform about potential external funding of undergraduate research.
- Coordinate with Center for Academic Faculty Excellence to host workshops for faculty to develop undergraduate research programs and include research in the curriculum.
- Facilitate the development of relationships between Longwood University and the local community based on common interests in undergraduate research.
- Work with the office of Leadership and Service Learning to facilitate research projects that incorporate both undergraduate research and community service.
- Working with IT to build and maintain a ORS website detailing departmental programs and funding possibilities
- Invite a yearly Faculty-In-Residence to help Longwood University faculty develop plans and then incorporate undergraduate research into their curriculum.
- Develop suitable newsletters, media, publicity events, and web content.
- Work with faculty, academic units and students to facilitate and monitor undergraduate research experiences.
- Coordinate the efforts of the Office of Student Research with other units on campus as appropriate.
- Monitor and report on program participation and results.
- Plan, monitor and control budget and expenditures.
- Support and promote undergraduate opportunities to engage in mentored research experiences.
- Collaborate with faculty and administration to obtain external funding to support undergraduate research programs, including those targeted to underrepresented students.
- Serve on committees relevant to the University's research infrastructure.
- Present classroom lectures on undergraduate research opportunities, grant writing, and related topics when requested.
- Perform other duties as assigned.

Appendix H. Proposed Pre- and Post-Workshop Faculty Survey

Faculty workshop/roundtable survey questions

Questions for faculty to self-assess prior to and at the end of the workshop/roundtable session (depending upon professional development focus):

How would you describe your knowledge of the research process as defined in Longwood's QEP?

No knowledge Some knowledge Much knowledge Extensive knowledge

How well prepared do you feel for developing students' research skills?

Not at all prepared Moderately prepared Very prepared Extremely prepared

How would you describe your knowledge of the core competencies related to the research process?

No knowledge Some knowledge Much knowledge Extensive knowledge

How well prepared do you feel for developing and improving students' core competencies (critical thinking, written communication, oral communication, information literacy) ?

Not at all prepared Moderately prepared Very prepared Extremely prepared

Pre-survey: Do the research courses you teach incorporate the core competencies?

If Yes, describe

No

Post-survey: How might you incorporate core competencies in your course in the future?

Pre-survey: How frequently do you engage in the following teaching practices?

Never 1-2 times a year Monthly Weekly Daily

Post-survey: How frequently might you engage in the following teaching practices? (listing of relative teaching practices)

Never 1-2 times a year Monthly Weekly Daily

How comfortable do you feel with the following teaching practices? (listing of relative teaching practices)

Not at all comfortable Moderately comfortable Very comfortable Extremely comfortable

How would you describe your knowledge of curriculum development?

No knowledge Some knowledge Much knowledge Extensive knowledge

How well prepared do you feel for creating and/or enhancing courses for teaching student research and/or student-inquiry methods?

Not at all prepared Moderately prepared Very prepared Extremely prepared

Faculty development: Additional questions for survey at end of workshop/roundtable

1. The design of the workshop/roundtable facilitated exchange of expertise among participants.
2. The workshop/roundtable engaged me in active learning related to its goals.
3. The sessions were well facilitated.
4. What aspects of the workshop/roundtable were the most valuable for you? And why? Least valuable and why?
5. How has this workshop/roundtable changed your thinking about teaching? (what you teach; how you teach)

Appendix I. Draft Critical Thinking Competency Rubric

		4	3	2	1
Problem	(A) <i>Identifies and explains the main issue</i>	Clearly identifies and summarizes the main issue and successfully explains why/how it is a problem or question; considering contextual factors, identifying embedded or implicit issues, addressing their relationships to each other.	Successfully identifies and summarizes the main issue, considering contextual factors, but does not explain why/how it is a problem or creates questions.	Identifies main issue but does not summarize or explain it clearly or sufficiently. May lack a contextual frame.	Fails to identify, summarize, or explain the main problem or question. Represents the issues inaccurately or inappropriately.
	OR				
	<i>Identifies topic and background</i>	Concise identifies a focused and manageable topic. Synthesizes in-depth information from relevant sources. States a hypothesis or thesis if applicable.	Identifies a manageable topic and presents in-depth information from relevant sources.	Identifies a topic; but topic may be too narrow or too broad. Limited information from relevant sources.	Fails to identify a topic, or topic is far too narrow or far too broad. Presents information from insufficient or irrelevant sources.

		4	3	2	1
Process	(B) <i>Presents and explains the argument</i>	Identifies all the major premises, provides strong evidence for their truth, provides definitions or explanations of any important technical terms, and adequately demonstrates the logical connection between the premises and the conclusion.	Identifies most of the major premises and gives some plausible explanations to support them and their logical connection to the conclusion. May partially define or explain some technical terms and concepts.	Identifies some of the premises but provides little justification for either their truth or the logical connections between them. Generally doesn't define or explain important technical terms or concepts.	Fails to identify the major premises of the main arguments or fails to show how they are intended to support the conclusion.
	OR				
	<i>Demonstrates design and analysis</i>	All elements of the methodology or theoretical framework are skillfully developed and succinctly described. Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to focus.	Critical elements of the methodology or theoretical framework are appropriately developed and described; however, more subtle elements are ignored or unaccounted for. Organizes evidence to reveal important patterns, differences, or similarities related to focus.	Critical elements of the methodology or theoretical framework are missing, incorrectly developed, or unfocused. Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities.	Inquiry design demonstrates a misunderstanding of the methodology or theoretical framework. Lists evidence, but it is not organized and/or is unrelated to focus.

		4	3	2	1
Conclusions	(C) <i>Evaluates assumptions, evidence, and inferences</i>	Evaluates key assumptions, evidence and inferences, and considers important or obvious potential objections or varying perspectives. Provides full and plausible responses to the objections or perspectives.	Evaluates key assumptions, evidence, and inferences, and considers important or obvious potential objections or varying perspectives. However, the response may be limited or implausible.	Evaluates most of the assumptions, evidence, and inferences, but doesn't consider or respond to important or obvious potential objections or varying perspectives.	Fails to evaluate most of the assumptions, evidence, or inferences. Doesn't consider any potential objections or varying perspectives.
	<i>Draws conclusions or assertions and assesses limitations and/or implications</i>	States conclusions or assertions that are logical extrapolations from the inquiry findings. Insightfully discusses relevant limitations and/or supported implications.	OR	States a general conclusion or assertion that, because it is so general, also applies beyond the scope of the inquiry findings. Relevant limitations and/or supported implications may be absent.	States ambiguous, illogical, or unsupported conclusions or assertions from inquiry findings.

Adapted from AAC&U Critical Thinking and Inquiry and Analysis VALUE Rubrics

Appendix J. Draft Information Literacy Competency Rubric

	Citation 1	Citation 2
(A) Relevance (0-3 pts.)		
(B) Presentation of Source Content (0-3 pts.)		
(C) Student or Source? (0-2 pts.)		
(D) Endnotes/Footnotes or Parenthetical Citation (0-1 pt.)		
(D) Correspondence with Bibliography (0-1 pt.)		
(A-D) Information Use Total Points		

	Bibliography
(A) Types of Sources (0-8 pts.)	
(B) Number of Sources (0-8 pts.)	
(C) Currency (0-2 pts.)	
(D) Correct Citation (0-2 pts.)	
(A-D) Bibliography Total Points	

Appendix K. Draft Written Communication Competency Rubric

	4	3	2	1
(A) Analysis	Identifies, summarizes, and analyzes the topic/problem with significant clarity and addresses all relevant questions and issues.	Identifies, summarizes, and analyzes most key aspects of the topic/problem and the relevant questions and issues.	Identifies, summarizes, and analyzes the topic/problem and the relevant questions and issues only in a partial or inconsistent manner.	Does not clearly state the topic/problem or address relevant questions and issues.
(B) Organization	Organizes paragraphs coherently to support the main argument with consistent and skillful use of appropriate, clear transitions and well-developed explanations.	Organizes paragraphs coherently to support the main argument with consistent use of appropriate, clear transitions and explanations.	Does not organize paragraphs consistently to support the main argument, and does not use transitions or explanations in several parts of the paper.	Does not organize paragraphs or provide transitions and explanations.
(C) Style	Demonstrates precision and control over language, examples, and concepts that are appropriate to the topic and/or rhetorical situation.	Demonstrates language, examples, and concepts that reflect moderate control and are appropriate to the topic and/or rhetorical situation.	Demonstrates language, examples, and concepts in several instances inappropriate to the topic and/or rhetorical situation.	Uses language, explanations, examples, and concepts that frequently demonstrate little control and are often inappropriate to the topic and/or rhetorical situation.

Appendix L. Draft Oral Communication Competency Rubric

	4	3	2	1
(A) Organization	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable and is skillful and makes the content of the presentation cohesive.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is clearly and consistently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is intermittently observable within the presentation.	Organizational pattern (specific introduction and conclusion, sequenced material within the body, and transitions) is not observable within the presentation.
(B) Language	Language choices are imaginative, memorable, and compelling, and enhance the effectiveness of the presentation. Language in presentation is appropriate to audience.	Language choices are thoughtful and generally support the effectiveness of the presentation. Language in presentation is appropriate to audience.	Language choices are mundane and commonplace and partially support the effectiveness of the presentation. Language in presentation is appropriate to audience.	Language choices are unclear and minimally support the effectiveness of the presentation. Language in presentation is not appropriate to audience.
(C) Delivery	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation compelling, and speaker appears polished and confident.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation interesting, and speaker appears comfortable.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) make the presentation understandable, and speaker appears tentative.	Delivery techniques (posture, gesture, eye contact, and vocal expressiveness) detract from the understandability of the presentation, and speaker appears uncomfortable.
(D) Supporting Material	A variety of types of supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that significantly supports the presentation or establishes the presenter's credibility/authority on the topic.	Supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that generally supports the presentation or establishes the presenter's credibility/authority on the topic.	Supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make appropriate reference to information or analysis that partially supports the presentation or establishes the presenter's credibility/authority on the topic.	Insufficient supporting materials (explanations, examples, illustrations, statistics, analogies, quotations from relevant authorities) make reference to information or analysis that minimally supports the presentation or establishes the presenter's credibility/authority on the topic.
(D) Central Message	Central message is compelling (precisely stated, appropriately repeated, memorable, and strongly supported.)	Central message is clear and consistent with the supporting material.	Central message is basically understandable but is not often repeated and is not memorable.	Central message can be deduced, but is not explicitly stated in the presentation.

Appendix M. Student Survey Pre- and Post-Specific Courses

Pre- and post-course student survey

1. To what extent do you think there are opportunities for undergraduate students to participate in research (outside of regular course assignments) at Longwood?

Many Some Few None Not Sure

2. Students participate in undergraduate research for a variety of reasons. What would be a motivation for you to do independent research? Check all that apply.

- Working with a specific faculty mentor
- Working on a specific project of interest
- Gaining experience for career or graduate school
- Receiving compensation or pay
- Being excited by or loving the work
- Being required by my major or degree
- Meeting peers who have similar interests/goals
- Working on a project that might contribute to individual or community well-being
- Other _____
- Nothing would motivate me to participate

Attitudes and opinions about research and creative activities

Please rate your level of agreement with each of the following statements using this scale:

4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree

1. I enjoy learning about people and experiences that are different from my own
2. Laws and policy decisions should be based on research findings
3. Advances in research can solve real-life problems
4. Most research focuses on problems that are too insignificant to really mean anything
5. Learning about proper research methods and techniques is a valuable use of time
6. Participating in the creation or discovery of new knowledge is personally rewarding
7. Helping a professor with her or his research would be a waste of my time
8. Learning about research or creative works makes me more curious about the world
9. It is fun to work on problems that cannot be easily solved, or that take a long time to solve
10. I take pleasure in learning about a subject in-depth
11. Participating in research or creative activities improves the academic experience
12. Being involved in research or creative activities can help me become a better professional in my field
13. Professors who do their own research or creative work make better teachers

Learning

Please rate your level of agreement with each of the following statements using this scale.

4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree, 0 = none/not applicable

I am able to:

1. Understand current issues in my major or field of study
2. Judge the quality of research studies or creative works

3. Explain the advantages and limitations of different methods to approaching a question or problem in my field
4. Understand how to add to a scholarly or professional conversation through research and writing
5. Understand the research or creative process in my field
6. Understand the difference between personal beliefs and evidence in supporting a position or drawing conclusions
7. Understand how research is relevant to what I am learning in my classes
8. Understand terminology specific to my field
9. Match a scholarly question to the appropriate theories and methods
10. Deal with obstacles faced in the research or creative process
11. Analyze data or information relevant to the project
12. Write clearly and effectively
13. Evaluate scholars' positions or statements to determine how well-supported by evidence they are
14. Communicate well orally in a presentation, performance, or discussion of my work
15. Articulate the broad implications or "big picture" of what I have learned in a course project
16. Create new ideas, solutions, or creative works based on what I have learned

Personal development

Please rate your level of agreement with each of the following statements using this scale.

4 = strongly agree, 3 = agree, 2 = disagree, 1 = strongly disagree, 0 = none/not applicable

1. I am confident in my ability to do well in future courses in my major.
2. I can be patient with the pace of research or creative discovery.
3. I can manage time effectively.
4. I am able to maintain an enquiring attitude.