Tennessee Higher Education Commission

2013-14 Performance Funding Report

Standard 1F:

Assessment

Implementation

Sustaining QEP

Year Three

2013-2014

1. Short Review of UTC's QEP: Goals, Objectives, and Actions/Activities of Year Three

The University of Tennessee at Chattanooga (UTC) has completed the third year of a five-year Quality Enhancement Plan (QEP), ***ThinkAchieve: Creating Connections*** (http://www.utc.edu/ThinkAchieve), promoting and improving student critical thinking skills. (See Table 1 for the overall Implementation Plan.) The rationale for the plan to enhance critical thinking acknowledges that it is a fundamental skill demanded by employers and deemed essential for global and social development, and prosperity (AACU, 2004; Hart, 2009). As an institutional outcome for UTC, critical thinking skills can provide students with an essential skill for lifelong learning. UTC's QEP provides numerous opportunities across the UTC experience to practice and learn these skills, starting with an introduction to critical thinking during freshman orientation, continuing through students' general education and major program courses, and through co-curricular/experiential learning opportunities. Students are expected to improve these skills progressively as they practice and apply them over their entire university experience.

Goals and Objectives. The **goal** for the project is that, *over the course of their university experience, UTC students will increase their overall critical thinking skills as exhibited by the ability to identify, evaluate, and interpret information; solve problems and create innovative solutions through creative thinking; and communicate ideas and information effectively.*

Critical thinking, for UTC's ThinkAchieve plan is defined by meeting the following five student learning **outcomes**. Students will:

1. Identify, evaluate, and interpret information by raising pertinent questions and identifying uncertainties,
2. Solve problems by determining limitations, making connections, and prioritizing the potential solutions,
3. Create innovative solutions to problems through creative thinking,
4. Communicate ideas and information effectively, and
5. Seek ongoing improvement to integrate knowledge and skill through reflection on their thinking and learning processes.

Three program components support the development of these outcomes to develop and support student learning over their entire university experience: An introduction to critical thinking, incorporating critical thinking strategies as a part of the general education and major coursework, and the application of these knowledge and skills through experiential and co-curricular activities. A review of the third year activities undertaken to help the project progress toward its goal and objectives follow.

Component 1. Introduction: QEP Orientation activities are designed to introduce incoming freshmen to college and university-level work, including critical thinking and problem-solving, fostering a community of learning, and creating an expectation of academic rigor to help prepare students for university study. For every freshman orientation session during the summer of 2013, faculty facilitated small group critical thinking discussions related to an essay that was a part of the Freshman Year Reading Experience (FRYE) book, *This I Believe: The Personal Philosophies of Remarkable Men and Women*. This exercise was intended to integrate the QEP outcomes with the FYRE outcomes to build an intellectual community across all campus constituents, to promote critical thinking, and to help students make connections between classroom and out-of-classroom experiences (FYRE website, http://www.utc.edu/center-advisement-student-success/first-year-experience/fyre-book-2013-2014.php).

To reinforce critical thinking, open-ended discussion sessions are incorporated as a part of the freshman orientation program. Trained faculty facilitators present incoming freshmen with a scenario and ask students to discuss the decision-making and problem-solving processes they employ to reach conclusions. In addition, the students explore the variety of perspectives that other students in the small group have related about solving the same problem. The guided discussion, based on the Wolcott Problem-solving Model (Wolcott, 2006) of identifying the problem, exploring interpretations, prioritizing alternatives/implementing conclusions, and envisioning and directing strategic innovations, helps students to see how the critical thinking model might work with real issues they may face as a part of their higher education curriculum and their daily life.

In a survey evaluation for the sessions held during the summer of 2013, students (approximately 2,200) cited the ThinkAchieve session as one of their most favored parts of the orientation program, giving them practice at active learning and a glimpse into the potential for higher education classrooms.

The 2014 exercise has built on, expanded, and improved the previous year's problem-solving scenarios by including a specific discussion about what critical thinking is and then asks student groups of five to complete a challenge objective. After completion, faculty facilitators debrief the thinking and problem-solving skills the students used to solve the challenge and to meet the challenge objective.

Faculty facilitators for the orientation sessions received training in May 2014 and freshmen orientation began in June 2014. The first several orientation sessions constituted the pilot sessions. As a result of the pilot debriefing sessions with the faculty facilitators, the program sessions were revised to better connect the challenge activity with the critical thinking processes and available experiential learning opportunities. In addition, a handout was created for students to have a takeaway document

about the variety of opportunities to participate in ThinkAchieve activities. The remaining 2014 orientation sessions are still in progress and will be assessed in year four as a part of the planning for year five orientation sessions.

Component 2. In the Classroom: Curricular Integration promotes critical thinking and problem-solving throughout the curriculum by offering faculty development programs on the integration of critical thinking pedagogies and activities that help students practice and improve their skills through general education and disciplinary courses.

Year three activities continued extensive faculty development offerings -- seminars, webinars, workshops, retreats, faculty learning communities, and book clubs -- to support the development, delivery, implementation and assessment of critical thinking strategies in the classroom. Faculty development topics are revised continuously throughout the year to incorporate new topics based on faculty feedback and needs assessment at the end of each session or series. (See Appendix A for a list of the Faculty Development events and number of participants for 2013-14.)

Year three continued the previous Faculty Fellows and Faculty Awards programs. Three Faculty Fellows were selected to lead groups of faculty learners in a year-long program on three teaching and learning topics related to critical thinking (Problem-based Learning, Pop Culture in the Classroom, and The Research Cycle in Teaching). Fifteen faculty participated with the Fellows in these learning communities, exploring these topics to improve critical thinking in the classroom.

Two additional faculty members were selected to receive Faculty Awards to recognize outstanding and innovative teaching that supports the goals of *ThinkAchieve*.

The *ThinkAchieve* grants program continued this year; 20 grants were awarded to faculty, representing 18 departments and programs (Appendix B). The average award was $1,200, and 18 of the 20 awards also supported experiential learning projects, many of which involved connections with the community. When ongoing analyses of the grant reports revealed most assessment data reported by the awardees were qualitative and even anecdotal in nature even though an assessment plan and a rubric were required for grant funding, the Awards Committee revised the grant application form mid-year to focus on better assessment of critical thinking. The form was also revised to collect information on the number of students involved in the grants programs (not included previously) and to provide information about the experiential course designation and asks whether the applicant wishes the course to be considered by the committee for that designation and notation in the semester schedule of classes Based on the changes to the form, we now know that approximately 300 students were impacted by the six projects funded January 2014 through March 2014 and three additional course designations were

made. All grant projects were showcased as teaching and learning scholarship at UTC's Research Day, UTC's Instructional Excellence Retreat, and at several regional teaching and learning conferences.

Component 3. Beyond the Classroom: Experiential Learning provides students with opportunities to participate in "learning by doing" through application experiences beyond the classroom upon which they critically reflect. Student participation in experiential learning activities is encouraged, tracked, and rewarded. Students and faculty propose activities for approval by a campus Experiential Learning Task Force and approved activities are assigned a point value based on the extent of work, critical thinking, and problem-solving effort required. Students receive awards and recognition based on the number of points earned.

The Beyond the Classroom program continued its substantial progress in year three with a focus on increasing and improving faculty-initiated experiential learning activities and student-initiated experiential learning contracts (Table 2). Students continued to engage in and reflect upon campus and community events to earn ThinkAchieve "points" (Table 3). To more thoroughly assess student learning gains, we measured responses only from students taking a pre-semester reflective survey, as well as reflecting on experiences throughout the semester. This caused a drop in documented student-initiated participation from 730 in 2012-13 to 147 in 2013-14 but provided us with better data for assessment purposes. Semester awards were given in both the fall 2013 and spring 2014 semesters, with 48 students earning a semester award through participating in reflection on their engagement in a wide variety of campus and community learning opportunities.

To better incorporate experiential learning as an integrated component of learning to think critically, the focus for this past year was to increase the experiential learning course designation listings as a part of the schedule of classes for each semester as opposed to activities that might not be linked specifically to an academic program. The designation program was heavily promoted in year three through extensive meetings with departments, faculty, staff, students, and community partners. Overall student participation in the experiential learning program was greatly increased from 2012-2013 through the addition of students participating in experiential learning through the class designation process (Table 2).

2. Assessment Activities and Results for QEP Year Three

The QEP focuses on five elements of critical thinking as outlined on page 1 of this report. Assessments administered as measures of these five outcomes of critical thinking include the Critical Thinking Assessment Test (CAT), the ETS Proficiency Profile (ETS PP), the National Survey of Student

Engagement (NSSE), and the Faculty Survey of Student Engagement (FSSE). These assessments use both cognitive and non-cognitive measures. Experiential learning participation is also collected as an element of the QEP.

Comprised of short essay questions derived from real-world situations, the CAT is the QEP's core assessment measure because the specific skills assessed align closely with four of the five QEP student learning outcomes (SLOs). The CAT is a cognitive measure used to assess four broad areas of critical thinking: Evaluating and interpreting information, problem solving, creative thinking, and effective communication. The CAT was administered to a total of 192 students in 2013-14 (compared to 190 seniors in 2013). As stated in our original QEP proposal, the benchmark for the SLOs is continued growth of senior scores across program years. Seniors in 2013 had an overall mean score of 16.90, while seniors in 2014 had an overall mean score of 17.15. There is no statistically significant difference between these scores (p>.001); but on the majority of questions, senior scores have improved over the first three years of the QEP. (See Table 4 for the three year overall CAT scores by question.)

SLO1: Students will identify, evaluate, and interpret information by raising pertinent questions and identifying uncertainties. The CAT questions related specifically to SLO1 are questions 1, 2, 5, 8, 10, 11, 13, and 14. Seniors increased their score on all of these questions except for questions 8 and 11, although the increase was not statistically significant (p>.001). (See Table 5.)

SLO2: Students will solve problems by determining limitations, making connections, and prioritizing the potential solutions. CAT questions 4, 7, 10, 11, 12, 13, 14, and 15 all relate to SLO2. From 2013 to 2014, senior scores increased on all of these questions except for questions 7 and 11. The increase in scores on these individual questions was not significant (p>.001). (See Table 6.)

SLO3: Students will create innovative solutions to problems through creative thinking. This outcome was assessed using CAT questions 3, 4, 6, 7, 9, and 15. Seniors again increased their scores on all of these questions except question 7. The increase in scores was, again, not statistically significant (p>.001). (See Table 7.)

SLO4: Students will communicate ideas and information effectively. The following CAT questions were used to assess this outcome: 2, 3, 4, 6, 7, 11, 14, and 15. Seniors in 2014 increased their scores on each of these questions except 7 and 11, which have been mentioned in the previous outcomes. Although the scores that improved did not increase significantly (p>.001), the scores that did not improve did not decrease significantly (p>.001). (See Table 8.)

Senior scores decreased on questions 7, 8, and 11, but the overall mean score for the test did increase. Though not statistically significant, we can still see that there is continued growth of senior

scores over the three years of the program. To increase scores on the problem questions (7, 8, 11), faculty should focus on the skills assessed by those questions, specifically the following.

- *Identify additional information needed to evaluate a hypothesis (7).*
- *Determine whether an invited inference is supported by specific information (8).*
- *Use and apply relevant information to evaluate a problem (11).*

Next year's faculty development activities will include specific information on how to specifically address and teach these skills in classroom and experiential learning settings.

Additional measures are included in the assessment plan to provide a more comprehensive examination of critical thinking at UTC. Proficiency Profile (ETS PP) scores, FSSE/NSSE data, and experiential learning data are all important facets of the overall analysis of critical thinking and buttress the CAT data.

The ETS PP, a cognitive measure administered to seniors for general education outcomes assessment, provides scaled scores and proficiency levels of several skill and content areas, including critical thinking. The test is administered to graduating seniors every semester to provide additional measures (both criterion- and norm-referenced) of critical thinking proficiency. During the 2012-13 academic year, the ETS PP was administered to 1,192 seniors and to 1,464 seniors during the 2013-14 year. There was a significant difference ($p<.001$) in overall mean scores from 2012-13 to 2013-14, with an increase from 448.09 to 450.49 (Table 9) but the overall scores includes measures other than critical thinking.

Previous reports helped determine that seniors had barely increased their critical thinking proficiency levels, from 7.03% proficient during the 2011-12 year to 7.05% proficient during the 2012-13 year (not statistically significant). The 2013-14 results show that now only 5.0% of seniors are proficient, which is a 2.05% decrease (Table 9). Although the overall critical thinking scores have decreased, 31% of all institutions rank below UTC in critical thinking (Table 9). The goal is for UTC seniors to be at or above mean institutional ranking on the ETS PP (50^{th} percentile or higher) by year five of the QEP.

The NSSE and FSSE are surveys of student engagement used to compare student and faculty perceptions of emphasis on higher-level thinking in the classroom. The surveys provide a unique opportunity to examine the perceived agreement/disagreement between what faculty and students think are taking place in the classroom. Any discrepancies between these perceptions may indicate areas in which faculty need to communicate more explicitly with students and be more intentional in their teaching. The surveys were administered to 166 faculty and 814 students during spring 2012 and

to 170 faculty and 824 students in spring 2013. Of the questions asked on these surveys, the following five classroom skills are most closely linked to critical thinking and are analyzed more closely.

- *Memorizing facts, ideas, or methods from course and readings.*
- *Analyzing an idea, experience, or line of reasoning in depth by examining its parts.*
- *Applying theories or concepts to practical problems or in new situations.*
- *Thinking critically and analytically.*
- *Solving complex and real-world problems.*

The desired outcome is a decreased perception gap across program years. During this reporting period, the gap between faculty and student perceptions has widened on each of the five skills examined (Table 10), which indicates that faculty see themselves placing greater emphasis on teaching higher level skills while students perceive there is more memorization. Although defining exactly what critical thinking is and how it looks in a classroom (or outside the classroom) may be extremely difficult, faculty will be encouraged to use the defined QEP critical thinking outcomes for their courses and disciplines. Faculty need to be more explicit in their teaching and assessment practices to provide students with more evident, cohesive and integrated outcomes. Implementing more critical thinking strategies into course activities and assignments and training faculty on best practices on how to teach and assess critical thinking skills is crucial to decreasing the perception gap.

SLO5: Students will seek ongoing improvement to integrate knowledge and skill through reflection on their thinking and learning processes. Critical thinking takes place outside the classroom, during academic events and community involvement, and during experiential learning activities. Student learning outcome five focuses on these types of applied learning, which has proven to increase critical thinking skills when reflection is included as a part of the activity. Experiential learning puts students in applied experiences that require activity and reflection to integrate classroom knowledge in real-world settings.

The following NSSE/FSSE survey question relates to community engagement and service-learning.

- *About how many of your undergraduate courses at this institution have included a community-based project (service-learning)?*

Faculty and student perceptions were very similar: 48% of lower division faculty and 42% of first-year students thought that "all," "most," or "some" of their courses included a service-learning element. More importantly, 52% of lower division faculty and 47% of upper division faculty think that community engagement and service-learning are important.

The following NSSE/FSSE survey question relates specifically to experiential learning:

- *How often did you participate in an internship, co-op, field experience, student teaching, or clinical placement?*

Response options for faculty included "important" and "very important," while student responses included "done" or "in progress." Eighty percent of lower division faculty responded "important" or "very important," while only 7% of first year students responded "done" or "in progress." Although the numbers vary, it is important to note that most first year students have not had the opportunity to participate in the types of experiential learning mentioned above. Seventy-three percent of upper division faculty deem experiential learning "important" or "very important" and 47% of seniors responded "done" or "in progress." Using these data, we can see that experiential learning is not only important, but also is actually taking place. Implementing and tracking more experiential learning and community engagement options in the course work should enhance the critical thinking component of the QEP. Informing students of the options for experiential learning and the reasons why it is crucially important could help to increase critical thinking across the student population. Goals to incorporate a better informational/marketing plan for the experiential learning programs should be included in next year's priorities.

3. Priorities for Year Four: Improvements Implemented or Suggested for Improving the QEP

Assessment results suggest that continued improvement is needed to increase faculty integration of critical thinking teaching concepts into the classroom. While the lack of statistically significant increases in the ETS PP scores is of concern after three years of work, UTC has maintained its relative position in institutional rankings. NSSE/FSSE data continue to indicate there is a disparity in perceptions of classroom learning between faculty and students. The Beyond the Classroom program made substantial progress over the past two years (Table 2), but there are still issues related to the documentation of the efforts in that area to resolve and to ensure that experiential learning is documented and valued as an institutional priority.

The second area in need of improvement based on assessment results is the development and assessment of critical thinking outcomes at the departmental and programmatic levels. An institution-wide curriculum mapping project started in the 2013-14 academic year is assisting in that effort, but the 2014-15 (year four) will be crucial in the effort to articulate and evaluate those outcomes as a part of the academic and departmental culture. By articulating the program outcomes and mapping those to specific courses, departments and faculty can better identify where the teaching of critical thinking should occur

and be evaluated.

As we go into our fourth year, the ThinkAchieve staff will focus on methods to sustain the momentum of the QEP in a more systematic manner and ensure that the quality enhancement efforts once the five-year program is completed. The team must build more and deeper partnerships at both the college and departmental level as leadership for the critical thinking initiative is transitioned to become part of the institutional culture. The one difficult challenge the ThinkAchieve project has had is acceptance and follow through for the experiential learning component as faculty see the documentation of such activities as a burden. As a component of a new focus on prior learning assessment on campus, we believe we can include better documentation and tracking of the experiential learning that students complete. We intend to implement a new survey to track the types of experiential learning and community engagement that students are completing and we are developing a new plan for how to include this as a part of the student transcript/record (through the PLA project). In addition, we will implement additional faculty development opportunities to help train faculty on efficient grading practices for student reflections to overcome the perceived burden of assessment of such efforts.

4. Evaluation of the QEP (What is working, what is not) – Program Implementation and Assessment Steps for Year Four

Our third year has highlighted some critical issues related to an institutional project of this size. While our direct assessment measures seem to be producing results, it is more and more apparent that faculty have a difficult time implementing improvements in the classroom learning environment to focus on increasing critical thinking skills. A little over 30% of the faculty participate in ThinkAchieve activities, but that participation is not without peril to those faculty members' careers. The scholarship of teaching and learning (SoTL) is not yet accepted universally across the campus as legitimate research. Thus, some faculty experience resistance to their attempts at improving teaching and learning, including critical thinking skills. In addition, it is well-known that changes to the learning environment that ask students to become more actively engaged in their learning can present challenges to students who might be used to more passive forms of teaching and learning and can take many semesters to perfect. This past year, the QEP Advisory Committee sent a recommendation to the UTC Provost encouraging deans and department heads to recognize and support faculty working as they seek to improve students' critical thinking skills (Appendix C). In addition, Retention, Promotion and Tenure committees must recognize faculty scholarly contributions to the SoTL as a part of a robust research/scholarship agenda.

A survey, completed last year of the faculty who participated in the CAT grading sessions, indicated

that faculty were unaware of the faculty development aspect of their participation in the grading/training sessions. Revisions have been made to the agenda for those sessions to include an additional emphasis on what faculty can learn by grading the tests and how they might incorporate that learning into their teaching and assessment practices.

In separate efforts, the institution has started a curriculum mapping project that requires all programs to review and map their program outcomes to required courses. This project, along with the QEP's emphasis on developing faculty knowledge and skill in teaching critical thinking will allow all departments to better identify and focus on the critical thinking outcomes specific to their programs and to integrate teaching and learning efforts to help students meet these outcomes across the curriculum.

The institution implements a new general education program this year that has outlined specific outcomes and mapped these over the entire general education program. Critical thinking is outlined as one of UTC's general education outcomes. As a part of the certification of general education courses, faculty and departments are required to detail assessments for each outcome related to each general education category. These processes will allow the ThinkAchieve QEP committee to begin to collect additional evidence of the teaching and assessment of critical thinking skills as a part of the course recertification process.

To improve the assessment data received by the grant program, use of the Critical Thinking Assessment test or other direct assessment of critical thinking will be encouraged in year four as a part of institutional effectiveness and faculty grant assessment/evaluation. To accommodate the expense involved in administering and grading the CAT, the grant award limit will be increased. In addition, individual faculty support will be provided on the development and use of grading rubrics mirroring the CAT rubrics so that assessment data on projects may be improved.

All other implementation activities will take place as outlined in the original implementation plan (Table 1). Assessment data for each main component will be reviewed in an ongoing manner to make adjustments in the faculty development offerings as indicated through feedback of the ongoing sessions, the grants programs, Faculty Fellows programs and as a part of the curriculum mapping, course redesign and prior learning assessment efforts on campus. Additional assessment measures will be created and refined to obtain better data to allow the ThinkAchieve project staff make timely implementation decisions.

Table 1. ThinkAchieve 5-year Implementation Plan

QEP Theme	Action Item	Project Timeframe																
		Prior to Yr. 1	Year 1			Year 2			Year 3			Year 4			Year 5			
			Fall 2011	Spring 2012	Summer 2012	Fall 2012	Spring 2013	Summer 2013	Fall 2013	Spring 2014	Summer 2014	Fall 2014	Spring 2015	Summer 2015	Fall 2015	Spring 2016	Summer 2016
Pre-orientation/ Orientation	Design/Revise Online Module																
	Pilot Online Module																
	Roll Out Orientation Module																
	Assess Orientation Module																
	Review/Assess Orientation Module																
Curricular Integration	Hire faculty developer																
	Conduct faculty seminars, institutes																
	Faculty attend CAT Train-the-Trainer Conference																
	Conduct CAT training																
	Assess faculty development needs																
	Update/maintain online resources																
	Enter/Assess Departmental IE Data (Critical Thinking)																
	Implement Faculty Learning Communities																
	Faculty Learning Communities Active																
	Implement Faculty Mentors Awards																
	Assess Faculty Mentors Awards Program																
	Design Think Achieve Grants Program																
	Implement Think Achieve Grants Program																
Experiential Learning	Create Think Achieve Awards Task Force																
	Develop criteria/guidelines for Think Achieve awards																
	Promote Think Achieve awards program																
	Hire experiential coordinator																
	Develop co-curricular transcript																
	Implement co-curricular transcript																
	Plan/implement award program celebrations																
	Assess Experiential Leanring Programs program																
Institutional Assessment	Hire QEP Assessment Personnel																
	Administer and Score CAT																
	Administer PPE																
	Administer NSSE																
	Administer FSSE																
	Compare NSSE/FSSE Results																
	Prepare ALL Yearly Assessment Reports																
	Incorporate programmatic revisions based on yearly assessment																

Table 2: Beyond the Classroom Experiential Learning Projects and Classes Data 2013-14

Experiential Learning Projects and Classes 2013-14	2013-14 Faculty Initiated N	2012-13 Faculty Initiated N	Change N	2013-14 Student Initiated N	2012-13 Student Initiated N	Change N
Proposed Projects/Classes	32	2	30	150	51	99
Approved Projects/Classes	26	2	24	149	46	103
Completed Projects	26	2	24	54	17	37
Student Participants	663	43	620	149	15	134
Proposed Engagement Hours	35,910	NA		2,250	1,555	695
Completed Engagement Hours	26,700	1,332	25,368	1,823	680*	1,143
Proposed Points	15,960	NA	NA	3,000	NA	NA
Awarded points	12,040	NA	NA	2,350	NA	NA

*Student-initiated Experiential Learning Projects include the students who signed up to participate in a semester long series consisting of attendance and reflection on events. And who completed pre- and post reflections.

Table 3: Beyond the Classroom Experiential Learning Events and Selected Student Reflection Themes

Data 2013-14

Experiential Learning Events N	2013-14 Student N	2012-13 Student N	Change N
Cards Received	1,155	1,219	-64
Events Attended	213	130	83
Student Participants	147	730	-583
Proposed Engagement Hours	2,205	NA	
Completed Engagement Hours	1,733	1,732	1
Proposed Points	2,940	NA	
Awarded Points	2,310	NA	

Year Three Reflection Themes and Student Sample Reflections

Learning/Metacognition

- Before this semester I was a very close-minded individual and I thought I knew everything about something by just looking at it. I was completely wrong and I found myself thoroughly enjoying some of the events that if I had judged them beforehand, I would have never shown up. I have learned never to assume I have the right answer because I am usually wrong unless I am an expert on the subject. I learned how to ask questions that focused on the subject matter and would not offend the people who were putting on the events. I encountered a whole group of different types of people I have never seen before and I loved that because I found that friends can come from any part of the world and from any type of background.
- As with interpreting things on a larger scale, I also find myself better able to see links between things that may seem entirely different. Where I used to not think that business and art and environmental issues had anything to do with each other, I see that environmental issues can be made public and marketed through graphic designs. The same goes for issues in the community that can be conveyed through art or photographs that depict the different impacts stemming from decisions that are made.
- As I've been able to talk to more of the speakers this semester on a one-on-one basis, I've learned to listen more and think before I speak. My questions to these speakers have also changed in that they are more broad or more specific, depending on the answer I want to get.

Gaining New Perspectives and Understandings

- The State of Address given by the Chancellor was very memorable. I felt empowered and privileged to have attended such a gathering. Events like these are critical and I gained great insight on my university's future.
- By attending these events, I have learned to ask questions and not be afraid of asking them. Also, it has allowed me to have questions that could be related to my major, but also another random field.
- My semester of experience has been such a difference changer for my life. I had the opportunity to attend some wonderful events on and off campus. I experienced some musical, historical, and scientific events all in the same semester. It was always fun to go into a new place and anticipate what I would learn new that day and how it would change my thoughts and opinions about any certain subject.

- I did notice change in how I interpret what I encountered with different viewpoints. Mostly to consider what some of the people in open discussions and debates may have went through themselves in their lives that have caused them to shape their own opinions. We would disagree but we would reach an understanding.

Connecting to Diverse Groups of People

- I have told friends that Think Achieve brought me out of my shell when it came to socializing with others on campus. This semester I am taking away more bonds and friendships with individuals that I saw on the daily, but never took the time to personally know them.
- I am able to connect more easily to others who are not in the same major as myself, and with ideas that I had once never really thought about, like religious diversity in the workplace.
- I made a lot of connections with peers, different deans, and got more familiar with [the Experiential Learning Coordinator] Bengt throughout the course of the program. Think Achieve is the ideal way of networking and making connections because it could lead you to an internship or job.
- Again, my engagement has mainly affected my listening skills and ability to really absorb and take chances with new experiences. I think that I have improved in my ability to communicate with those who are superior to me as well. Before this semester, I would rarely have conversations with points of authority.
- In college, we, as students and staff, tend to have these preconceived notions about any certain group of people who are pursuing a specific degree that is opposite of your own. This causes division among students and staff. This semester has enabled me to meet student and staff from varying fields and majors. This helped break down those walls between fields as we could share knowledge, opinions, and stories.

Table 4: CAT Total Critical Thinking Scores, Three Year data for All Questions

Question Number	Skill Assessed by Question	Senior Mean YR1	Senior Mean YR2	Senior Mean YR3
1	Summarize the pattern of results in a graph without making inappropriate inferences	0.65	0.66	0.66
2	Evaluate how strongly correlational-type data supports a hypothesis	0.84	1.15	1.08
3	Provide alternative explanations for a pattern of results that has many possible causes	0.98	0.99	1.04
4	Identify additional information needed to evaluate a hypothesis	1.16	1.39	1.19
5	Evaluate whether spurious information strongly supports a hypothesis	0.61	0.67	0.71
6	Provide alternative explanations for spurious associations	1.39	1.37	1.54
7	Identify additional information needed to evaluate a hypothesis	0.66	0.66	0.48
8	Determine whether an invited inference is supported by specific information	0.61	0.61	0.55
9	Provide relevant alternative interpretations for a specific set of results	0.82	0.86	0.86
10	Separate relevant from irrelevant information when solving a real-world problem	3.07	3.15	3.20
11	Use and apply relevant information to evaluate a problem	1.04	1.04	0.97
12	Use basic mathematical skills to help solve a real-world problem	0.80	0.82	0.86
13	Identify suitable solutions for a real-world problem using relevant information	0.95	0.91	1.02
14	Identify and explain the best solution for a real-world problem using relevant information	1.75	1.91	2.06
15	Explain how changes in a real-world problem situation might affect the solution	0.80	0.80	0.92
	TOTAL	**16.09**	**16.90**	**17.15**

Table 5: Student Learning Outcome One: CAT Means

*Identify, evaluate, and interpret information by raising pertinent questions and identifying uncertainties. (*CAT: Q1, Q2, Q5, Q8, Q10, Q11, Q13, Q14)

Question Number	Skill Assessed by Question	Senior Mean YR1	Senior Mean YR2	Senior Mean YR3
1	Summarize the pattern of results in a graph without making inappropriate inferences	0.65	0.66	0.66
2	Evaluate how strongly correlational-type data supports a hypothesis	0.84	1.15	1.08
5	Evaluate whether spurious information strongly supports a hypothesis	0.61	0.67	0.71
8	Determine whether an invited inference is supported by specific information	0.61	0.61	0.55
10	Separate relevant from irrelevant information when solving a real-world problem	3.07	3.15	3.20
11	Use and apply relevant information to evaluate a problem	1.04	1.04	0.97
13	Identify suitable solutions for a real-world problem using relevant information	0.95	0.91	1.02
14	Identify and explain the best solution for a real-world problem using relevant information	1.75	1.91	2.06

Table 6: Student Learning Outcome Two: CAT Means

*Solve problems by determining limitations, making connections, and prioritizing the potential solutions. (*CAT: Q4, Q7, Q10, Q11, Q12, Q13, Q14, Q15)

Question Number	Skill Assessed by Question	Senior Mean YR1	Senior Mean YR2	Senior Mean YR3
4	Identify additional information needed to evaluate a hypothesis	1.16	1.39	1.19
7	Identify additional information needed to evaluate a hypothesis	0.66	0.66	0.48
10	Separate relevant from irrelevant information when solving a real-world problem	3.07	3.15	3.20
11	Use and apply relevant information to evaluate a problem	1.04	1.04	0.97
12	Use basic mathematical skills to help solve a real-world problem	0.80	0.82	0.86
13	Identify suitable solutions for a real-world problem using relevant information	0.95	0.91	1.02
14	Identify and explain the best solution for a real-world problem using relevant information	1.75	1.91	2.06
15	Explain how changes in a real-world problem situation might affect the solution	0.80	0.80	0.92

Table 7: Student Learning Outcome Three: CAT Means

Create innovative solutions to problems through creative thinking. (CAT: Q3, Q4, Q6, Q7, Q9, Q15)

Question Number	Skill Assessed by Question	Senior Mean YR1	Senior Mean YR2	Senior Mean YR3
3	Provide alternative explanations for a pattern of results that has many possible causes	0.98	0.99	1.04
4	Identify additional information needed to evaluate a hypothesis	1.16	1.39	1.19
6	Provide alternative explanations for spurious associations	1.39	1.37	1.54
7	Identify additional information needed to evaluate a hypothesis	0.66	0.66	0.48
9	Provide relevant alternative interpretations for a specific set of results	0.82	0.86	0.86
15	Explain how changes in a real-world problem situation might affect the solution	0.80	0.80	0.92

Table 8: Student Learning Outcome Four: CAT Means

Communicate ideas and information effectively. (CAT: Q2, Q3, Q4, Q6, Q7, Q9, Q11, Q14, Q15)

Question Number	Skill Assessed by Question	Senior Mean YR1	Senior Mean YR2	Senior Mean YR3
2	Evaluate how strongly correlational-type data supports a hypothesis	0.84	1.15	1.08
3	Provide alternative explanations for a pattern of results that has many possible causes	0.98	0.99	1.04
4	Identify additional information needed to evaluate a hypothesis	1.16	1.39	1.19
6	Provide alternative explanations for spurious associations	1.39	1.37	1.54
7	Identify additional information needed to evaluate a hypothesis	0.66	0.66	0.48
9	Provide relevant alternative interpretations for a specific set of results	0.82	0.86	0.86
11	Use and apply relevant information to evaluate a problem	1.04	1.04	0.97
14	Identify and explain the best solution for a real-world problem using relevant information	1.75	1.91	2.06
15	Explain how changes in a real-world problem situation might affect the solution	0.80	0.80	0.92

Table 9: Proficiency Profile (ETS PP) Assessment Scores

ETS PP Measures	2011-12	2012-13	2013-14
Percent of UTC graduating seniors PROFICIENT at Reading Level 3 (Critical Thinking)	7.03	7.05	5.00
Percent of UTC graduating seniors NOT PROFICIENT at Reading Level 3 (Critical Thinking)	78.83	74.08	74.00
UTC Critical Thinking Mean Score	111.84	112.51	112.40
Percent of institutions below UTC in Critical Thinking	19	35	31

Table 10: FSSE/NSSE Perceptions of Classroom Environment and Skills

Classroom Skills Taught/Learned	Division/Year	FSSE % 2011	NSSE % 2011	FSSE % 2012	NSSE % 2012	FSSE % 2013	NSSE % 2013
Memorizing facts, ideas, or methods from course and readings	LD/F	28	74	33	77	25	70
	UD/S	22	69	32	67	28	67
Analyzing an idea, experience, or line of reasoning in depth by examining its parts	LD/F	91	77	91	77	89	72
	UD/S	90	83	84	85	92	73
Applying theories or concepts to practical problems or in new situations	LD/F	78	66	79	69	90	74
	UD/S	96	79	79	78	87	74
Thinking critically and analytically	LD/F	89	82	91	77	96	76
	UD/S	98	84	85	85	100	81
Solving complex and real-world problems	LD/F	52	53	71	68	63	49
	UD/S	70	56	72	72	62	55

Appendix A: Faculty Development Sessions and Participation, 2013-14

Session Title	Program Length	Number of Participants	Contact Hours	Date
Flipped Classroom Faculty Learning Community (FLC)	1.00	5	5.00	September 6, 2013
Teaching Students How to Learn	1.00	5	5.00	September 13, 2013
Teaching Students How to Learn	1.00	3	3.00	September 17, 2013
Incorporating Experiential Learning into your Teaching	1.00	5	5.00	September 20, 2013
Incorporating Experiential Learning into your Teaching	1.25	4	5.00	September 26, 2013
Introduction to the Flipped Classroom	1.25	7	8.75	September 27, 2013
Flipped Classroom Panel Discussion	1.00	12	12.00	October 4, 2013
Flipped Classroom - Making Videos	1.00	13	13.00	October 11, 2013
Active Learning Seminar	1.00	5	5.00	October 9, 2013
Flipped Classroom FLC	1.00	8	8.00	November 22, 2013
Flipped Classroom FLC	1.00	7	7.00	February 6, 2013
Flipped Classroom FLC	1.00	5	5.00	March 20, 2013
Rubric Development Seminar	1.00	4	4.00	November 22, 2013
Critical Thinking Assessment Test (CAT) Grading	7.00	10	70.00	December 11, 2013
Critical Thinking Assessment Test (CAT) Grading	7.00	11	77.00	December 12, 2013
Critical Thinking Assessment Test (CAT) Grading	7.00	8	56.00	December 13, 2013
Introduction to the Flipped Classroom	1.00	7	7.00	February 7, 2014
Flipped Classroom -Hear From the Experts	1.00	10	10.00	February 14, 2014
Flipped Classroom - Making Videos	1.00	5	5.00	February 21, 2014
Scholarship of Teaching and Learning	1.00	1	1.00	February 7, 2014
Math for Life Book Club	1.00	7	7.00	February 14, 2014
Math for Life Book Club	1.00	7	7.00	February 21, 2014
Math for Life Book Club	1.00	6	6.00	February 28, 2014
Critical Reflection Seminar	1.50	3	4.50	March 7, 2014
Critical Reflection Seminar	1.00	3	3.00	March 7, 2014
Team-based Learning Seminar	1.00	3	3.00	March 28, 2014
Team-based Learning Seminar	1.00	3	3.00	April 3, 2014
Phil Gardner: Unpacking College Experiences: Employer Values and Critical Reflection for Professional Competencies	1.00	16	16.00	April 7, 20014
Phil Gardner: Unpacking College Experiences: Employer Values and Critical Reflection for Professional Competencies	1.00	8	8.00	April 8, 2014
Instructional Excellence Retreat	4	50	200	April 29, 2014
Instructional Excellence Retreat	7	50	350	May 1, 2014
Critical Thinking Assessment Test (CAT) Grading	7	9	63	May 6, 2014
Critical Thinking Assessment Test (CAT) Grading	7	12	84	May 7, 2014
Critical Thinking Assessment Test (CAT) Grading	7.00	12	84.00	May 8, 2014
Best Practices in Teaching (Moi University sessions)	1.00	4	4.00	May 19, 2014
TOTALS	**81.0**	**328.00**	**1,154.75**	**Number of Sessions: 35**

Appendix B: ThinkAchieve Faculty Grants Funded 2013-14

First name	Last name	Department/Division	Project Title	Grant Program	Amount Awarded
Jennifer	Boyd	Biological and Environmental Sciences	Experiential Student Research to Support the Federal Protection of a Rare and Locally Endemic Orchid Species	Beyond the Classroom	1,470.00
Nicole	Tekulve	Library - Reference and Instruction	The Game of Research	In the Classroom	692.05
Aggie	Toppins	Theater and Speech	Co-creation: A collaborative design project to promote bicycling in Chattanooga	Beyond the Classroom	1,000.00
Bryan	Ennis	Civil and Chemical Engineering	ENGR 3280L and NI Academy Control Lab Project	Beyond the Classroom	1,500.00
Aniekan	Ebiefung	Mathematics	Who Wants to Be a Mathematician at UTC?	Beyond the Classroom	1,200.00
Endong	Wang	Engineering Management and Technology	From Hand Calculation to IT-based Estimating - Learning through Project	In the Classroom	950.00
Jonathan	McNair	Music/Art	Read Between the Lines, Think Outside Them: Thollem McDonas in Residency	Beyond the Classroom	1,500.00
John	Swanson	History/Facilities Management	Engel Stadium Oral History Project	Beyond the Classroom	1,500.00
Roger	Thompson	Criminal Justice	The Tarnished Badge	Beyond the Classroom	750.00
Andrew	Bailey	HHP	Challenge Course Construction and Training	Beyond the Classroom	1,500.00
April	Ebbinger	Education/Nursing	Eastern Band of Cherokee Indians Internship	Beyond the Classroom	1,500.00
Greg	Heath	HHP/Research and Engagement	Physical Activity Epidemiology Field Research and Service Learning Project	Beyond the Classroom	1,500.00
Justin	Pohl	Student Development	Alternative Winter Break	Beyond the Classroom	1,500.00
Heather	Small	Music	Flute Spa with Patricia George	Beyond the Classroom	656.00
Rebecca	Jones	English	Travel Funding for Public Argument Class	Beyond the Classroom	1,500.00
Trevor	Elliott	Mechanical Engineering/Engineering Management	Integration of 3D Prototyping into Core Engineering Curriculum	Beyond the Classroom	1,500.00
Talia	Welsh	Philosophy and Religion	Teaching and Learning in Prison	Beyond the Classroom	1,032.00
Ann	Holmes	Geology/Biological and Environmental Sciences	Study Abroad for Tropical Island Ecology and Geology: Development of Critical Thinking Skills	Beyond the Classroom	1,211.30
Christina	Vogel	Art	Experiential Learning: A Student-Driven Group Drawing Exhibition at AVA	Beyond the Classroom	1,078.00
Cassandra	Nice	Student Development	Women's Leadership Academy	Beyond the Classroom	700.00

Appendix C: ThinkAchieve Advisory Board Letter to the UTC Provost

THE UNIVERSITY of TENNESSEE CHATTANOOGA

ThinkAchieve: Creating Connections
Mail Code 4354
615 McCallie Avenue
Chattanooga, TN 37403

Memorandum

To: Dr. Jerald Ainsworth, Provost

From: Dr. Kathleen K. Wheatley
Chair, ThinkAchieve Advisory Board

Date: 10/31/2013

Subject: Recommendation from the ThinkAchieve Advisory Board

Full integration of the QEP into the curriculum at UTC requires a strong faculty commitment. To this end, the ThinkAchieve Advisory Board recommends that faculty participation in the QEP be included in the formal EDO process. For Individual Objectives (blue form), faculty should be required to discuss how they plan to integrate the goals of the QEP into their instruction both in and out of the classroom. Faculty should provide a follow-up on this plan on the Individual Performance Report (green form). We support the inclusion in the EDO of community engagement activities/service and the scholarship of engagement.

Linking the QEP to the EDO will generate more faculty involvement and provide essential and systematic documentation of UTC's efforts. This increased faculty involvement can only serve to enhance the QEP outcomes.

Works Cited

Association of American Colleges and Universities. (2004). A statement on integrative learning. Washington, DC: Association of American Colleges and Universities. Retrieved from https://www.aacu.org/integrative_learning/pdfs/ILP_Statement.pdf

Hart Research Associates. (2009). Trends and emerging practices in general education. Washington, DC: Association of American Colleges and Universities.

Wolcott, S. K. (February 9, 2006). *Steps for better thinking rubric* [On-line]. Available: http://www.WolcottLynch.com

Websites

2013-14 First Year Reading Experience Book Information: *This I Believe: The Personal Philosophies of Remarkable Men and Women*, website: http://www.utc.edu/center-advisement-student-success/first-year-experience/fyre-book-2013-2014.php

UTC QEP ThinkAchieve Beyond the Classroom website: http://www.utc.edu/think-achieve/beyond/

UTC QEP ThinkAchieve website: http://www.utc.edu/ThinkAchieve

Hyperlinked Documents

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Table 2: Beyond the Classroom Experiential Learning Projects and Classes Data 2013-14 (p. 4, 8)
Table 3: Beyond the Classroom Experiential Learning Events and Selected Student Reflection Themes Data 2013-14 (p. 4)
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