

**Seeking The Ox: Developing Critical Thinkers at Lord Fairfax  
Community College**

***A Quality Enhancement Plan***

Submitted to the Commission on Colleges  
Southern Association of Colleges and Schools  
September 1, 2007



*Office of the President*

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I am pleased to present Lord Fairfax Community College's Quality Enhancement Plan (QEP), "Seeking the Ox: Developing Critical Thinkers at Lord Fairfax Community College (LFCC)." This plan -- in conjunction with the College's strategic plan, mission statement and core values -- provides a framework to build on our tradition of excellence in instruction over the next five years.

The focus on critical thinking -- which was selected by employees, students, College Board members, Foundation Board members and educational partners - could not be more timely for LFCC. Employers in the LFCC service area have listed the ability to learn independently and make fast decisions, both part of critical thinking, as key needs for workforce success in our service region. The critical thinking initiative thus supports our role as a provider of workforce development and training. Moreover, as the president emeritus of Harvard University, Derek Bok, recently noted, 90 percent of faculty across the nation see critical thinking as the most important goal of an undergraduate education. As LFCC prepares students for transfer into four-year institutions, we must ensure a strong foundation in critical thinking skills.

Employees, students, College Board members and alumni participated in researching and developing our QEP. The final product of their efforts follows in this document. I believe it reflects many of our strengths: broad campus involvement, emphasis on faculty expertise and creativity, financial and institutional resources to support innovation and improvement, and continuous evaluation. The Executive Summary, Overview of Outcomes, and Budget Summary at the beginning of the document illustrate these strengths.

Alliances with other institutions, such as Tennessee Technical University, will also strengthen our QEP process. By accessing the expertise and experience of others in areas such as critical thinking grants and assessment, LFCC will ensure that resources are directed towards projects that are most likely to enhance critical thinking skills among students.

I strongly support the activities and anticipated outcomes of our QEP. I look forward to working with our QEP Leadership Team in the coming year and ensuring that we are indeed developing critical thinkers at Lord Fairfax Community College.

Thank you.

Sincerely,

John J. "Ski" Sygielski

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## I. OVERVIEW

### A. EXECUTIVE SUMMARY

The Quality Enhancement Plan (QEP) of Lord Fairfax Community College (LFCC), entitled “Seeking the Ox: Developing Critical Thinkers at LFCC,” aims to create a culture of critical thinking (CT) which permeates all aspects of the College community. The outcome of a critical thinking culture will be improved critical thinking skills among students. These skills include the ability to

- Explain, analyze and synthesize what we see, hear and read
- Use creativity to discover multiple and diverse approaches to issues
- Find relevant information to address tasks and problems
- Evaluate claims and evidence to draw reasonable conclusions
- Justify conclusions and solutions
- Apply concepts to real-world problems
- See connections and patterns both within disciplines and across disciplines
- Reflect on our own thinking and learning.

The skills characterizing a critical thinker cannot be acquired in a single course or a single step. Rather, students practice and develop these skills over time and in multiple contexts. The title of our QEP, adapted from Buddhist tradition, reflects this process approach to learning. A young farmer (representing a learner) searches for an ox (representing enlightenment or knowledge). The young man does not initially see what he is seeking; he knows only that he is searching. The youth must find the footprints of the beast, sight it and then attempt to catch it. Once caught, the ox must be tamed before the young farmer can ride it home. The ox is transcended when, at home, the

farmer no longer focuses attention on the ox but rests secure because the animal is available when needed. The ox and farmer are both transcended as the farmer realizes the world beyond the limits of his farm. Eventually, the farmer returns to the place where he found the ox, only to discover that the site is quite different. Time has changed the source, to be sure, but more importantly, time has changed the man. He sees the source through different eyes. In the end, the farmer – wiser and full of knowledge – goes into the marketplace to share his wealth.

Like the farmer, students at LFCC often begin their studies with only a small picture of what it means to learn, to know, to be educated. By creating a culture of critical thinking, LFCC will encourage students to see a broader perspective, grasp and wrestle with knowledge, recognize complexities, and in so doing, develop critical thinking skills.

The QEP plan promotes cultural change through three goals: fostering awareness and understanding of CT among college employees in all disciplines and units, enhancing critical thinking skills in all courses and programs and encouraging critical thinking practice outside the classroom. Activities to support these goals include a campus-wide professional development plan, a critical thinking mini-grant program to support innovations and both print and electronic resources for faculty and staff. In addition, the College will infuse CT learning outcomes into all courses and implement assessment of CT across the institution. Finally, the College will promote a series of workforce and extra-curricular activities to highlight CT outside the classroom.

## B. MEASURABLE OUTCOMES: STUDENT LEARNING

Measure	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Reference pages in QEP Text
Community College Survey of Student Engagement (CCSSE)	2% improvement on targeted benchmark scores OR match VCCS peers <sup>1</sup>			10% improvement on targeted benchmark scores OR match VCCS peers			30-31, 36, 58, 62
Course Assessment	Baseline data obtained (Group 2)	Baseline data obtained (Group 3)	50% of Group 1 courses exceed baseline results <sup>2</sup> OR gains of 5% per course	50% of Group 2 courses exceed baseline results OR gains of 5% per course	50% of Group 3 courses exceed baseline results OR gains of 5% per course	60% of Group 1 courses exceed baseline results OR gains of 5% per course	37, 56-57
Mini-grants			50% success rate for funded projects <sup>3</sup>	60% success rate for funded projects	65% success rate for funded projects	70% success rate for funded projects	44
California Critical Thinking Skills Test (CCTST)		2% gain OR equal or better VCCS peers <sup>4</sup>		4% gain OR equal or better VCCS peers		6% gain OR equal or better VCCS peers	28-29, 36
Student Development (SDV 100) CT module		Baseline data obtained <sup>5</sup>	Match or exceed baseline		5% increase over baseline		58
Non-returning student surveys	Development and pilot	Baseline data	2% gain over baseline	4% gain over baseline	5% gain over baseline		38
Employer survey	Development and pilot	Baseline data	2% gain over baseline		4% gain over baseline		66-67

<sup>1</sup> Baseline for CCSSE scores in Active and Collaborative Learning, Academic Challenge, and selected questions established spring 2005.

<sup>2</sup> Baseline for Group 1 courses established spring 2007. Course assessment measures critical thinking learning outcomes, with evaluation instruments varying by course. See pages 56-57.

<sup>3</sup> Success in CT mini-grants to be determined by pre/post student surveys.

<sup>4</sup> CCTST baseline set in spring 2006.

<sup>5</sup> The SDV 100 CT module will be developed in 2007-2008 and the appropriate assessment chosen at that time.

### C. IMPLEMENTATION OUTCOMES

Measure	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013
Project logistics	QEP Leader named  Publicity plan in place  Website developed	Publicity plan in place  Website updated  WEAVE on-line updated	Publicity plan in place  Website updated  WEAVE on-line updated	Publicity plan in place  Website updated  WEAVE on-line updated	Publicity plan in place  Website updated  WEAVE on-line updated	Publicity plan in place  Website updated  WEAVE on-line updated
Faculty and Employee Participation	Employees attend at least 2 QEP events  2 faculty complete CAT workshop	All employees attend at least 1 QEP event  10 faculty complete CAT training	Employees attend at least 1 QEP event  10 additional faculty complete CAT training	Employees attend at least 1 QEP event	Employees attend at least 1 QEP event  Selected faculty review CAT training	Employees attend at least 1 QEP event
Mini-grants		Development and pilot	\$9000 in funded projects	\$9000 in funded projects	\$12000 in funded projects	\$15000 in funded projects
Faculty Profile	Pilot in faculty annual evaluation	60% faculty indicate CT emphasis in teaching	65% faculty indicate CT emphasis in teaching	70% faculty indicate CT emphasis	75% faculty indicate CT emphasis	80% faculty indicate CT emphasis
Student Activities and Support	CT themed student events held, all locations  Advising model developed	CT themed student events held, all locations  Advising model pilot	CT themed student events held, all locations  Advising survey, baseline	CT themed student events held, all locations  2% gain over base, advising survey	CT themed student events held, all locations	CT themed student events held, all locations  4% gain over base, advising survey
Workforce Initiative	Round-tables held  Competencies list developed	Awareness campaign, Career Center	Career Center resources developed		Career Fair held	
Unit Action Plans		QEP focus action steps for strategic plans developed in all units		60% of units complete QEP action plans	65% of units complete QEP action plans	75% of units complete QEP action plans

## D. BUDGET SUMMARY

Budget Category <sup>6</sup>	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	Total
QEP Director	11,200	11,200	11,200	11,500	13,000	15,500	73,600
QEP Assistant <sup>7</sup>	0	0	0	10,880	11,210	11,550	33,640
PR and communications <sup>8</sup>	11,500	4,000	4,000	4,150	4,400	4,600	32,650
Professional Development Activities	17,100	12,875	12,080	10,000	11,000	12,000	75,055
Awards and Incentives	300	600	900	1,100	1,200	1,300	5,400
Mini-Grant Projects and Release Time	0	2500	9,000	9,000	12,000	15,000	47,500
Assessment	850	4,000	1,500	4,500	1,800	5,000	17,650
Student Support and Activities	7,700	7,350	2,000	2,225	2,500	2,750	24,525
Workforce Initiatives	1,100	1,250	1,400	1,550	5,000	1,750	12,050
<b>Total</b>	<b>49,750</b>	<b>43,775</b>	<b>42,080</b>	<b>54,905</b>	<b>62,110</b>	<b>69,450</b>	<b>322,070</b>

<sup>6</sup> Activities included in these budget categories are detailed on pages 46-55, 58-64, 69-76, and Appendix 5.

<sup>7</sup> The executive assistant to the President will provide assistance for compiling and reporting data through 2009-2010.

<sup>8</sup> Figure includes some student activities. See budget breakdown in Appendix 5.

## II. COLLEGE HISTORY AND BACKGROUND

LFCC is a comprehensive, nonresidential, two-year public institution that is part of a statewide system of 23 community colleges. It serves the counties of Clarke, Fauquier, Frederick, Page, Rappahannock, Shenandoah and Warren and the City of Winchester in the northwestern part of Virginia. The college is named for Thomas, 6<sup>th</sup> Lord Fairfax, who in 1747 established his residence, Greenway Court, at nearby White Post, Clarke County. The College's service area was part of his vast land holdings, and its name pays homage to his respected legacy.

Establishment of the College and its Middletown Campus were approved in 1969, and it began operations in September 1970 with 577 students. Two years later, in June 1972, the College held its first commencement, at which 92 students received degrees. Also on December 18 of that year, the Southern Association of Community and Junior Colleges awarded accreditation at LFCC. The College operates as part of the Virginia Community College System (VCCS) and is governed by the Virginia State Board for Community Colleges. The State Council of Higher Education for Virginia (SCHEV) approves the College's associate degree curricula. LFCC is currently accredited by the Southern Association of Colleges and Schools--Commission on Colleges (SACS-COC).

The College now offers more than 75 associate degree and certificate programs in a wide variety of disciplines, in addition to workplace preparation programs for employees and employers. One of the fastest growing colleges in the VCCS, Lord Fairfax served 5,856 students (2,967 full time equivalent, or FTEs) in fall 2006. It is the seventh largest college of the 23 in the VCCS.

The College operates from three locations, its Middletown and Fauquier Campuses and the Luray-Page County Center. The Middletown Campus is a 120-acre tract 10 miles south of Winchester close to the junctions of Interstates 81 and 66. In fall,

2006, it served 4476 students (2,257 FTEs). The original College building was expanded to include a bookstore and student center. In 1985, LFCC built a technology center, which included a special events area with a stage, more classrooms, offices and computer labs, and in 1994 a modern learning resources center was added. In 2006, construction began on a Science and Health Professions building, expected to be completed by January 2008. In addition, construction on the Corron Community Development Center should be completed in 2009. This Center will house the Office of Workforce Solutions and Continuing Education, the Office of College Advancement and the Old Dominion University (ODU) Teletechnet offices.

In December 1988, 2.5 acres of land in Warrenton was donated to establish a campus in Fauquier County. The renovated barn on this property became the first classroom building. A larger facility was approved by the General Assembly in 1996 and was dedicated in October 1999. The new building included a student center and library as well as classrooms and labs. In fall 2006, 1,380 students (710 FTEs) attended classes at this site.

The Luray-Page County Center opened in January 2006. This small facility, located in a former Wrangler plant, has four classrooms, one of which is designed as a distance education classroom and may be linked to classrooms at both the Middletown and Fauquier campuses. Serving 188 students (84 FTEs) in fall 2006, the Center was developed to provide easier access to persons living on the distant southern ranges of the LFCC service area, including residents of the town of Luray, Page County, southern Warren County, Shenandoah County and eastern Rappahannock County.

The College's service area is one of the fastest growing in Virginia: the census of 1990 showed 174,462 persons in the service area. The Census Bureau predicts 250,000 by 2008. Clarke, Fauquier and Warren Counties are already considered part of the Washington, DC metropolitan area, and proximity to the interstate system has

stimulated growth throughout the region. This location accounts for the steady growth in student population and the modest but growing diversity of its membership. The area is also in the final phase of transition from a rural-agriculture region to a residential-service one. This latter shift is reflected in the interests, goals and attitudes of the changing student body. Programs such as high school dual enrollment and the Mountain Vista Governor's School have contributed to a drop in the average age, degree of experience and academic sophistication in the student body.

To meet these changing demographics, LFCC embraces the following mission:  
... we promote excellence in teaching and learning as the means to advance the development of students. The College is dedicated to creating a positive, supportive, learning-centered environment for all - students, employees and community members. We are committed as well to strengthening the educational, economic and cultural life of our diverse community. Through our commitment, we provide accessible, flexible, high-quality and cost-effective educational and workforce training programs that prepare students for further education, job advancement, meaningful careers, life-long learning and personal fulfillment.

The College vision calls for it to provide exemplary educational opportunities based on its values. These values include fostering high performance and a positive spirit that encourages integrity and love of life-long learning while respecting individual uniqueness and diversity. The mission of the College, along with its values and goals, mandates a focus on student success: the College must provide both services and a diversity of occupational, technical and academic programs to meet student needs. Within the context of its mission and values, the College community has analyzed itself in order to enhance efforts to be more fully responsive and effective in preparing students for life-long learning.

### III. INSTITUTIONAL ANALYSIS AND TOPIC SELECTION

The primary purpose of the QEP is improved teaching and learning, goals embraced by LFCC in its mission and vision statements. Student learning, as suggested in the SACS--COC Handbook for Accreditation (2004), is defined in general terms to include “changes in students’ knowledge, skills, behaviors, and/or values that may be attributable to the collegiate experience” (p. 22). The handbook cites examples of learning-related topics or issues such as “developing creative approaches,” “critical thinking skills,” “innovative teaching and learning strategies” and “increasing student engagement.” All of these topics are consonant with the College’s emphasis on reaching for exceptional quality. LFCC’s vision implies the obligation to enhance student analytical, intellectual, communication and interpersonal skills. Graduates should be able to understand basic principles, reason and develop a capacity for knowledge and understanding. They also should have the capacity to express themselves clearly in different contexts and be able to exchange differing ideas respectfully in a spirit of cooperation.

As part of the reaffirmation process, the College formed a QEP Topic Team in April 2006. Headed by a full-time faculty member, Henry Coffman, it was composed of seven members drawn from the faculty and student support services (Appendix 1). The mission of the team was to solicit the entire College for topics compatible with the College mission and goals that might be transformed into a suitable, worthwhile QEP focus. The topic selected had to enhance student learning and be faculty-driven. In addition, the selection process had to involve and inform all College stakeholders (faculty, staff, administrators, students, boards, alumni and the community at large). The final topic selection would be dependent upon aggregate consensus.

On April 5, 2006, the Director of Planning and Institutional Effectiveness distributed a QEP survey entitled Idea Suggestion Form to all College employees via e-mail. Concurrently, the QEP coordinator held general information sessions on April 11 at the Fauquier Campus and on April 13 at the Middletown Campus. The purpose of the sessions was to explain the reaffirmation and QEP processes and to solicit volunteers to participate on the committees of their choice. The topic selection team held its first meeting on April 17. At that time, the team discussed its operating procedures, including timelines, meeting frequencies, roles and functions. The team leader asked each member to think of evaluation methodologies and to provide him comments for discussion at the next scheduled meeting. By April 21, the Topic Team received 40 suggestions as a result of the April 5<sup>th</sup> survey. These described various issues, including critical thinking, student support, service learning and writing.

With the topics in hand, the team evolved a two-step evaluation process. In the first step, the team reviewed all 40 topics received in the survey against an agreed upon set of criteria: contribution to student learning enhancement, mission connection, the focus, measurability and attainability of the topic, level of significance in contribution and relationships to other College programs and data sources. Although the evaluation judgments allowed for flexibility, a number of topics did not meet the criteria, particularly measurability and attainability. Furthermore, a number of suggestions were very similar, and consequently, could be merged into a related subject category. For example, several suggestions involving aspects of critical thinking were combined into a single rubric, embracing several elements of the larger, general theme. The process produced eight suggestions, henceforth referred to as topics.

The team scrutinized the eight topics during May 2006, again using the original evaluation criteria. Its objective was to consolidate any similarities, subsets or redundancies and to eliminate any topic that was under consideration or being initiated

elsewhere in the College community. For example, “intellectual challenge,” one of the submitted suggestions, was easily contained under critical thinking. Therefore, it was classified as a critical thinking subset. In another case, the Assessment Study Team was examining the Noel-Levitz Retention Management System; hence, there was no need to duplicate that action in the QEP selection phase. At the conclusion of this phase, the Topic Selection Team had five general topics: Critical Thinking Skills, Writing Across the Curriculum, Student Support, Student Learning Center and Service Learning.

By early June 2006, each team member prepared an executive summary or abstract of one of the general topics. These provided a broad overview and description of the topic to be used for consideration by the entire College community. The team leader kept a larger file on each topic on hand so that those interested could review all the details. Additionally, the Director of Planning and Institutional Effectiveness prepared a voting survey using these summaries as a major component.

In late June 2006, the College president sent an e-mail to all employees requesting each person read the summaries and vote on one using the prepared survey. The distribution included full-time and adjunct faculty, staff, administration, College Board members and LFCC Educational Foundation members. In addition, the Office of Student Success distributed the e-mail to approximately 2000 students registered for the summer 2006 and fall 2006 semesters. All materials were accessible from the internet. The survey listed the five topics and requested voter job role data and ranking of the five topics from the respondent’s highest to lowest priority.

The voting was completed on July 19, with the results as shown in the following table:

Voting Block	Number (Raw Number)	Student Support (%)	Critical Thinking (%)	Writing (%)	Student Learning Center (%)	Active/Service Learning (%)
All	263	23.3	22.2	17.6	19.4	17.5
Student	117	24.8	20.7	16.1	20.6	17.8
Faculty	52	19.2	25.9	19.2	17.2	17.1
Administrator, Staff, Board Member, Other <sup>1</sup>	93	23.1	22.2	18.2	19.2	17.3

<sup>1</sup> “Other” category references job roles not defined in static list (e.g. ODU partner); the summation of all categories does not equal 263 as indicated in the report totals (actually equals 262)

The numbers are based on a cumulative total calculated from the points assigned to all topics. For instance, the topic ranked as the highest priority received a certain number of points, while the second ranking received a lower number of points, and so forth. Summation points were converted to percentages. Since the number of students voting equaled about 2.25 times that of faculty, some type of weighting needed to be added to the final evaluation. The team leader retained a more detailed file of the voting results for perusal. This showed that 47.2% of the faculty voted for “Critical Thinking” as the top priority for research, while “Student Support” was second at 24.5%.

The QEP topic team met on July 20 to analyze the survey results. They added a 2.25 and 1.25 times weight factor to the faculty and staff results, respectively, to compensate for the disparity in the number of voters in each category. These weight factors are based on the assumption that additional voters in each category would follow the same pattern. The overall results of the weighted scores for the survey show critical thinking to be the survey participants’ topic of choice. In addition to the number disparity resolved by the score weighting, the team’s final evaluation included the extent to which the topic would be both faculty-driven and data-driven. “Faculty-driven” refers to the

expectation that faculty lead the process, the topic research and the commitment to implement the topic successfully. Survey results indicated faculty overwhelmingly favored critical thinking, and the team inferred that faculty buy-in for the proposed topic would be strong. “Data-driven” means that the topic reflects current trends in academic literature as well as needs determined through assessment data.

A number of recent professional seminars, conferences and publications (see, for example, the Summer 2005 issue of *New Directions For Community Colleges*, dedicated to critical thinking) have stressed the importance of critical thinking (CT) throughout students’ academic and occupational careers. Employers require individuals to have the thinking skills necessary to analyze and synthesize inevitable change while remaining productive. For example, a recent IBM Web publication suggests that “Thinking is more than intellect and logic, more than wit and cleverness. When we think, our brain doesn’t just assess the here and now. It filters the facts of the present through the prism of our imagination” (*Think*). It goes on to ask a key question: “Will our *thinking* stand the test of time?” (emphasis added). The business world certainly values critical thinking for future success.

In addition, data from the 2005 report of the Community College Survey of Student Engagement (CCSSE) for LFCC showed student perception of academic challenge at LFCC falling below the VCCS and median college levels by as much as 4%. Moreover, assessment on the VCCS Core Competencies in 2006 showed LFCC students with a deficiency of 2% in critical thinking skills when compared to the VCCS as a whole. Thus, assessment data supported the topic choice.

Considering LFCC’s long-standing interest in and support for critical thinking as presented in periodic activities and workshops (see discussion in Section IV below), the institution was surprised at the disappointing showings in the CCSSE and VCCS surveys. The desire to improve these results, as well as May 2006 revisions to the

VCCS General Educational Requirements, which include critical thinking as a core competency (Appendix 6), influenced support for the topic.

In addition, faculty were concerned that critical thinking skills of incoming student cohorts had been incrementally declining commensurate with the implementation of Standards of Learning (SOLs) at the secondary level (these concerns were explicitly addressed in a CT work session in March, 2007). Fewer students came on campus intellectually prepared to deal with material at the college level. Fact-focused, they lacked the experience and self-confidence to conduct the necessary synthesis, analysis and evaluation required to be successful students, let alone useful participants in the economy. LFCC's goal of student success was thus jeopardized unless critical thinking skills received greater emphasis across the curriculum.

For all of these reasons, the topic team recommended critical thinking as the LFCC QEP topic of choice. In August 2006, the QEP coordinator briefed the College Leadership Council and gained its formal approval to proceed. Then, on August 16, the coordinator and topic team leader explained the process and its outcome to all College employees during the school year opening activities.

#### IV. PLAN DEVELOPMENT AND LITERATURE REVIEW

At the August 16, 2006, College-wide session, the QEP Topic Team passed the project to the QEP Research Team. This group was responsible for taking the overall topic of critical thinking, defining it in such a way that progress can be measured and designing a comprehensive plan to implement steps to improve critical thinking skills across the curriculum.

The team was composed of members representing every element of the College community, including alumni, the College Board and the LFCC Educational Foundation (Appendix 2). The QEP Research Team met at various times during the week of September 9, 2006, to organize itself and establish a process for developing the plan. After reviewing its objective, the team divided into several working groups, each charged with separate missions, to include literature reviews, best practices research and publicity (Appendix 3). The literature review team was divided into smaller groups to focus on definitions of CT, CT in the classroom, CT beyond the classroom and CT assessment strategies. Each group was asked to compile a summary of findings and a bibliography by the end of October, 2006.

The definition group quickly reported on the variety and numbers of definitions for critical thinking in the literature. For example, in the “Executive Summary of The Delphi Report” (a consensus of academics on critical thinking), Facione (1990) defines critical thinking as “the purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based” (p.2). The report goes on to suggest that critical thinkers demonstrate certain dispositions, such as flexibility and honesty, as they practice the skills listed in the definition. Similarly, Paul (2005) defines critical thinking as “the art of thinking about

thinking in an intellectually disciplined manner.... [Critical thinkers] *analyze* thinking, they assess thinking, and they *improve* thinking (as a result)” (p.28).

In addition, the literature reveals that critical thinking may be defined in different but complementary ways: as a general principle covering all fields of study and as discipline-specific guidelines for evaluating conclusions. Prince George’s Community College’s *Handbook of Critical Thinking Resources* (2004) suggests that critical thinking means “sound thinking needed by practitioners in an academic discipline: accurate, relevant, reasonable, rigorous – whether it be analyzing, synthesizing, generalizing, applying concepts, interpreting, evaluating supporting arguments and hypotheses, solving problems, or making decisions. An academic discipline is a system of thinking about information and its applications. Course content should consist of helping students to learn how to find answers, solve problems, and make decisions the way practitioners in that discipline do” (p.3).

Finally, the definition group pointed to research from the Foundation for Critical Thinking in California (reported in Paul, Elder, & Bartell, 1997) which suggests that, despite the growing emphasis on thinking skills in higher education, many faculty do not have a clear notion of what critical thinking entails (a finding echoed in Halx & Reybold, 2006). It was obvious that finding a definition that would be acceptable to everyone would be crucial, yet difficult.

Thus, in addition to the review of literature, in early October 2006 the team asked LFCC full-time and adjunct faculty to complete a survey regarding perceptions and practices in critical thinking (Appendix 4). The survey took a broad approach: faculty members were asked about specific types of assignments required in classes along with open-ended questions concerning discipline-based and personal definitions of CT. Seventy faculty (36 full-time and 34 adjunct) completed the survey.

With survey results in hand, the QEP Research Team leader looked for patterns and repeated words in the definitions provided by faculty and compared these to definitions in the academic literature. From this review, a definition was developed and reviewed by the QEP team during November. During these discussions, the language and word choice were refined, and the following definition was accepted by all:

We believe that we demonstrate CT when we

- Explain, analyze and synthesize what we see, hear and read
- Use creativity to discover multiple and diverse approaches to issues
- Find relevant information to address tasks and problems
- Evaluate claims and evidence to draw reasonable conclusions
- Justify conclusions and solutions
- Apply concepts to real-world problems
- See connections and patterns both within disciplines and across disciplines
- Reflect on our own thinking and learning.

In addition to the definition, the team drafted a purpose statement for the LFCC QEP: “the purpose of our QEP is to create a critical thinking culture that permeates all aspects of the College community.” The purpose was revised in March 2007 to include the following statement: “the outcome of a critical thinking culture will be an increase in critical thinking skills and dispositions among LFCC students.”

The relationship between campus culture and increases in critical thinking skills or dispositions has not been widely researched, although some authors recommend such a review (see, for example, Halx & Reybold, 2006; Elder, 2005; and Nosich, 2005). However, an interesting case study analysis from Tsui (2000) addresses just this issue. Tsui concludes that there are three components of campus culture that influence the

critical thinking development of the student body: “an institution’s epistemological orientation,” “its ability to instill responsibility and self-reflection in students” and “the level of social and political awareness it fosters in [students]” (p.428). The epistemological orientation concerns the perceptions of students and faculty regarding knowledge and learning: are students passive recipients of knowledge, or are they active participants constructing knowledge? In terms of responsibility, Tsui notes that critical thinking is enhanced when students are involved in campus decision-making processes, including search committees and academic policy decisions. Moreover, these institutions involve students in self-evaluation through the construction of portfolios and other self-analysis tools. Finally, in terms of social and political awareness, Tsui notes that a campus culture fostering critical thought involves students in community and volunteer projects, and promotes discussion and issues-based events on campus.

The QEP Research Team thus proposed a change in institutional culture. How to develop a change so that the entire College community would be included was the next focal area. During the November meetings, three broad goals were recommended and approved by the group. Each goal was designed to ensure broad participation and effective cultural change.

**Goal 1: (Professional Development) Foster awareness and understanding of critical thinking among College employees, both full-time and part-time, in all disciplines and units.**

The group felt that the culture as a whole could not change until all permanent participants in the culture had a common base from which to work. As Tsui (2000) points out, “To adopt a different epistemological orientation in instructing others usually requires commitment, guidance, and support” (p.435). She goes on to say that at schools with a culture that promotes critical thinking, “faculty not only devote a greater amount of time to teaching-related activities, but they also engage in a greater degree of

faculty exchange about pedagogy” (p.435). The first goal requires the College to not only dedicate time but also provide a structure to allow for such exchanges, both within disciplines and across disciplines and units.

**Goal 2: (Curricular Focus) Enhance critical thinking skills in all LFCC degree, certificate and workforce development programs.**

The second goal flows logically from the first: as faculty (in particular) develop a common understanding of critical thinking, they can infuse that into their teaching practice. The literature related to CT in the classroom is vast. However, a common theme can be drawn from a sampling of the many studies available: CT is enhanced through activities that stimulate active participation, reflection and collaboration. Vesely and Sherlock (2005), for example, review studies on the value of learning journals, book critiques and persuasive essays, and they conclude that these interactive learning tools enhance critical thinking skills. Bucy (2006) introduces the concept of an “expert panel,” in which students research views of prominent theorists and then represent one point of view as a member of an expert panel. Brookfield (2005) challenges instructors to promote “experientially grounded approaches” to teaching critical thinking, including using former students as experts (moving away from the teacher as all-knowing authority), using case studies, modeling critical thinking, using peer groups and cohort-based programs and connecting critical thinking to specific experiences. Several authors indicate that using appropriate questioning techniques will enhance critical thought (see, for example, the suggested class assignments in *The Handbook of Critical Thinking Resources*, 2004). Elder and Paul (2002) make the questioning strategy explicit for students in their book *The Miniature Guide To The Art Of Asking Essential Questions*.

All of these studies share a common thread: students must be given opportunity and encouragement to think critically. A classroom that imposes what Freire (1992) called

the “banking” view of education (i.e., where the student is an empty repository into which the instructor deposits factual knowledge) cannot promote critical thought. Rather, students must participate and engage with knowledge, despite the risks and barriers that engagement may pose.

Brookfield (2005) describes three significant barriers to critical thought: the sense of “impostorship,” cultural suicide and loss of innocence. He describes “impostorship” as the sense that students “possess neither the talent nor the right to become critical thinkers” (p.51). How can they possibly analyze or critique what the experts have produced? Impostorship, then, discourages critical thought. Brookfield describes cultural suicide as the sense that becoming a critical thinker and a member of the academic community is a betrayal of “the culture that has defined and sustained [students] up to that point in their life” (p.51). Finally, loss of innocence occurs as students leave a “golden age of certainty” and discover the world of context, multiple solutions, ambiguity and uncertainty (p.52).

CCSSE scores from 2005 suggest that LFCC must work on improving active and collaborative learning in the classroom. For example, 60% of LFCC students indicated that their course work focused very much or quite a bit on “memorizing facts, ideas, or methods” which they would “repeat in pretty much the same form.” Fifty-four percent had written four or fewer papers during the school year (17% indicating no writing at all). Only 13% often or very often discussed ideas from readings with instructors outside of class, and only 18% worked with other students on projects outside of class.

Tsui (2000) notes that a change in instruction to focus on critical thinking may promote resistance among students because there is a tacit understanding that their job is to listen and repeat a lecture for an exam (p.435). Moreover, Nosich (2005) suggests that students enter our classrooms with pre-conceptions about knowledge and learning that are founded on non-critical thinking:

These background conceptions are the product of unreflective thinking: rough generalizations, wishes turned into beliefs, hand-me-down explanations, jumped-to conclusions, prejudices, folk beliefs turned into dogma, and early school experiences. They are products of a hodgepodge of thinking, both personal and cultural, and this unexamined thinking filters and interprets the discipline the students are attempting to learn. (p.64)

Part of the implementation of goals one and two, then, will include strategies for acclimating students to a different perspective on education. In addition, implementation will address the critical thinking learning outcomes for general education as established by the VCCS (Appendix 6).

**Goal 3: (Real World Application) Encourage critical thinking practice outside the classroom.**

As Tsui (2000) suggests, a college can do more than change curriculum and instruction to promote critical thinking: involvement in campus activities, organizations and events may contribute to a campus culture in which critical thinking is enhanced. This finding is confirmed by Gellin (2003), who conducted a meta-analysis of studies on critical thinking from 1991-2000 (including Tsui's data) to assess to what extent participation in undergraduate activities (Greek programs, clubs and organizations) correlated to improved critical thinking. He concludes that undergraduate students involved in co-curricular campus activities demonstrate greater gains in critical thinking than do students who do not participate in such activities.

Why should such a correlation exist? Gellin speculates that a key reason may be the opportunities for interaction afforded by these activities: "Students who choose to take advantage of these opportunities are exposed to diverse points of view through their interactions with peers and/or faculty. In addition, each involvement activity may also provide a unique perspective and learning experience that enhances critical

thinking” (p.754). Moreover, Gellin goes on to cite Astin’s (1984) “Involvement Theory,” which suggests that student effort and engagement in studies will be enhanced by overall involvement in campus life.

Although participation in a dance club, for example, might not have an obvious connection to critical thinking, the student who does participate will be involved in practical critical thinking activities related to planning, decision making, budgeting, marketing and negotiating with a group.

In a 2006 article in the *Chronicle of Higher Education*, Lovett suggests that one way to move beyond the “smorgasbord” approach to student activities is to regard those who work in student affairs as partners in the learning experiences of students. In fact, she suggests that “we must allow and encourage student-affairs professionals to refocus their energy on specific learning outcomes” (p.B9). In partnership with faculty, she argues that these administrators can plan programs and projects which they can “link ... to the learning outcomes that they have defined in advance with their faculty colleagues” (p.B9). Thus, we can conceive of student activities as learning opportunities and define critical thinking learning outcomes for those activities. Encouraging co-curricular

participation, developing new activities and reviewing current policies for student activities should thus be an integral part of our plan to promote a culture change at LFCC.

In terms of extra-curricular involvement, the CCSSE results again point to weaknesses at LFCC (although these challenges are common for any commuter campus). For example, 53% of LFCC students indicated that they discuss ideas from college outside the classroom only sometimes or never, and 76% indicated that they are never involved in projects or activities with an instructor outside of the classroom. Only 38% of students noted that they had had a serious conversation with people who hold different values; this finding is troubling given Gellin’s (2003) conclusions about out-of-

class interactions and exposure to diverse viewpoints as part of critical thinking development. Perhaps most telling, 86% of students spent zero hours participating in College-sponsored activities during a typical week. If involvement supports growth in critical thinking, LFCC needs to improve in this area.

Another experience which occurs outside the classroom but may influence critical thinking development is student advising. If academic advising is viewed only as “assisted registration” with a focus on reading schedules and employing technology, the link to critical thinking may not be apparent. However, current research into the practice of academic advising suggests that advising may become (and should become) an extension of the learning which occurs in the classroom. As Hemwall and Trachte (2007) observe, “An advising curriculum should include a focus on the mission statement of the institution and seek to develop critical thinking skills in students” (para. 2). Note that under this conception of advising, learning is emphasized through the development of an advising curriculum, training for advisers, and in some cases, learning outcomes for advising.

Laff (2006) supports this approach and argues that “advising must be reconceived as a liberal learning experience in itself” (p.38). He asserts that this can be done by framing advising as “problem-based learning.” This learning environment requires that students work with problems which are not clearly defined. Rather, they are “logically fuzzy” (p.38). Such problems push students to think about what they know, what they need to know, how context shapes perceptions of problems, how learning from other contexts might apply. Laff makes the following observation:

It does not require much of an analogic leap to see how, through a problem-based learning approach, advising can be reconceived as a collaborative process of teaching and research. Advising as problem-based learning can challenge students’ narrative imaginations and make them question

what they value in their own learning... most importantly, depending on how the problem is posed in advising scenarios, a problem-based learning approach to advising can put the learning outcomes that students value least into real-world contexts that help them realize the importance and the practicality of a liberal education. (p.39)

Again, CCSSE data from 2005 suggest room for improvement in advising at the College. Only 8% of students suggested that they worked with an advisor often; 45% suggested rarely or never. Further, only 19% indicated that they talked very often or often to an instructor or advisor about career plans. The CCSSE data, along with results from a registration survey administered in spring 2005, led the Academic Advising Committee to convene in fall 2005. It was agreed that the current advising model needed to be revised and all advising services strengthened at the College. During discussions in fall 2006 and early spring 2007, the QEP Research Team proposed an advising and critical thinking component for the QEP to strengthen advising initiatives already underway and give a focus for additional research and planning.

These three goals (professional development, curricular development and critical thinking outside the classroom) -were refined and issued via e-mail to all LFCC employees in draft form in December 2006. They were explained further to the entire College community in January 2007 and distributed again with the request for comments or contributions. In addition, during the January 2007 faculty, staff and administrator information sessions, the College community met "Critic AI," a character designed by a student and used as a preliminary slogan for the QEP. Post-it notes with the question "What is Critic AI thinking?" were distributed to all employees of the College later in January.

The "Critic AI" graphic, however, drew some criticism from various College units. As a result, members of the QEP team looked for a theme that would capture its

understanding of critical thinking and resonate with the entire College community. One team member, Professor Ramon Selove, had suggested a series of pictures that he uses with his students. These pictures, dubbed the Ox-Herder pictures, come from traditional Buddhist practice, and they illustrate a seeker's journey from tracking and seeing an ox, through taming and riding the ox, to transcending and moving beyond that ox (the ox is so much a part of the seeker's life that the seeker no longer thinks about it). These pictures characterize the steps students take in becoming more proficient thinkers: they move from rote memorization and presentation of facts to systemic thinking and questioning, to analysis and evaluation and synthesis. The team agreed to incorporate the Ox pictures as a unifying theme for the plan.

During December 2006 and January 2007, the QEP research team began to build a plan that would implement the three broad goals of the QEP. In January 2007, a draft of the reaffirmation and year one plans were circulated among the team members for comments. In February, additional plans for years two, three and four were circulated. Plans were refined as the team looked at several critical questions:

1. Who will manage the activities of the QEP?
2. What are the yearly targets for success for each goal?
3. How can we ensure that the targets have been met?
4. Are the activities proposed realistic in terms of resources and in relation to the yearly goals?
5. How will we assess student progress in critical thinking?

To answer these questions, a leadership structure was proposed, along with yearly targets for each goal, indicators of success for each target and assessment strategies.

The team met on February 8, 2007 to review assessment strategies. There are a number of commercially available critical thinking tests, most of which are reviewed in Spicer and Hanks (1995) and Bers (2005). Of particular interest was the California

Critical Thinking Skills Test (CCTST), which is based on the Delphi Report's (1990) definition of critical thinking and recommendations for assessment. The CCTST, produced by Insight Assessment, is not only used in a number of schools nationwide, but was also chosen by the VCCS to assess critical thinking as a core competency requirement. One member of LFCC's faculty, Professor Nancy Penney, served on the VCCS committee that selected the CCTST.

The CCTST contains 34 multiple choice questions and may be administered via computer. Scaled subscores for inductive reasoning, deductive reasoning, analysis, inference and evaluation are reported, along with a total score. Although the test does not measure all of the components of critical thinking included in LFCC's definition, it does capture several key aspects, including explaining, analyzing and synthesizing what we see, hear and read; finding relevant information to address tasks and problems; evaluating claims and evidence to draw reasonable conclusions and justifying conclusions and solutions. Moreover, LFCC student performance data from this test in 2005 and 2006 are available to the College as a baseline (along with data from the VCCS as a whole), and thus the team supported continued use of this test to assess progress in the QEP.

In addition to this nationally benchmarked test, the team looked at assessment plans from a number of different schools, including Alverno Community College (WI), Cape Fear Community College (NC), Community College of Baltimore County (MD), Metropolitan Community College (MO), Niagara Community College and SUNY (NY), Rio Salado Community College (TX), Surry Community College (NC), Washington State University (WA) and Waukesha Technical Institute (WI). The team looked for what was being assessed (student learning outcomes at the institutional level, program, course, or cohort levels) and the tools used. In addition to national benchmarks such as the CCTST or the Watson-Glaser Test, many schools rely on institutionally developed

instruments, including rubrics and portfolios, for at least part of the assessment strategy. The multiple measures approach seen in the overview of schools bears out the conclusions of Spicer and Hanks (1995) and Bers (2005), as well as the comments of Facione (1990) in the Delphi Report. Facione concludes: “No matter which ways are used, it is important to ensure that the assessment conditions foster an attitude in which the subjects are disposed to use their skills as well as they can, and are not constrained or inhibited from doing so. In our view, it is highly advantageous to gather evidence regarding CT performance in many situations, using several assessment methods, so as to compile a composite picture of the subject and to cross check the results of any one way of assessment” (p.15).

In the February 8 meeting, the team concluded that using the CCTST as an institutional assessment would complement a variety of additional instruments embedded into courses and used to assess the critical thinking student learning outcomes required for each course. In addition, other instruments, such as the CAT test developed at Tennessee Technical University, may be considered after faculty training and evaluation.

One additional test requires further discussion. The Community College Survey of Student Engagement, or CCSSE, was given to LFCC students in spring 2005, and will be given again in spring 2008. As stated earlier, LFCC’s results for academic challenge were lower than anticipated, falling below both the VCCS and nationwide benchmarks for medium colleges: LFCC, 46.3; VCCS, 48.6; and nationwide, 50.3. The questions which yielded these results are interesting in light of LFCC’s definition of critical thinking. The results for these questions are included in the chart below (underlining added to highlight correlations with the LFCC definition of CT):

5. During the current school year, how much has your coursework at this college emphasized the following mental activities?	Very much	Quite a bit	Some	Very Little
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<u>Analyzing</u> the basic elements of an idea, experience, or theory	22	41	32	8
<u>Synthesizing and organizing</u> ideas, information, or experiences in new ways	18	35	41	6
<u>Making judgments</u> about the value of soundness of information, arguments, or methods	14	33	41	12
<u>Applying</u> theories or concepts to practical problems or in <u>new situations</u>	16	31	41	12
Using information you have read or heard to perform a new skill	20	33	38	9

The descriptors in these questions match many of the characteristics of critical thought as defined by the LFCC community. The fact that over 50% of students surveyed chose “sometimes” or “never” to describe evaluation and application activities confirms the need to focus on critical thinking. However, it also implies the need for further discussion about these results, because 57% of the faculty surveyed about critical thinking in October 2006 indicated, for example, that evaluation of arguments or interpretations is required six or more times during the course they teach. The CCSSE instrument will thus provide not only a key benchmark for progress in critical thinking, but also the basis for discussions about student perceptions of what is required of them and how faculty can communicate to students about the rationale and outcomes expected for courses and assignments.

In addition to the lower overall mean for academic challenge, LFCC also fell below VCCS counterparts for the active and collaborative learning benchmark: LFCC, 45.2; VCCS, 46.8; Medium Colleges, 49.9. As indicated earlier, active and collaborative learning plays a key role in the development of critical thinking skills. Thus, as a measure of progress towards QEP goals, the team determined to use both the academic challenge and active/collaborative learning CCSSE benchmarks.

During March, 2007, the QEP Research Team drafted the narrative of the plan for distribution in early April. Also, on March 21, the QEP coordinator and Research

Team leader met with the Public Relations Team to finalize plans for promotion and distribution of the draft for review and to ensure that communications concerning the plan and upcoming activities would be effective and timely. A schedule for publicity and information dissemination resulted from this meeting (Appendix 5).

The publicity plan, however, was not the first emphasis on critical thinking for LFCC faculty. In fact, critical thinking had been the subject of faculty development meetings as early as 2005. Sessions were conducted for adjuncts and full time faculty in which literature on the topic was discussed, and *The Miniature Guide to Critical Thinking Concepts and Tools* was distributed to all faculty. The Guide is a 2005 publication of The Foundation for Critical Thinking. Its authors contend that critical thinking is “a process by which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them” (Paul & Elder, 2005, p.1). During the August 2006 opening week activities, the same guide was used to encourage adjunct faculty to increase and improve critical thinking in their classes.

The College continued this warm-up to the QEP by hosting a number of events during the Spring and Summer 2007 terms. On March 10, 2007, an adjunct faculty workshop brought together 40 adjunct professors, along with 19 full-time colleagues. At the workshop, adjuncts heard presentations on library assignments, the QEP project and the Ox pictures. In addition, they analyzed their own assignments in relation to the VCCS general education requirements related to critical thinking. Similarly, during the College’s spring break, 22 full-time faculty attended a work session at North Mountain Vineyards in Maurertown, Virginia. Professor Selove presented the Ox pictures again, building awareness of the QEP theme, and faculty also brought sample assignments for discussion. Samples were collected to be included in a packet of information for new

instructors. These CT-themed events provided groundwork for the completed QEP plan and its implementation, to begin in August, 2007.

## **V. SEEKING THE OX: DEVELOPING CRITICAL THINKERS AT LFCC**

### **A. LEADERSHIP**

LFCC's QEP follows a six year strategy for implementation: for each of the three broad goals, there is a year of preliminary activities (the reaffirmation year, 2007-2008), followed by four years of focused activities, evaluation and continuous improvement, and a final year for the preparation of the project report for the Commission on Colleges. To ensure that the goals are met effectively and evaluated thoroughly, the College proposes the following leadership structure for the QEP.

The QEP project leader will be a faculty member with release time. The QEP leader reports to the vice president of learning. This position carries a minimum of three hours of release time per semester, with a recommended six hours per semester for the first three years of the QEP. The QEP leader will oversee plan implementation and evaluation, with the assistance of the QEP Leadership Team. Budget resources required for the leadership position total \$73,600 (16 hours of release time per year with increases of at least 3% per annum the last three years). In addition, a part-time assistant will be hired (20 hours/week) beginning in 2010. During the first three years, assistance with data management and reporting will be provided by the executive assistant to the President.

The QEP Leadership Team will include faculty, staff and administrators with responsibility for each of the QEP goals. To coordinate professional development, there will be at least one faculty member/administrator from both College locations: Middletown Campus and Fauquier Campus. To coordinate curricular development, the team will include the academic deans or designated program leaders. To coordinate staff and student initiatives, the team will include members of the Office of Student

Success and one additional classified staff member. Additional members will be recruited from the Office of Workforce Solutions and Continuing Education, and the Office of College Advancement. Finally, to coordinate assessment and data collection, the team will include the Director of Planning and Institutional Effectiveness. Thus, the Leadership Team will include a minimum of 10 and a maximum of 18 members. The Leadership Team will meet at least once a semester, and the QEP Leader will hold additional meetings with sub-groups as needed.

The QEP Leader will brief the vice president of learning and the president at least twice a semester. The president and vice president of learning will provide a strong voice of support for the project and help maintain momentum.

In addition to the Leadership Team, the College will identify CT liaisons, who are employees with interest or specific expertise in an area related to critical thinking. CT liaisons will work with the QEP Leadership Team to share information, build support for the project and provide additional leadership as needed.

Finally, the QEP Leadership Team will work with the Office of College Advancement to provide an on-going communication plan to ensure campus wide awareness and clear communication about QEP progress and upcoming QEP events. The Communication Plan for the reaffirmation year (2007-2008) is located in Appendix 5.

Although drawing its membership from throughout the College, the QEP Leadership Team will be situated with the Office of Learning, and its work will rely on the current structure of that division for support. In particular, deans and program leaders (designated faculty from each cluster) will be responsible to the vice president of learning to ensure that instructional objectives of the project are implemented. In particular, deans and program leaders will

- ensure that all syllabi reflect critical thinking learning outcomes,

- ensure that new faculty receive information, training and resources to implement critical thinking objectives in the classroom,
- highlight critical thinking initiatives in the process of faculty evaluations, and
- review course assessment results and follow up with recommendations and additional assessment if needed.

Members of the QEP Leadership Team will brief the deans and vice president of learning at least once each semester.

The success of the QEP team requires partnerships throughout the College. For example, the Leadership Team will work with the vice president of workforce solutions and continuing education to ensure that the QEP plan includes all appropriate industry, business and career groups served by the College, and the QEP Leadership Team will rely on the vice president of financial and administrative services and her staff for support on all issues related to funding the QEP. The Office of Student Success will develop student activities in support of the project and coordinate all institutional testing. Finally, the QEP Leadership Team will work with the Office of College Advancement to secure internet and print resources and publicity for the QEP.

The Leadership Team will collaborate with individuals throughout the College to ensure that the goals of the QEP are met, that schedules are maintained and that institutional culture maintains its emphasis on critical thinking through the designated implementation period and beyond.

## B. EVALUATION

In addition to the leadership structure, LFCC recognizes that a program designed to change institutional culture and enhance student learning requires, among other things, a comprehensive assessment strategy. In designing our QEP, the Research Team sought an assessment plan that:

- 1) Provides both formative and summative data describing changes in student behavior (student learning)
- 2) Yields information at the institutional, course and individual classroom levels
- 3) Provides feedback that will allow us to adjust our plans and strategies as the plan progresses
- 4) Captures a broad definition of critical thinking
- 5) Measures progress against state and national benchmarks
- 6) Includes faculty-driven assessments

Key components of our assessment strategy include the following:

- 1) Institutional assessment
  - Biannual spring administration of the California Critical Thinking Skills test (CCTST). This test is used by the VCCS to test core competencies, and it provides national and state benchmarks. This test, to be given to a random cohort of second year students, will provide an institutional measure of student proficiency in critical thinking skills.
  - Triannual spring administration (2008 and 2011) of the Community College Survey of Student Engagement (CCSSE) using a randomized sample of students. Also benchmarked at the state and national levels, this survey reveals institutional progress on indicators related to critical thinking: academic challenge and active and collaborative learning. In

addition to monitoring progress on these two benchmarks, LFCC will look at responses to question 5A: “During the current school year, how much has your coursework at this college emphasized the following mental activity? Memorizing facts, ideas, or methods from your courses and readings so you can repeat them in pretty much the same form.” This question holds an inverse relationship to critical thinking; the higher the response, the lower the level of critical thought. A negative percentage change in responses to this question will thus be another indicator of progress in critical thinking.

## 2) Course Assessment

LFCC has a three year course assessment cycle which requires that learning outcomes for all courses be reviewed and assessed regularly. In spring 2007, in conjunction with the revision of the VCCS core competency requirements, the assessment plan was amended to ensure that each course assessment includes at least one CT objective. This CT objective will be measured for each course regularly. Based on assessment results, recommendations for instruction will be given. CT objectives are specified in course assessment guides (CAGs), which full-time faculty develop for each course. A sample CAG for English 111 is included in Appendix 7.

Our course assessment process allows us to take a broader view of CT, in conjunction with the College’s definition. Moreover, assessment instruments for each outcome are selected by faculty, ensuring their participation and buy-in. Finally, results will influence teaching directly, as faculty respond to student performance. The assessment plan at the course level thus provides a lab setting for improved instruction in CT.

### 3) Non-returning Student Surveys

As indicated in Bers (2005), one of the challenges faced by community colleges in testing a cohort of students is that “enrollment patterns are often characterized by stop-outs, swirling among multiple schools, or discontinuous enrollment over an extended period of time” (p.22). Moreover, she claims that “it is nearly impossible to capture students at a catalogue-defined terminal point in their program” (p.22). To address this situation at LFCC, students who do not complete a program at the College will be asked to complete a survey in which they self-assess gains in general education core competencies, including CT. The survey will be designed to provide data on all core competencies, not just critical thinking, and will be linked with an initiative begun in late spring 2007 to better assess gains in general education core competencies for both program completers and non-completers. Because the goals of the QEP and the core competency assessment initiative are complementary, the college can use the same instrument, to be administered annually, for both purposes.

Additional data (listed below) will be gathered to assess specific yearly targets and to evaluate the effectiveness of planned events. These measures will allow us to improve the organization and delivery of our professional development and student development events. Moreover, we will gather indirect sources of data to help us gauge how well we are creating a culture that emphasizes critical thought.

Specifically, our strategies include the following:

- 1) The Critical Thinking Interview Profile for Teachers and Faculty (adapted from The Foundation for Critical Thinking) will be given

as a pilot survey in the reaffirmation year (2007) and for all faculty every year thereafter. The survey asks a series of open-ended questions which allow faculty to explain how they are emphasizing critical thinking in their classrooms. After the pilot study to refine the questions, the profile will be included as a guideline for the annual evaluation narrative. Progress will be measured by the percentage of full time faculty reporting development of new assignments or pedagogies to enhance critical thinking.

2) A critical thinking evaluation survey will be included for all QEP mini-grant projects. The survey, based on the LFCC definition of critical thinking, requires students to rate gains in each area of critical thinking in the particular course or project. If students note significant gains in the CT outcomes addressed by the project, the project will be considered a success.

3) Workshop rosters and evaluations will be included in all QEP events. Evaluation will be based on the number of participants and the effectiveness of the presentations (as perceived by participants). To this end, a web-based or paper evaluation will accompany each event. From these evaluations, we can measure progress towards yearly targets.

4) In spring 2008, the college will develop and pilot an employer survey as part of the QEP Workforce Initiative (Goal 3). The survey will provide information on how area employers who hire LFCC students or graduates (or who send employees to LFCC for training) rate the critical thinking skills of those employees. Baseline data will be gathered in 2009, under the direction of the Vice President of Workforce Solutions and Continuing Education, and additional surveys will be

administered in 2010 and 2012. Gains of 2% and 4% over the base are expected in the follow-up surveys.

5) Finally, to ensure timely and effective use of our data, the QEP will be entered as a unit in WEAVE on-line by September 2007, the College-wide on-line assessment program. Yearly indicators of success for each goal will be included in this format, along with all direct assessments of student learning (CCTST, CCSSE and course-based SLO assessment data).

The assessment plan will measure progress toward the three goals of the plan. Each of these broad goals is broken down into yearly targets, and there are three to five measurable outcomes of success for each target. A summary of these outcomes is listed on pages 6 and 7. The indicators of success measure how well we are implementing our plan and the extent to which our plan is influencing campus culture.

The final year of the plan (2012-2013) will be designated as a time of evaluation and preparation of the report required by the Commission on Colleges. The College will compare results from the CCTST and the CCSSE prior to the implementation of the QEP to results from the same tests given during the plan. In addition, the College will analyze trends in student learning outcomes provided from course assessment data. These data will provide evidence of the overall effectiveness of the QEP in promoting critical thinking among LFCC students.

## C. BUDGET

Success of the QEP also depends on adequate financial resources to ensure leadership, implementation and assessment of the project. LFCC has committed over \$322,000 towards the QEP over six years (including the reaffirmation year). Additional money will be allocated as needed, depending on inflation and a possible need to outsource budget items from 2009 to 2012. The following chart lists budget estimates by year and broad category (details of proposed activities for each goal are included in sections V.D, V.E and V.F below, while the overview on page 8 summarizes the budget by detailed category and year).

Year	Reaffirmation 2007-8	1 2008-9	2 2009- 10	3 2010- 11	4 2011- 12	5 2012- 13	Total
Goal 1: Professional Development	15,900	15,975	19,480	16,600	24,200	28,300	120,455
Goal 2: Curricular Development	1,850	6,000	1,500	4,500	1,800	5,000	20,650
Goal 3: CT Outside the Classroom	9,300	6,600	5,900	7,275	7,500	4,500	41,075
Communication	11,500	4,000	4,000	4,150	4,400	4,600	32,650
Leader/Assistant	11,200	11,200	11,200	22,380	24,210	27,050	107,240
<b>Total</b>	<b>49,750</b>	<b>43,775</b>	<b>42,080</b>	<b>54,905</b>	<b>62,110</b>	<b>69,450</b>	<b>\$322,070</b>

In addition to the plan activities proposed and detailed below, Appendix 5 details spending during the reaffirmation year for communication.

## D. PROFESSIONAL DEVELOPMENT

The first broad goal of LFCC's QEP is to foster awareness and understanding of critical thinking among College employees, both full-time and part-time, in all disciplines and units. The College cannot hope to foster behaviors which it does not understand or talk about regularly; moreover, employees cannot talk about critical thinking without a

common language and a common framework for discussion. The following activities are designed to support the professional development goal.

#### 1. Workshops and seminars

In the reaffirmation year (2007-2008) in particular, the College proposes a series of formal seminars and informal workshops to promote a common understanding of critical thinking and to provide employees with a common language for discussing it. These events begin in August 2007 with a series of workshops with Dr. Barry Stein, a consultant on critical thinking from Tennessee Technical University. Dr. Stein will host the QEP Leadership Team, faculty, adjunct faculty, administrators and staff in a series of targeted workshops. As a follow-up to this kick-off series, the College will host a “Critical Thinking Open House” during the fall of 2007. During the month of September, faculty and staff will visit each other during designated times to see how different courses and work units are emphasizing critical thinking. Following the open house, College faculty, staff and administrators will be invited to participate in interdisciplinary discussion groups. These discussion groups will build from Dr. Stein’s workshops and from observations during the open house so that employees can refine a shared understanding of CT. From these workshops, the College will identify CT liaisons, those who are passionate about critical thinking and who may lead future discussions.

In May 2008, the College will host a seminar on assessing critical thinking with a team of speakers who will address multiple assessment formats. In addition, two faculty will attend an assessment workshop sponsored by Tennessee Technical University, which has developed its own, faculty-scored assessment called the CAT (discussed in Stein, Haynes, & Unterstein, 2003). The CAT is a short answer essay test that faculty are trained to evaluate. The following skills are included in the test: evaluating information, evaluating ideas/other points of view, learning and problem solving, and communication. Training in this test will give the QEP Team additional alternatives for

measuring QEP progress, and it will also provide faculty with additional assessment tools for use in course or program assessment.

Throughout the five years of the plan, the College will continue to host seminars and workshops. Although topics beyond the first year are suggestions only and may change as needed based on data and faculty input, the QEP team has proposed at least one faculty workshop per semester, one adjunct and/or dual enrollment faculty seminar per academic year and one administrative/staff event per semester.

## 2. Print and electronic resources for faculty and staff

In a presentation at the SACS-COC Institute on Quality Enhancement and Accreditation, Fink (2006) suggested that faculty can improve their teaching in three ways: their own experiences, the experiences of others and the use of published literature on the subject of teaching and learning. Dr. Fink went on to argue that the third route for enhancing the quality of teaching is “tragically underutilized,” because faculty are not in the habit of looking for this sort of academic literature, or perhaps because “they don’t even know the literature exists” (p.8).

To ensure that LFCC faculty are aware of – and have ready access to – some of the best of this research, the professional development activities include funding for resource materials (books, journals and booklets) for faculty, administrators and staff, as well as the creation of a Web site with links to key references available via the internet. These resources may be assigned for discussion at the workshops or seminars. The specific titles referenced in the summary below are recommendations; the QEP Leadership Team may substitute according to the needs of employees.

In addition, as faculty develop assignments with specific critical thinking components, LFCC will publish its own resource manual, linking assignments with VCCS core competencies and assessments by discipline. LFCC’s CT Resource Guide will also

provide a bibliography of the best literature available on critical thinking, along with a synopsis of the QEP, the LFCC definition of CT and an overview of the Ox pictures. The LFCC CT Resource Guide will be included with orientation materials for all new employees.

### 3. A critical-thinking mini-grant program

In addition to targeted workshops and resources, LFCC recognizes the need to support faculty in their pursuit of innovative strategies for fostering critical thinking both inside and outside the classroom. For this reason, the QEP team proposes a mini-grant program which will provide faculty and staff with financial resources to explore critical thinking pedagogy. The framework for the mini-grant program will be in place by spring 2009, and the College expects the first group of recipients to begin projects in the fall of 2009.

The premise of the program is that faculty and staff may need resources beyond regular budget allowances in order to explore, test and evaluate innovations in teaching and learning critical thinking. Applicants will be required to show how the requested project will foster critical thinking, what learning outcomes the project will achieve, and whenever possible, data-based deficiencies to be addressed by the project. Funded projects must directly relate to student learning, and all projects will be assessed by a student learning survey, in addition to any other appropriate instruments. Successful applicants will be required to document their contributions through a Web report and a presentation at an appropriate College venue. Moreover, successful applicants will be asked to mentor other faculty who wish to replicate the project in other disciplines or courses. Funding may also be granted to replicate successful projects or for release time related to project development or mentoring activities.

In addition to ongoing workshops, resources and the mini-grant program, the professional development goal will be supported by celebration and awards for achievement. Each May, the College will offer awards to faculty and staff for exemplary instruction and practice of critical thinking. The College thus proposes to educate itself about critical thinking, build a library of critical thinking resources, support innovations in critical thinking and honor those who have excelled in nurturing critical thinking. By May 2013, critical thinking should be more than a part of LFCC's working vocabulary; it will be a part of the culture.

**SUMMARY OF ACTIVITIES: GOAL ONE, PROFESSIONAL DEVELOPMENT**

**Reaffirmation Year (2007-2008: Perceiving the Ox)**

**Target:** LFCC will make critical thinking (CT) a part of the campus culture by working with a common definition, identifying current beliefs and practices and highlighting challenges and weaknesses.

**Indicators of Success** (By May, 2008):

- All LFCC employees participate in at least two CT events (excluding the year-end celebration, measured by event rosters).
- All LFCC full-time faculty complete a faculty CT profile (as part of annual evaluations).

<b>Objective or Task</b>	<b>Time-frame</b>	<b>Participants/ person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
QEP leadership training and planning	July – August 2007	Leadership Team  Consultant (Dr. Barry Stein, Tennessee Tech)	\$3,000 Consultant fee	Commission on Colleges on-site visit, October 2007
Welcome Back Week: Workshops for All Employees and Faculty, and Adjunct Faculty (3 separate workshops)	Week of August 15, 2007	All employees, faculty	Consultant fee for workshop (see above)  \$750 Faculty resources	Workshop Evaluation/Employee Awareness Survey  Faculty Profile

<b>Objective or Task</b>	<b>Time-frame</b>	<b>Participants/ person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
CT retreats/focus groups	Fall semester, 2007.	Sessions led by QEP Leadership Team.	\$750	Evaluation/survey to follow Rosters Deliverable: <i>Summary report for the intranet site</i>
Workshop: Why Students Resist CT	Welcome Back week, January 2008	QEP Leadership Team, CT liaisons, faculty	\$2,100 Includes back copies of New Directions in CC (CT focus issue)	Follow up survey  Roster
Program and discipline focus groups	On-going, spring semester 2008	QEP Leadership Team and CT liaisons	None	Deliverable: <i>CT liaison to provide a summary or "great idea" from focus groups to post on web</i> Roster
Staff Brown Bags: Critical Issues and Critical Questions	On-going, Spring semester 2008	QEP Leadership Team, staff CT liaisons	None	Deliverable: <i>CT liaisons report on brown bag findings to post on intranet</i> Roster
Adjunct Workshop	March 2008	QEP Leadership Team, CT liaisons	\$2,625 (35X\$75), Stipends for adjuncts	Evaluation form and roster
End of Year Celebration	May 2008	QEP Leadership Team, all employees	\$300 CT awards	Post survey on CT awareness
Intensive training in Assessment of CT	May 2008 (Between semesters)	QEP Leadership Team, interested CT liaisons	\$2,500 speakers' honoraria and travel \$1,875 Faculty/adjunct stipends for completing training	Evaluation form and roster  Faculty profiles in year 2
Assessment Conference: CAT training	May 2008	2 selected faculty	\$2,000 conference fee, lodging and travel	
Faculty Profile Pilot	Spring semester 2008	Deans, selected faculty	None	Deliverable: <i>Refined profile instrument</i>
Reaffirmation Year Evaluation	April-June, 2008	QEP Leadership Team	None	<i>Deliverables: Updated calendar, year 2 Assessment report for Intranet Update to WEAVE on-line</i>
<b>TOTAL</b>			<b>\$15,900</b>	

**YEAR 1 (2008-2009: Catching the Ox)**

**Target:** LFCC will infuse CT into LFCC culture by identifying and supporting exemplary and innovative practices in critical thinking.

**Indicators of Success** (By May, 2009):

- The LFCC Critical Thinking Resource Guide is produced and distributed.
- Criteria for CT mini-grant program are established.
- All LFCC employees participate in at least one CT workshop or follow-up event (measured by event rosters).
- 60% full-faculty indicate greater emphasis on CT in the classroom, as indicated in the Faculty Profile.
- 10 faculty complete CAT training.

<b>Objective/Task</b>	<b>Timeframe</b>	<b>Participants/ person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
All employee Session during welcome back week	August 2008	QEP team Director of Planning and Institutional Effectiveness.	None	Post session survey, roster
Faculty workshop: Critical thinking through collaborative and group assignments	August 2008	QEP Leadership Team, QEP Leader, Consultant	\$1,200 Speaker fee and travel expenses  \$375 Copies of <i>Active and Cooperative Learning</i> for adjunct and full time faculty	Survey monkey follow-up, roster  Improved CCSSE scores in 2011  Faculty Profile
Adjunct Overview Session	August 2008	QEP team, Program Leaders	None	Post session survey and roster

Objective/Task	Timeframe	Participants/ person responsible	Estimated Budget Resources	Evaluation or Measurement
Produce LFCC CT Resource Book	Deadline for Submissions: December 15, 2008 Draft deadline: March 15, 2009  Production Deadline: April 15, 2009	QEP team, CT liaisons, Office of College Advancement	\$7,400	1. Employee survey, December 2009 (one semester after publication of source book). 2. Faculty profile
Update web resources in CT for Faculty and Staff	On-going, Fall 2008	QEP Leader, webmaster	None	
Develop guidelines for CT Mini-grant Program and pilot	Guidelines and call for proposals should be available by January 15, 2009	QEP team, Vice President of Learning	\$2500	Deliverable: <i>guidelines for mini- grant projects, call for proposals</i>
Adjunct Success Workshop	March 2009	QEP Leader, Adjunct Success Committee, Deans	\$2,625 Stipends for adjuncts	Follow-up survey and roster  CCSSE scores
Select CT Mini- grant recipients	Proposals received no later than March 30, 2007 Awards announced May 1, 2007	QEP team		Each project assessed with student learning survey
CAT training	May 2009	QEP leaders and 10 faculty	\$1675	Survey  Faculty profiles
Year One Evaluation and Budget Review	April-June 2009	QEP Leader and Leadership Team	None	Deliverable: <i>intranet report and recommendations.</i>  <i>Updates to WEAVE on-line</i>
Year One Celebration	May 2009	QEP Leadership Team, QEP Leader, President	\$600 CT awards	
Total			\$15,975	

## YEAR 2 (2009-2010 Taming the Ox)

**Target:** LFCC will evaluate LFCC culture and support data-driven innovation and change.

### Indicators of Success:

- All LFCC employees attend at least one QEP event.
- 65% of full-time faculty members report teaching innovations to highlight CT (measured by Faculty Profile).
- 50% of funded mini-grant projects are successful, as measured by the student learning survey.
- 10 additional faculty complete CAT training.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Yearly CT professional development planning	June-August 2009	QEP Leadership Team	None	Deliverable: <i>dates and schedule of events</i>
Opening All Employee Convocation: Taming the Ox	August, 2009	QEP Leader, QEP Leadership Team	None	Survey to follow up, roster
Faculty led CT Workshop: Technology and CT <b>Strand 1:</b> Technology in the traditional classroom/CT <b>Strand 2:</b> CT in on-line and hybrid courses	August 2009	QEP Leader, QEP Leadership Team, faculty	\$2,280 <i>Engaging Ideas: The Professor's Guide to Integrating Critical Thinking and Active Learning in the Classroom.</i>	Survey and roster  CCSSE scores in 2011  Student evaluations (end of semester)  Faculty profiles

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Adjunct Workshop: Taming the Ox	August 2009	QEP Leader, program leaders	None	Survey, CCSSE scores, student evaluations
Dual enrollment instructor seminar in CT	March 2010	QEP Leader, program leaders, Coordinator of Dual Enrollment	\$1,000	Survey and roster
Employee-led Workshops: What is working in my unit?	On-going, 2009-2010 One workshop each month	CT liaisons, unit representatives	\$1,500	End of the year survey, rosters Deliverable: <i>Summary and interviews for web resource</i>
CT Mini-grant recipients complete projects and present findings	Spring Semester 2010	QEP Leader, CT mini-grant recipients.	\$9,000 awards \$500 presentation of results	Deliverable: <i>summary for web resource and survey results</i>
CAT training	Spring 2010	QEP Leader and 10 faculty	\$1,675	Faculty CT profile
CT Mini-grant recipients selected for 2010-11	Applications due March 1, 2010. Awards made at year end convocation in May.	QEP Leadership Team		
Adjunct Workshop: Technology and CT	March 2010	QEP Leader, program leaders, faculty volunteers	\$2,625 Stipends for adjuncts	Follow-up survey and rosters
End of the year convocation	May 2010	QEP Leadership Team, QEP Leader	\$900 CT awards	
Annual Review	April-June 2010	QEP Leadership Team	--	<i>Updates to WEAVE on-line</i>
Total			\$19,480	

### YEAR 3 (2010-2011 Riding the Ox)

**Target:** LFCC will support data-driven changes based on assessment in Year 2.

#### Indicators of Success:

- All LFCC employees attend one CT event in addition to the opening convocation (measured by event rosters).
- 60% of funded mini-grants are successful, as measured by the student learning survey.
- New CT Mini-grant recipients are selected with an emphasis on data-driven projects.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Yearly CT professional development planning	June-August 2010  Calendar due by August 15, 2010	QEP Leadership Team, QEP Leader	None	Deliverable: <i>dates and schedule of events</i>
Opening All Employee Convocation: Riding the Ox	August 2010	QEP Leader, QEP Leadership Team	None	Survey
Faculty Workshop: Creativity and Critical Thinking	August 2010	QEP Leader, Speaker (TBD)	\$2,500 Speaker fees/travel.  \$1075 faculty resources	Follow-up survey and roster  CCSSE scores in next cycle  Faculty profile
Employee Brown Bags: When Creativity Counts	On-going, fall 2010	QEP Leader, CT liaisons	None	Deliverable: <i>Summary of discussions for posting on website</i>
CT Mini-grant recipients complete projects and present findings	Spring Semester 2011	QEP Leader, CT mini-grant recipients.	\$9,000  \$500 presentation of results	Deliverable: <i>summary for web resource and survey results</i>
New CT Mini-grant recipients selected	Applications due March 1, 2011	QEP Leadership Team		
Adjunct Workshop: Creativity and Critical Thinking	March 2011	QEP Leader, program leaders, faculty volunteers	\$2,925 Stipends for adjuncts	Faculty profile and rosters
End of the year convocation	May 2011	QEP Leadership Team, President	\$600 CT awards	End of the year evaluation/survey
Evaluation and Budget Review	April-June 2011	QEP Leadership Team	--	<i>Updates to WEAVE on-line</i>
Total			\$16,600	

**YEAR 4 (2011-2012) Transcending the Ox**

**Target:** LFCC will celebrate improved critical thinking and ensure that progress continues.

**Indicators of Success:**

- Key professional development initiatives of the past 5 years are analyzed.
- Plan for transition from QEP to permanent structures is developed.
- 75% of full-time faculty identify teaching strategies used in the classroom to improve CT in students (indicated in the Faculty Profile).
- 65% of funded mini-grants are successful.
- CT Mini-grant recipients present results in appropriate College forum.
- All college employees participate in one QEP event, as indicated by rosters.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Opening Convocation: Transcending the Ox	August 2011	QEP Leader, Leadership Team		Follow-up survey
General Professional Development: Travel and Speakers	Fall 2011	QEP Leader, Leadership Team	\$4000	
Faculty workshop: Logical Fallacies	August 2011	QEP Leader, faculty volunteers	\$1,500 <i>Fallacies: Art of Mental Trickery.</i> Booklet for all employees	Follow-up survey
Employee Workshops: Logical Fallacies	On-going, Fall 2011	QEP Leader, CT liaisons	Booklet costs: see above	Deliverable <i>intranet summaries</i>
Poster Project Find the Fallacy	Spring 2012 Faculty, staff, and students submit fallacies from media, politics, etc.  Winning entries placed onto posters for display around campus.	QEP Leader, QEP Leadership Team	\$750	Year end survey

<b>Objective/Task</b>	<b>Timeframe</b>	<b>Participants/person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
CT Mini-grant recipients complete projects and present findings	Spring Semester 2010	QEP Leader, CT mini-grant recipients.	\$12,000 \$500, results presentations	Deliverable: <i>summary for web resource and survey results</i>
Faculty review: The Ox in Perspective	Reviews complete by May 15, 2012	QEP Leader, Leadership Team, program leaders	None	Faculty profile
Adjunct Workshops: Logical Fallacies	March 2012	QEP Leader, QEP Leadership Team, program leaders	\$3,250 Stipends for adjuncts	Follow up survey
CT Mini-grant recipients selected for new year	Applications due March 2012	QEP Leadership Team		
Year-end Convocation	May 2012	QEP Leader, Leadership Team, President	\$1,200 CT awards	Final survey
Annual Evaluation	April-June 2012	QEP Leadership Team	--	<i>Updates to WEAVE on-line</i>
<b>Total</b>			<b>\$24,200</b>	

## Year 5: (2012-2013) Reaching the Source and Going into the World

**Target:** LFCC will document changes in campus culture in response to Critical Thinking initiatives.

### Indicators of Success:

- 70% of funded mini-grant projects are successful.
- Employees attend at least one QEP event, as measured by event rosters.
- 80% of faculty indicate CT teaching emphasis, as measured by the Faculty Profile.

Objective/Task	Timeframe	Participants/ Person responsible	Estimated Budget Resources	Evaluation or Measurement
Plan for on-going support of critical thinking at LFCC	March 15, 2013	QEP Leader, QEP Leadership Team, Administrators	None	Deliverable: <i>Plan for continued integration of CT</i>
Evaluation and Report to SACS-COC	March 15, 2013	QEP Leader, QEP Leadership Team, Director, Planning and Institutional Effectiveness	None	Deliverable: <i>Final Report</i>
Professional Development Activities: resources, travel, speakers	On-going	QEP Leader, Deans, Program Leaders	\$8,250	Surveys
CT Mini-grant recipients complete projects and present findings	Spring Semester 2010	QEP Leader, CT mini-grant recipients.	\$15,000 \$500 results presentations	Deliverable: <i>summary for web resource and survey results</i>
CT Mini-grant recipients selected for new year.	Applications due March 2013	QEP Leadership Team		
Adjunct Workshops	March 2013	QEP Leader, QEP Leadership Team, program leaders	\$3,250 Stipends for adjuncts	Follow up survey.
Year 5 Celebration	May 2013	QEP Leader, QEP Leadership Team, President	\$1,300 CT awards	
Total			\$28,300	

## E. CURRICULUM

The second goal of the QEP states that LFCC will enhance the teaching of critical thinking skills in all LFCC degree, certificate and workforce development programs. Barnes (2005) points out that there are several approaches to a critical thinking curriculum, including the addition of stand-alone course in critical thinking, critical thinking courses paired with content courses and the “infusion model,” in which critical thinking activities are incorporated into the existing curriculum (p.11). Both Paul (2005) and Ven Gelder (2000) argue against a single critical thinking course. Rather, Paul suggests that “we should not delude ourselves into thinking that one or two courses can effectively substitute for an organized emphasis on critical thinking across the curriculum, within every subject and discipline, and across a number of years” (p.36). The LFCC QEP follows the infusion model, as stated in the second goal.

LFCC has already begun this process through requirements for course content summaries and course assessment. Beginning in 2007, all LFCC courses must include a critical thinking student learning outcome (based on the VCCS listing of general education competencies; see Appendix 5), and that outcome must be tested every three years. From 2007-2009, baseline data will be gathered from these course based assessments. When the assessment cycle begins again in 2010, the college aims for improvements of 5% in course based assessments of CT and at least 50% of the courses in the cycle meeting or exceeding baseline data. In addition, the College will administer other assessments of CT as part of Goal Two: the Community College Survey of Student Engagement (CCSSE) and the California Critical Thinking Skills Test (CCTST). Also, selected faculty will participate in training for the CAT instrument and consider its use in course or institutional assessment.

Adding critical thinking learning outcomes and assessing them do not ensure a critical thinking focus throughout the curriculum. It is only when we change and develop

instruction in response to assessment results that we accomplish the second goal.

Thus, success in curriculum reform relates directly to reflection and change based on the data received via assessment. It is at this point that goals one and two are linked: a key component of our professional development is the review of data and the recommendation of action based on that data.

Members of the QEP Leadership Team responsible for Goal Two activities include deans and/or program leaders. These individuals ensure that each course within their cluster has an identified critical thinking outcome and that the outcome is assessed. In addition, the program leaders will work with faculty to respond to data from course assessment. Course Assessment Guides (CAGs) must be reviewed by full-time faculty members and program leaders, and changes to instruction based on the data must be recommended and implemented. The cycle of assessment, review, recommendations and change will affect every course in the College; thus, the commitment of deans, program leaders and faculty is crucial to this endeavor.

## SUMMARY OF ACTIVITIES: GOAL TWO, CURRICULAR DEVELOPMENT

### Reaffirmation Year (2007-2008: Perceiving the Ox)

**Target:** LFCC will add CT components to the learning outcomes of 18 courses, including SDV 100, and will gather baseline data on the CT strengths and weaknesses of current students.

#### Indicators of Success (By May, 2008):

- SDV 100 CT module is developed.
- Student learning outcomes (SLOs) for CT are added and assessed in designated courses in the assessment cycle for baseline data.
- CCSSE means for academic challenge and active and collaborative learning improve by 2% or match VCCS peers.
- CCSSE responses to question 5a decrease by 2% or match VCCS peers.
- Non-returning student survey developed and piloted.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Develop a CT Component for SDV 100 courses.	Model to be developed during the fall 2007 semester, ready for implementation fall 2008.	Coordinator of Student Life and Information Services, QEP Leadership Team	\$1,000 critical thinking resource booklets	Deliverable: <i>CT module outline &amp; schedule.</i>  Assessment instrument, selected by development team.
Include a CT Student Learning Outcome in designated pilot courses. Each SLO must include an appropriate assessment	Course assessment guides and SLOs for fall courses due May 15, 2007.  Results for fall courses due to QEP Leader by February 1, 2008.  Course assessment guides and SLOs for spring 2008 courses due October 15, 2007.  Results from spring courses due to QEP Leader by June 1, 2008.	QEP Leadership Team in conjunction with program leaders	None	Course embedded assessments results submitted to QEP Leader and to WEAVE on-line for baseline.

<b>Objective/Task</b>	<b>Timeframe</b>	<b>Participants/person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
Review CT results from courses assessed in the cycle	Spring 2007 results reviewed by December 15, 2007  Fall 2007 results reviewed by March 1, 2008 Spring 2008 results reviewed by July 1, 2008	QEP Leadership Team and program leaders  Director of Planning and Institutional Effectiveness.	None	Deliverable: <i>Data from pilot courses for posting on intranet site</i>  <i>Recommend strategies for improved instruction</i>
Administer CCSSE	April 2008	Vice President for Student Success, Office of Student Success	CCSSE administrative costs, to be covered by VCCS	
Pilot survey for non-returning students	Survey to be developed by March 2008	QEP Leader, Vice President of Student Success, Director of Enrollment Management and Services	\$850 printing and mailing	
Evaluation	May-June 2008	QEP Leadership Team	None	Deliverables: <i>Update to WEAVE on-line</i>
Total			\$1,850	

**YEAR 1 (2008-2009: Catching the Ox)**

**Target:** LFCC will address identified CT weaknesses and build on CT successes in the classroom.

**Indicators of Success** (By May, 2009):

- SDV 100 CT component is implemented and assessed for baseline data.
- All student learning outcomes (SLOs) for CT are added and assessed in designated courses in the assessment cycle for baseline data.
- LFCC students equal or better VCCS peers on California Critical Thinking Test OR improve by 2% over 2006 baseline data.
- Non-returning student survey administered for baseline.

<b>Task/Objective</b>	<b>Timeframe</b>	<b>Participants/ Person Responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
SDV 100 CT implemented and assessed for baseline data	Implemented in fall, 2008.  Assessment complete by March 15, 2009 and changes recommended	Coordinator of Student Life and Information Services/Student Success Team; QEP Leader	\$2,000	To be determined by Coordinator of Student Life and Information Services, Student Success Team
Non-returning student surveys administered for baseline	May 2009	Coordinator of Student Life and Information Services, Student Success Team; QEP Leader	\$1,000	None
Assess CT in designated courses	Fall 2008 Courses by Feb. 15, 2009  Spring 2009 Courses by June 15.	Program Leaders, assessment coordinators, QEP Leader and QEP team	None	Assessment embedded in courses  Data review and recommendations
VCCS Core Competency Exam given to random sample of students	April/May 2009	QEP Leaders, deans, Director of Planning and Institutional Effectiveness, instructors.	\$3,000	Data from testing compared to data from 2007
Year One Evaluation and Budget Review	April-June 2009.	QEP Leader and Leadership Team.	None	Deliverable: <i>intranet report and recommendations. Update WEAVE on-line</i>
<b>Total</b>			<b>\$6,000</b>	

## YEAR 2 (2009-2010 Taming the Ox)

**Target:** LFCC will complete the infusion of CT outcomes into the curriculum and assess overall results.

### Indicators of Success:

- Results from CT outcomes assessed in Group 1 courses show 5% improvement and/or 50% of courses exceed baseline.
- Assessment of SDV 100 module meets or exceeds baseline.
- Non-returning student survey results show 2% gain over baseline.

Objective/ Task	Timeframe	Participants/ person responsible	Estimated Budget Resources	Evaluation or Measurement
Assess CT SLO's in designated courses	Fall 2009 courses: Results to QEP Leader by Feb. 15, 2010  Spring 2010 courses- data submitted by June 15, 2010	program leaders, assessment coordinators, QEP leader and QEP Leadership Team	None	Assessment embedded in courses  <i>Data review and recommendations (deliverable)</i>
Non-returning student surveys	May-August 2010	QEP Leader, Vice President of Student Success, Director of Planning and Institutional Effectiveness	\$1,500	
Mid term assessment of student learning	March-June 2010	QEP Leader, QEP Leadership Team, Vice President of Learning	None	WEAVE online, CCSSE scores CCTST scores
Total			\$1,500	

### YEAR 3 (2010-2011 Riding the Ox)

**Target:** The College will assess courses and support data-driven changes in instruction.

#### Indicators of Success:

- Student performance in course-based CT assessments improves over baseline in at least 50% of courses in the assessment cycle and/or assessed courses demonstrate 5% or better gains on CT assessments.
- CCSSE means for academic challenge and active and collaborative learning improve by 4% over 2005 baseline or match VCCS peers.
- CCSSE responses to question 5a decrease by 4% or match VCCS peers.
- Non-returning student survey results show 4% gain over baseline
- CCTST results improve by 4% over baseline OR LFCC students equal VCCS peers.

Objective/ Task	Timeframe	Participants/ person responsible	Estimated Budget Resources	Evaluation or Measurement
Assess CT SLO's in designated courses	Fall 2010 courses: Results to QEP Leader by Feb. 15, 2011  Spring 2011 courses- data submitted by June 15	Program leaders, assessment coordinators, QEP Leader and QEP Leadership Team	none	Assessment embedded in courses.  <i>Data for WEAVE on-line (deliverable)</i>
Non-returning student surveys	May-August 2011	QEP Leader, Director of Planning and Institutional Effectiveness, Vice President of Student Success	\$1,500	<i>Data submitted to WEAVE on-line</i>
CCTST	April-May 2011	QEP Leader, Director of Planning and Institutional Effectiveness, Vice President of Student Success	\$3,000	
Administer CCSSE	Spring 2011	Vice President of Student Success	Costs for CCSSE covered by VCCS	
End of Year Data and Budget Review	April-June 2011	QEP Leader, program leaders, QEP Leadership Team	None	Deliverable: <i>Recommendations for changes to plan and/or instruction.</i>
Total			\$4,500	

**YEAR 4 (2011-2012) Transcending the Ox**

**Target:** LFCC will build on student gains in CT across the curriculum.

**Indicators of Success:**

- Student performance in course-based CT assessments improves in at least 50% of courses in the assessment cycle, or student performance improves by 5% or more in course-based CT assessments.
- SDV 100 CT assessment results improve by 5% over the baseline.
- Non-returning student survey results improve by 5% over the baseline.

<b>Objective/Task</b>	<b>Timeframe</b>	<b>Participants/person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
Assess CT SLO's in designated courses, including SDV 100	Fall 2011 courses: Results to QEP Leader by Feb. 15, 2012  Spring 2012 courses: Results to QEP Leader by June 15, 2012	QEP Leader, program leaders, assessment coordinators, QEP Leadership Team	None	Assessments embedded in courses  Data review submitted for WEAVE on-line
Non-returning student survey	May-August 2012	QEP Leader, Vice President of Student Success, Director of Enrollment Management and Services	\$1,800	Survey results
Total			\$1,800	

**Year 5: (2012-2013) Reaching the Source and Going into the World**

**Target:** LFCC will document and celebrate student gains in critical thinking.

**Indicators of Success:**

- Student performance in course-based CT assessments improves in at least 60% of courses in the assessment cycle, or student performance improves by 5% or more in course-based CT assessments.
- CCTST results improve by 6% over baseline OR LFCC students equal VCCS peers.

<b>Objective/Task</b>	<b>Timeframe</b>	<b>Participants/ Person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
Plan for on-going curricular focus on critical thinking at LFCC	March 15, 2013	QEP Leader, QEP Leadership Team, administrators	None	Deliverable: <i>Plan for continued integration of CT, with assessment</i>
Evaluation and Report to SACS-COC	March 15, 2013	QEP Leader, QEP Leadership Team, Director of Planning and Institutional Effectiveness	None	Deliverable: <i>Final Report</i>
CCTST	April-May 2013	QEP Leader, Coordinator of Student Life and Information Services, Vice President of Student Success	\$3,200	Results posted to WEAVE on-line
Non-returning Student Survey	May-August 2012	QEP Leader, Vice President of Student Success, Director of Enrollment Management and Services	\$1,800	Survey results
<b>Total</b>			<b>\$5,000</b>	

## F. CRITICAL THINKING OUTSIDE THE CLASSROOM

The third goal of the QEP requires that LFCC encourage critical thinking outside the classroom. Brookfield (2005) notes that we often “assume that students share [our] conviction regarding the importance of critical thinking...Community college students who are using education as a means to change a career are likely to be impatient with any instruction that does not appear to lead directly to employment or enhanced career opportunity” (p.52). In other words, while we are working to infuse critical thinking into every aspect of our curriculum, we need to communicate clearly to our students why this infusion is not only useful and practical, but even necessary to success beyond the classroom. In designing activities to support this goal, the QEP team considered questions such as the following:

- What are the thinking behaviors that our students need to have when they leave the College?
- What attributes do we want employers to see in our students when they leave the College?
- How do the extra-curricular activities at the College promote critical thinking? How could we refine those activities to promote CT even more? How would our campus be different if students were challenged to improve thinking skills in extra-curricular programs?
- How do the non-instructional units of the College model critical thinking? How can we improve our own thinking about the work of the College?

From these questions, the QEP team developed a set of targets, success indicators and activities to encourage a culture of critical thinking beyond the classroom.

Four types of activities support this goal:

### 1. Employee-driven action plans.

By January 31, 2008, the College is asking employees, by unit, to identify how critical thinking effects their work environment and what specific problems are facing the unit, particularly in its dealings with students. Once problems have been identified, employees will be asked to develop action plans to address these problems. Action plans will be built into the strategic plans for each unit, with outcomes specified for

evaluation at the end of each academic year. The action plans demonstrate critical thinking through creativity and problem-solving. Units will be asked to measure their results, and successes will be honored through a critical thinking awards program.

Employee CT action plans provide a number of benefits: they will challenge all College employees to consider how they have solved problems in the past and to improve on that process. In addition, the plans will promote buy-in for the QEP from all sectors of the College, supporting LFCC's broad and inclusive definition of critical thinking. As employees work to solve problems they have selected, they will demonstrate the necessity of critical thinking in the workplace, and given the number of student employees at the College, they will model the importance of critical thinking for working students.

## 2. Career Connections

A second component of goal three activities connects critical thinking to the world of work. During the reaffirmation year, the College will host a series of round table discussions with representatives from key industries and employers in the LFCC service region, facilitated by the president and members of the Office of Workforce Solutions and Continuing Education. During the luncheons, the participants will discuss thinking skills and competencies required for success in the workplace. A master list of competencies will be developed from these discussions. The competency list will be matched against critical thinking objectives in credit and workforce/continuing education programs, and areas for improvement will be identified. In addition, the thinking competency list will be incorporated into counseling and advising materials.

In addition to requesting information for the master competency list, employers attending roundtable luncheons will be asked to complete a pilot survey concerning the skills and attributes of employees who have graduated from LFCC or who have completed courses/training at LFCC. The following year (2009), employers in the

Workforce Services Database will be asked to complete the survey to provide a baseline to measure our progress in critical thinking development as perceived by those who employ our students. Follow-up surveys will be distributed in 2010 and 2012, with expected gains of 2% and 4% over the base.

In years two through four of the QEP, LFCC will also emphasize critical thinking in the workplace through the development of a critical thinking resource library in the career centers of both major campuses and through career events (job fairs, seminars, resume workshops, etc.) held at each location.

### 3. Student Activities

The third component for Goal Three is a series of student activities with a critical thinking theme. The Office of Student Success will develop the specific calendar for these events, which may include art and essay contests, problem-solving competitions, contests for best examples of critical thought, student publications, scavenger hunts, puzzles, or challenges for clubs and organizations to document how they use critical thinking.

One of the keys to the success of the student activities program will be the committed involvement of the faculty. In addition to engaging in activities themselves, faculty members must challenge students to connect outside activities to class activities and discussions. When all members of the College community work to support student activities, the students hear a single voice, and the message can have the greatest impact.

The anticipated outcome of these events is increased student awareness and appreciation of CT, as well as improved student engagement in campus activities and in course work. CCSSE results in 2008 and 2011 will show our progress towards these outcomes.

#### 4. Enhanced advising

The final component of Goal Three is a focus on improved academic advising, particularly for faculty advisors. The College's strategic plan includes the goal of increasing retention and graduation rates through enhanced advising, and the QEP will contribute to that effort by developing a faculty advisor training module and resources. This training module will fit into the College's revised advising model, which proposes a comprehensive and interactive process which involves both trained counselors and faculty. In particular, the model proposes an interactive, face-to-face training in three phases to complement an on-line resource center. During the training, faculty advisors and counselors will review relevant information on the theory and practice of academic advising as well as LFCC programs, services, policies and procedures. Second, the program will cover conceptual aspects of advising, especially how to include critical thinking and problem solving through advising. Finally, the training will address relational aspects of advising.

Pilot training for advising will begin in fall 2008, and evaluation of the program will provide the foundation for a guide to faculty advising by May of 2009. A survey administered in 2010 will provide baseline data to evaluate the success of the program, with follow-up surveys in 2011 and 2013 to assess the effectiveness of continued training and development.

## SUMMARY OF ACTIVITIES: GOAL THREE, CAREER AND EXTRA-CURRICULAR

### FOCUS

#### Reaffirmation Year (2007-2008: Perceiving the Ox)

**Target:** LFCC will explore critical thinking in the workplace and challenge students to consider critical thinking.

#### Indicators of Success:

- Representatives from at least 10 key career/industry sectors participate in CT Forums (measured by rosters for each event).
- Pilot survey of local employers rating CT abilities in LFCC graduates and students completed and evaluated.
- Critical thinking competency list developed.
- Advisor training module and online resource center developed.
- CT themed student events held at all locations.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Purchase ½ page ad for CT initiative in Workforce Services and Continuing Education Bulletin	October 2007	QEP Leader	\$500	Participation in CT Focus Groups
Student activities program (games and workshops)	On-going	Coordinator, Student life and Information Services	*Included in communications budget for this year	Surveys and attendance lists
Pilot advising program developed	By May 2008	Director of Counseling, Advising, and Student Learning Services, faculty partner	\$1,500 Travel to conference  \$2,100 release time for faculty	Program materials and resources complete
Online advising resources framework established	By May 2008	Director of Counseling, Advising, and Student Learning Services, faculty partner	\$2,500 web development assistance  \$2,100 faculty release time	Website framework operational
Hold CT focus groups with community and key career/industry leaders	On-going through year 1  By October 15, 2007 key	QEP Leadership Team, advisory committees throughout the College, VP for workforce solutions and continuing	\$600	Deliverable: <i>Critical Thinking Competencies for the Workplace: Master List</i>  <i>Pilot employer</i>

<b>Objective/Task</b>	<b>Timeframe</b>	<b>Participants/person responsible</b>	<b>Estimated Budget Resources</b>	<b>Evaluation or Measurement</b>
	industry and community groups should be identified	education		<i>survey of LFCC student/graduate thinking skills completed.</i>
End of year evaluations	April-June 2008	QEP Leadership Team	None	Deliverable: <i>Evaluation report for intranet, update to WEAVE on-line</i>  <i>Changes and updates to year 2 plans.</i>
TOTAL			\$9,300	

**YEAR 1 (2008-2009: Catching the Ox)**

**Target:** LFCC students will recognize examples of CT beyond the classroom and the need for CT in the workplace.

**Indicators of Success** (By May, 2009):

- Action plans for promoting CT in student interactions developed by each unit, as part of yearly strategic plans.
- Advising training pilot program implemented.
- Guide for promoting CT in faculty advising developed to complement the College’s advising model.
- CT themed student events held at all locations.
- Employer satisfaction survey administered for baseline data.

<b>Objective Task</b>	<b>Timeline</b>	<b>Responsible Individuals</b>	<b>Budget</b>	<b>Measurement or Evaluation</b>
Student activities events, to be determined.	Schedule by August 15.	QEP Leader, Coordinator of Student Life and Information Services	\$1,150	Agenda and roster for each event.  Follow-up survey
Workforce Initiative: publicize master competencies list  On-going awareness of CT campaign  Gather baseline data from employer satisfaction surveys	Design Complete by January 31.  Printing complete by April 30	QEP Leader, Deans, VP of workforce solutions and continuing education	\$1,250.	Deliverables:  <i>Survey results</i>  <i>Print piece (Master competencies list)</i>
Action plans developed by unit	By January 31, 2009	QEP team, CT liaisons (to look at assessment strategies).	None	Deliverable: <i>Action Plans</i>

<b>Objective Task</b>	<b>Timeline</b>	<b>Responsible Individuals</b>	<b>Budget</b>	<b>Measurement or Evaluation</b>
Advising training pilot implemented	September 2008-December 2008	Director of Counseling, Advising, and Student Learning Services, faculty partner	\$2,100 release time for faculty	Participant survey, student survey
<u>CT Guide to Academic Advising</u> developed	January 2009-May 2009	Director of Counseling, Advising, and Student Learning Services, faculty partner	\$2,100 release time for faculty	<i>Guide completed and revised after evaluation</i>
Year One Evaluation and Budget Review	April-June 2009	QEP Leader and Leadership Team	None	Deliverable: intranet report and recommendations  Update WEAVE on-line
<b>TOTAL</b>			<b>\$6,600</b>	

## YEAR 2 (2009-2010 Taming the Ox)

**Target:** LFCC will assess progress in CT initiatives outside the classroom and continue to promote CT events.

### Indicators of Success:

- CT themed student events held at all locations.
- CT resources for the Career Center developed.
- Employer ratings of CT abilities of LFCC students/graduates improve by 2% over base ratings (2009).
- Faculty advising training fully implemented.
- Advising survey administered for baseline data.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Student CT events scheduled and implemented (includes publicity)	Calendar complete by August 15, 2009	QEP Leader, Coordinator, student life and information services	\$2,000	Agenda and roster for each event  Yearly Publicity Plan
Workforce Initiative:  Resources for Career Center purchased  Employer survey	Surveys completed by April 2010	QEP Leader, College Career Services Coordinator	\$1,400	Employer responses
CT and Academic advising training implemented	August 2009 and May 2010	QEP Leader, Advising Task Force Student Success Team	\$2,500 Resources: <i>The Art of Asking Essential Questions</i> guidebook	Baseline survey administered to students
Total			\$5,900	

### YEAR 3 (2010-2011 Riding the Ox)

**Target:** LFCC will assess progress and support data-driven initiatives to enhance CT beyond the classroom.

#### Indicators of Success:

- CT themed student events held at all locations.
- Student satisfaction with advising improves by 2%, as measured by advising survey.
- Results for CCSSE questions 4m and 13a (advising) and 10c (participation in college events) improve by 2% or match VCCS peers.
- QEP action plans completed successfully by 60% of college units.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Student CT events scheduled and implemented (includes publicity)	Calendar complete by August 15, 2010	Coordinator of Student Life and Information Services	\$2,250	Agenda and roster for each event  Data submitted to WEAVE on-line
Implementation and revision of action plans by unit	On-going, year 3	QEP Leader, CT liaisons	\$500 awards and incentives	# of action plans followed (submission to WEAVE online)  Employee survey
CT and Academic Advising (training)	August 2010 and May 2011	QEP Leader, Advising Task Force, Student Success Team	\$3,000 Resources <i>The Art of Asking Essential Questions.</i>	Survey
Workforce Initiative	On-going	QEP Leader, vice president of workforce solutions and continuing education	\$1,550	
Year 3 Mid-Program Assessment and Budget Review	April-June 2011	QEP Leader, QEP Leadership Team	None	Deliverable: <i>report with recommended actions</i>
TOTAL			\$7,275	

#### YEAR 4 (2011-2012) Transcending the Ox

**Target:** LFCC will promote multiple events highlighting critical thinking and respond to data from year 3.

#### Indicators of Success:

- CT themed student events held at all locations.
- Employer ratings of CT abilities of LFCC students/graduates improve by 4% over base ratings (2009).
- Career forum highlighting thinking skills hosted.
- QEP action plans completed successfully by 65% of college units.

Objective/Task	Timeframe	Participants/person responsible	Estimated Budget Resources	Evaluation or Measurement
Student CT events and activities scheduled, promoted and implemented	Calendar due  August 15, 2011	QEP Leader, Coordinator of Student Life and Information Services.	\$2,500	Agenda and roster for each event  Data submitted to WEAVE on-line
Continue academic advising with CT emphasis	On-going	Faculty	None	Survey on advising success
Workforce Initiative  Employer satisfaction surveys  Career Fair: Critical Thinking in the Workplace	April 2012	QEP Leader, Office of Workforce Solutions and Continuing Education, Coordinator of Career Services	\$5,000	Survey Results  Participant evaluations, career fair
TOTAL			\$7,500	

## Year 5: (2012-2013) Reaching the Source and Going into the World

**Target:** LFCC will document progress and celebrate CT outside the classroom.

### Indicators of Success:

- CT themed student events held at all locations.
- Student satisfaction with advising improves by 4% over 2010 baseline, as measured by advising survey.
- QEP action plans completed successfully by 75% of college units.

Objective/Task	Timeframe	Participants/ Person responsible	Estimated Budget Resources	Evaluation or Measurement
Plan for on-going extra-curricular focus on critical thinking at LFCC	March 15, 2013	QEP Leader, QEP Leadership Team, Administrators, Coordinator of Student Life and Information Services, Vice president for student success	None	Deliverable: <i>Plan for continued integration of CT in campus activities</i>
Student Activities	On-going	QEP Leader, Coordinator of student life and testing services	\$2,750	Event rosters and follow-up surveys
Workforce Initiative	On-going	QEP Leader, Vice president of workforce solutions and continuing education	\$1,750	Survey
Evaluation and Report to SACS-COC	March 15, 2013	QEP Leader, QEP Leadership Team, Director, Research and Institutional Effectiveness	None	Deliverable: <i>Final Report</i>
Total			\$4,500	

## VI. CONCLUSION

Lord Fairfax Community College has designed a quality enhancement plan to enhance student learning through development of improved critical thinking skills. The College recognizes that this endeavor will succeed only if the entire College community is committed both to the outcome and to the process. The College also knows that a change in culture is risky; not only will students be required to leave a comfort zone, but the faculty, staff and administrators may as well. However, as the ox-herder learns through his search, capture and taming of the ox, the end results are worth the effort: our students will go into the world better prepared to deal with the challenges of the 21<sup>st</sup> century.

Innovation in the 21<sup>st</sup> century is much more than invention. It's open, multi-disciplinary and inherently collaborative – taking place with customers, across communities and among millions of people who will never meet. These new ways to work and think together generate not just products, but industries, not just new knowledge... but new ways of knowing. (*Think*)

## LIST OF ABBREVIATIONS USED

CCSSE	Community College Survey of Student Engagement
CCTST	California Critical Thinking Skills Test
CT	critical thinking
FTE	full-time equivalent
LFCC	Lord Fairfax Community College
SACS-COC	Southern Association of Colleges and Schools—Commission on Colleges
SCHEV	State Council of Higher Education for Virginia
SDV	Student Development (course title)
SLO	student learning outcome
SOL	standards of learning (Virginia's K-12 learning outcomes)
TBD	to be determined

## LIST OF APPENDICES

Appendix 1:	Topic Team Roster
Appendix 2:	Research Team Roster
Appendix 3:	Research Team Working Groups
Appendix 4:	Faculty Survey
Appendix 5:	Communication Plan and Budget
Appendix 6:	VCCS Core Competencies (Critical Thinking)
Appendix 7:	Sample Course Assessment Guide
Appendix 8:	List of Administrators and Staff referenced in QEP

## APPENDIX 1

### TOPIC TEAM ROSTER

Joe Whitehorne, Professor of History (QEP Coordinator)  
Art Lee, Associate Professor of Information Technology  
Gary Tusing, Professor of Business  
Bill Pence, Coordinator, Business and Industry Training  
Nancy Penney, Associate Professor of English and Developmental Studies  
Frank Borleske, Associate Professor of Mathematics  
Tammy LaDrew, Director, Counseling, and Student Learning Services  
Henry Coffman, Assistant Professor of Information Technology

## APPENDIX 2

### RESEARCH TEAM ROSTER

Faculty Chair:	Miriam Moore, Associate Professor of English and ESL
Social Sciences:	Elaine Cassel, Associate Professor of Psychology and LFCC Liaison to the Commission on Colleges
Humanities (MC):	Ann Currie, Associate Professor of Art
Humanities (FC):	Nicole Martin, Assistant Professor of History
English (MC):	Kate Simpson, Associate Professor of English
English (FC):	Kim Lewis, Professor of English and Speech
Science:	Ramon Selove, Associate Professor of Biology
Adjunct:	Eunice Myers, Adjunct Instructor of Math
Health Sciences:	Beth Pippin, Assistant Professor of Nursing
Student Services:	David Urso, Coordinator of Student Life and Information Services
TRIO:	Susan Martin, Counselor/Director for the TRIO Grant
Business Office:	Richard Farrow, General Administrative Supervisor/Coordinator, Purchasing
Workforce/CE:	Cindy Soltis, Adjunct Instructor
LFCC Educational Foundation:	Linnie Carter, Vice President of College Advancement
LFCC Board:	June Wilmot
LFCC Board:	Barbara Lee
Library (MC)	David Gray, Director of Learning Resources
Library (FC)	Linda Harper, Library Specialist
Cabinet:	Lisa Lofton, Director, Research and Institutional Effectiveness *No longer employed at LFCC
Alumnus:	William Daniel
Alumnus:	Kenneth Hulse
Student:	Julie Gaven *Graduated, May 2007
College Advancement	Stephanie Mangino, Marketing and Public Relations Specialist *Joined team June, 2007
QEP Coordinator	Joe Whitehorne, Professor of History

### **APPENDIX 3:**

#### **RESEARCH TEAM: WORKING GROUPS**

##### Definition of Critical Thinking

Elaine Cassel, Susan Martin, Barbara Lee, Bill Daniel, Eunice Myers

##### Assessing Critical Thinking

Linda Harper, Miriam Moore, Kate Simpson (classroom assessment)

##### CT in the classroom/learning environment

David Gray, Beth Pippin, Kate Simpson, Kim Lewis, Nicole Martin

##### CT in the workplace

Cindy Soltis, Kenny Hulse, June Wilmot

##### CT on campus (outside the classroom)

David Urso, Linda Harper, Richard Farrow, Ann Currie

##### Current Practices and Perceptions (Survey Group)

Lisa Lofton, Miriam Moore, Ramon Selove, Joe Whitehorne

##### PR and Communications:

David Urso, Lisa Lofton, Ann Currie, Julie Gaven, Linnie Carter and Stephanie Mangino

## APPENDIX 4

### CRITICAL THINKING SURVEY

How often do you ask students to do the following in your course?  
(Never, 1-2 times per semester, 3-5 times per semester, 6-9 times per semester, 10 or more times per semester?)

1. Explain significant trends in a graph or data set?
2. Interpret a literary text?
3. Paraphrase an academic or literary text?
4. Analyze a graph or data set?
5. Use analysis to justify an interpretation of a text?
6. Evaluate the credibility of an argument, interpretation, or solution?
7. Use evidence to draw a reasonable conclusion?
8. Explain reasoning for a proposal, solution, or argument?
9. Distinguish between relevant evidence and irrelevant information?
10. Offer an alternative solution or explanation for a problem?
11. Apply a course concept to students' lives?
12. Apply a course concept to a different discipline?
13. Justify the procedure used to solve a problem?
14. Evaluate electronic information for credibility and usefulness?
15. Identify personal beliefs or biases?
16. Evaluate personal thinking based on beliefs and/or biases?
17. Correct mistakes in reasoning or application of concepts?
18. Revise or re-think a solution or argument?
19. Explain the logic of differing points of view?
20. Use a course concept to address a situation which has not yet been encountered in the course?
21. Take an opposing point of view (for the purpose of understanding it)?
22. Re-state a proposition to achieve clarity or precision?
23. Describe gaps in knowledge or missing information?
24. Explain relationships in course content (orally or in writing)?
25. Organize information logically for written or oral presentation?

How is critical thinking defined in your discipline?

Does your own definition of critical thinking differ from the one common to your field? If so, how?

All of the 25 behaviors listed above may be considered examples of critical thinking activities. In addition to these, what activities or assignments do you use in your course(s) to promote critical thinking?

## APPENDIX 5

### COMMUNICATION PLAN AND BUDGET

Revised July 2007

## Goals, Messages, Publics, Objectives, Tactics and Evaluation

**Goal:** To effectively communicate information on the Quality Enhancement Plan (QEP) in a timely, unified and comprehensive message to the LFCC community with the intent of building awareness.

The definition messages are:

1. What is a QEP?
2. What is our QEP?
3. What is critical thinking?

The themed message is “Think Critically,” and the themed color is blue.

<b>Publics</b>	<b>Objectives</b>	<b>Tactics</b>	<b>Evaluation</b>
Students	50% of students will know what the QEP topic is by December 2007, 85% by April 2008	<ul style="list-style-type: none"><li>• Blackboard messages</li><li>• Club meetings</li><li>• Discussions and assignments in classrooms / courses</li><li>• E-mail</li><li>• Incentives / giveaways</li><li>• Maintain liaison contact with deans about QEP appearance in syllabi</li><li>• Mini-posters</li><li>• Plasma TV messaging</li><li>• QEP Days</li><li>• Student activities</li></ul>	<ul style="list-style-type: none"><li>• Additional feedback efforts as needed</li><li>• Electronic surveys to be conducted by January 2008 and April 2008</li><li>• Random sampling at various events</li></ul>
Employees	100% of employees will know what the QEP topic is by September 2007	<ul style="list-style-type: none"><li>• Council meetings</li><li>• Employee events in May, August</li></ul>	<ul style="list-style-type: none"><li>• Additional feedback efforts as needed</li></ul>

<b>Publics</b>	<b>Objectives</b>	<b>Tactics</b>	<b>Evaluation</b>
		<ul style="list-style-type: none"> <li>and December</li> <li>• Incentives / giveaways</li> <li>• Internet updates</li> <li>• LFCC Everyone e-mail messages</li> <li>• <i>Ski Gram</i> messages</li> <li>• Staff meetings</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic surveys to be conducted by October 2007</li> <li>• Face-to-face and/or e-mail surveys of individuals</li> </ul>
Alumni	Reach 100% of alumni in database by April 2008 to deliver information on the QEP	<ul style="list-style-type: none"> <li>• Alumni reunion reception (president's remarks)</li> <li>• Incentives / giveaways</li> <li>• Quarterly alumni e-newsletter</li> <li>• Quarterly printed newsletter</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic surveys to be conducted by April 2008</li> </ul>
College Board	100% of board members will know the QEP topic by October 2007	<ul style="list-style-type: none"> <li>• Board meetings</li> <li>• Incentives / giveaways</li> <li>• Internet updates</li> <li>• Quarterly donor e-newsletter</li> <li>• Quarterly printed newsletter</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic surveys to be conducted by November 2007</li> </ul>
Foundation Board	100% of board will know the QEP topic by October 2007	<ul style="list-style-type: none"> <li>• Board meetings</li> <li>• Incentives / giveaways</li> <li>• Internet updates</li> <li>• Quarterly donor e-newsletter</li> <li>• Quarterly printed newsletter</li> <li>• Weekly highlights</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic surveys to be conducted by November 2007</li> </ul>

## Tactics, Deadlines, Responsible Persons and Budget

Please note: Items marked with an asterisk (\*) require a graphic design request form (available from the intranet: [http://www.lfcc.edu:800/publications\\_forms.html](http://www.lfcc.edu:800/publications_forms.html)).

Tactics	Deadline	Responsible Person(s)	Budget	Source of Funds	Done?
<b><i>Written materials and publications</i></b>					
Distribute quarterly alumni e-newsletter	April, July and October, 2007 and January 2008	M. Moore (to submit information to Kalie Kelch)	No cost		
Distribute quarterly donor e-newsletter	May, August and November, 2007 and February 2008,	M. Moore (to submit information to Kalie Kelch)	No cost		
Distribute quarterly printed newsletter	June, September and December, 2007 and March 2008	M. Moore (to submit information to Kalie Kelch)	No cost		
* Create mini-posters to display at all three LFCC locations <ul style="list-style-type: none"> <li>• Submit text and design request form to Aaron</li> <li>• Design piece (Aaron)</li> <li>• Submit piece to committee for approval (Stephanie)</li> <li>• Review and approve piece (Committee)</li> </ul>	August 2007	<ul style="list-style-type: none"> <li>• Submit text and graphic design request form to Aaron – S. Mangino</li> <li>• Design – A. Riddle</li> <li>• Distribute – A. Currie, D. Urso</li> </ul>	1,500.00	QEP budget	

<b>Tactics</b>	<b>Deadline</b>	<b>Responsible Person(s)</b>	<b>Budget</b>	<b>Source of Funds</b>	<b>Done?</b>
<ul style="list-style-type: none"> <li>• Send piece to Printing Services to be printed (Aaron)</li> <li>• Distribute piece to three locations (Ann and David)</li> </ul>					
<p>* Create piece for display in student lounge plexiglass inserts at LFCC's two campuses and flyers at the Luray-Page Center locations to publicize student-focused QEP events</p> <ul style="list-style-type: none"> <li>• Submit text and design request form to Aaron (David)</li> <li>• Design piece (Aaron)</li> <li>• Submit piece to committee for approval (Aaron)</li> <li>• Review and approve piece (Committee)</li> <li>• Send piece to Printing Services to be printed (Aaron)</li> <li>• Distribute piece to three locations (Ann and David)</li> </ul>	August 2007	<ul style="list-style-type: none"> <li>• Submit text and graphic design request form to Aaron - D. Urso</li> <li>• Design – A. Riddle</li> <li>• Distribute – A. Currie, D. Urso</li> </ul>	1,500.00	QEP budget	
Send student newsletter (Blackboard and Web site)	Monthly	J. Ours	No cost		
Send <i>Ski Gram</i>	Monthly	J. Ski	No cost		
<b><i>Electronic communication</i></b>					
Send mass student e-mail messages	Ongoing	• Draft text – S. Mangino/C.	No cost		

<b>Tactics</b>	<b>Deadline</b>	<b>Responsible Person(s)</b>	<b>Budget</b>	<b>Source of Funds</b>	<b>Done?</b>
		Bambara <ul style="list-style-type: none"> <li>• Send e-mail – C. Bambara</li> </ul>			
Send LFCC Everyone e-mail messages	Ongoing	Dr. Ski and/or M. Moore (M. Moore will prompt)	No cost		
Keep LFCC QEP Web site and intranet updated	Ongoing	M. Moore and Webmaster	No cost		
Add information updates to Blackboard	Ongoing	George Hoffman, Joan Osborne, Sue Cooley and M. Moore (M. Moore will prompt)	No cost		
Submit information to the following be posted on plasma TV screens: <ul style="list-style-type: none"> <li>• Brandy Hawkins (students) – Middletown Campus</li> <li>• Anastasia Gray – Middletown Campus</li> <li>• Cindy D'Ambro – Fauquier Campus</li> </ul>	Ongoing	M. Moore	No cost		
Notification of semester updates (post on Intranet)	Ongoing	M. Moore and Webmaster	No cost		
<b><i>Meetings and events</i></b>					
Student activities and events	Ongoing	Brandy Hawkins, Sandi Pope and J. Suddith	1,000	QEP budget	
Facilitate class discussions and activities	Ongoing	All faculty	No cost		
Attend student organization / club	Ongoing	D. Urso	No cost		

<b>Tactics</b>	<b>Deadline</b>	<b>Responsible Person(s)</b>	<b>Budget</b>	<b>Source of Funds</b>	<b>Done?</b>
meetings					
Speak during unit staff meetings	Ongoing	M. Moore	No cost		
Attend Administrative Council meetings	Ongoing	M. Moore	No cost		
Attend Classified Staff Council meetings	Ongoing	Dr. Ski and/or M. Moore	No cost		
Attend Faculty Council meetings	Ongoing	Dr. Ski and/or M. Bartow and M. Moore	No cost		
Speak during employee events in May, August and December	May, August and December 2007	M. Moore (to contact Nancy Penney to get on the agenda for the August event and contact Tammy Haire to get on agendas for May and December events)	No cost		
Attend Foundation Board meetings	May, July, September and November, 2007; and January, March, May, July and September, 2008	Linnie Carter	No cost		
Attend College Board meetings	June, August, October and December, 2007 and February, April, June, August and	Dr. Ski	No cost		

<b>Tactics</b>	<b>Deadline</b>	<b>Responsible Person(s)</b>	<b>Budget</b>	<b>Source of Funds</b>	<b>Done?</b>
	October, 2008				
Host QEP Days (select different days of the week; may wear QEP t-shirt and khakis)	August 2007-May 2008	David Urso	No cost		
Speak during alumni reunion reception (also give away T-shirts as door prizes)	September 9, 2007 and fall 2008	M. Moore (to contact Tammy Haire to get on the agenda or give her talking points for Dr. Ski)	No cost		
<b><i>Miscellaneous</i></b>					
Purchase t-shirts for employees to wear on QEP Days and/or during employee events	July 2007	<ul style="list-style-type: none"> <li>• Submit text and graphic design request form to Aaron – Linnie</li> <li>• Design – A. Riddle</li> <li>• Order – R. Farrow</li> <li>• Distribute – Cabinet members</li> </ul>	3,500.00	QEP budget	Shirts included a typo and will be redone
Purchase notepads and post-it notes	August 2007	<ul style="list-style-type: none"> <li>• Submit text and graphic design request form to Aaron – S. Mangino</li> <li>• Order – R. Farrow</li> <li>• Distribute – Cabinet members</li> </ul>	4,000.00	QEP budget	
Random sampling of students at student events	September 2007 – April 2008	<ul style="list-style-type: none"> <li>• Coordinate faculty – M. Moore</li> <li>• Coordinate</li> </ul>	No cost		

<b>Tactics</b>	<b>Deadline</b>	<b>Responsible Person(s)</b>	<b>Budget</b>	<b>Source of Funds</b>	<b>Done?</b>
		with student activities – D. Urso			
Random sampling of employees	October 2007	<ul style="list-style-type: none"> <li>• Coordinate – L. Carter</li> </ul>	No cost		
Electronic surveys	October 2007 – April 2008	<ul style="list-style-type: none"> <li>• Submit survey text to John Osae-Kwapong – S. Mangino</li> <li>• Design survey – J. Osae-Kwapong</li> <li>• Send e-mail message about survey to stakeholders – J. Ski</li> <li>• Send survey results to S. Mangino – John Osae-Kwapong</li> </ul>	No cost		
<b>Total</b>			11,500.00		

**APPENDIX 6**  
**VCCS GENERAL EDUCATION CORE COMPETENCIES**

<p><b>AREA 1: Communication</b>  <b>Degree graduates will demonstrate the ability to:</b></p>
1.1 understand and interpret complex materials;
1.2 assimilate, organize, develop, and present an idea formally and informally;
1.3 use standard English;
1.4 use appropriate verbal and non-verbal responses in interpersonal relations and group discussions;
1.5 use listening skills; and
1.6 recognize the role of culture in communication.
<p><b>AREA 2: Critical Thinking</b>  <b>Degree Graduates will demonstrate the ability to:</b></p>
2.1 discriminate among degrees of credibility, accuracy, and reliability of inferences drawn from given data;
2.2 recognize parallels, assumptions, or presuppositions in any given source of information;
2.3 evaluate the strengths and relevance of arguments on a particular question or issue;
2.4 weigh evidence and decide if generalizations or conclusions based on the given data are warranted;
2.5 determine whether certain conclusions or consequences are supported by the information provided;
2.6 use problem solving skills.
<p><b>AREA 3: Cultural and Social Understanding</b>  <b>Degree graduates will demonstrate the ability to:</b></p>
3.1 assess the impact that social institutions have on individuals and culture—past, present, and future;
3.2 describe their own as well as others' personal ethical systems and values within social institutions; and
3.3 recognize the impact that arts and humanities have upon individuals and cultures.
3.4 recognize the role of language in social and cultural contexts.
3.5 recognize the interdependence of distinctive world-wide social, economic, geo-political, and cultural systems
<p><b>Area 4: Information Literacy.</b>  Degree graduates will demonstrate the ability to:</p>
4.1 determine the nature and extent of the information needed;
4.2 access needed information effectively and efficiently;
4.3 evaluate information and its sources critically and incorporate selected information into his or her knowledge base;
4.4 use information effectively, individually or as a member of a group, to accomplish a specific purpose; and
4.5 understand many of the economic, legal, and social issues surrounding the use of information and access and use information ethically and legally.
<p><b>Area 5: Personal Development.</b>  Degree graduates will demonstrate the ability to:</p>
5.1 develop and/or refine personal wellness goals; and
5.2 develop and/or enhance the knowledge, skills, and understanding to make informed academic, social, personal, career, and interpersonal decisions.

<b>Area 6: Quantitative Reasoning.</b> Degree graduates will demonstrate the ability to:
<b>6.1</b> use logical and mathematical reasoning within the context of various disciplines;
<b>6.2</b> interpret and use mathematical formulas;
<b>6.3</b> interpret mathematical models such as graphs, tables and schematics and draw inferences from them;
<b>6.4</b> use graphical, symbolic, and numerical methods to analyze, organize, and interpret data;
<b>6.5</b> estimate and consider answers to mathematical problems in order to determine reasonableness; and
<b>6.6</b> represent mathematical information numerically, symbolically, and visually, using graphs and charts.
<b>Area 7: Scientific Reasoning.</b> Degree graduates will demonstrate the ability to:
<b>7.1</b> generate an empirically evidenced and logical argument;
<b>7.2</b> distinguish a scientific argument from a non-scientific argument;
<b>7.3</b> reason by deduction, induction and analogy;
<b>7.4</b> distinguish between causal and correlational relationships; and
<b>7.5</b> recognize methods of inquiry that lead to scientific knowledge.

APPENDIX 7  
 SAMPLE COURSE ASSESSMENT GUIDE (CAG)

Faculty Members'  
 Names \_\_\_\_\_

Course Prefix, Number, and Title: ENG 111 \_\_\_\_\_ Prerequisites: Placement test, SAT  
scores, or ENG 1

<b>Student Learning Outcomes</b>	2. Upon completion of this course the student will demonstrate mastery of critical thinking skills by writing an essay that accurately interprets evidence; identifies salient arguments; draws warranted conclusions; and pursues ideas with a fair-minded approach. (Gen. Ed. 2.3)
<b>Assessment Tasks</b>	Each student will submit an essay and it will be assessed according to the critical thinking component of the modified VCCS Writing Competency rubric (see attached).
<b>Measurement</b>	70% of student essays will earn a C or better according to the adapted VCCS Writing Competency rubric.
<b>Results</b>	

<b>Actions Taken (Based on Results)</b>	
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## APPENDIX 8

### ADMINISTRATORS AND STAFF REFERENCED IN THE QEP

President	John J. "Ski" Sygielski
Vice President of Student Success	Cynthia S. Bambara
Vice President of Learning	Margaret Bartow
Vice President of College Advancement	Linnie S. Carter
Vice President of Financial and Administrative Services	Kathleen Johnson
Coordinator, Career Services	Doug Cumbia
Director, Counseling and Student Learning Services	Tammy LaDrew
Director, Planning and Institutional Effectiveness	Currently vacant
Vice President of Workforce Solutions and Continuing Education	Jeanian Clark (interim)
Director of Enrollment Management and Services	Barbara Ratcliff
Coordinator of Student Life and Information Services	David Urso

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