Think⌐Achieve
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2013-2014 Annual Report

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. The ThinkAchieve staff in the Student Learning Outcomes, Assessment & Accreditation areas make up the QEP team and are leading the initiative to help faculty include teaching strategies that enhance student critical thinking skills in the classroom and through co-curricular, experiential learning activities. This report provides a summary of the activities and milestones in the project and also lays out a plan for the activities for the 2014-15 fiscal year.

3 Components of ThinkAchieve
- Introduction and Orientation to Critical Thinking
- In the Classroom: Curricular Integration
- Beyond the Classroom: Experiential Learning

2013-14 Project Activities

Freshman orientation activities for the summer of 2013 included faculty-led, small group, critical thinking discussions related to an essay that was a part of the 2013 Freshman Year Reading Experience (FRYE) book, *This I Believe: The Personal Philosophies of Remarkable Men and Women*. Survey assessment of the sessions (approximately 2,200 students) 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 freshman orientation exercise built on, expanded, and improved the previous year's problem-solving scenarios by including a specific discussion about the definition of critical thinking and then asked student groups to complete a challenge objective. As a conclusion for the activity, faculty facilitators debriefed with students the thinking and problem-solving skills they used to solve and meet the challenge objective.

As with previous years, year three activities included 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 (35 sessions offered; 328 participants). In addition, the previous Faculty Fellows and Faculty Awards

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programs continued with three Faculty Fellows groups in year-long programs on Problem-based Learning, Pop Culture in the Classroom, and The Research Cycle in Teaching (15 total faculty participants). Two additional faculty members were selected to receive Faculty Awards to recognize outstanding and innovative teaching that supports the goals of *ThinkAchieve* (Frank Butler, Business; Will Stern, HHP).

The *ThinkAchieve* grants program continued in year three; 20 grants were awarded to faculty, representing 18 departments and programs. All grant projects were showcased as teaching and learning scholarship at UTC's Research Day, UTC's Instructional Excellence Retreat, and/or at several regional teaching and learning conferences. In total, the ThinkAchieve program resulted in 36 local and regional presentations and poster sessions and one peer-reviewed publication.

> **What is Critical Thinking?**
>
> The ability to:
> - Identify, evaluate, and interpret information by raising pertinent questions and identifying uncertainties,
> - Solve problems by determining limitations, making connections, and prioritizing the potential solutions,
> - Create innovative solutions to problems through creative thinking,
> - Communicate ideas and information effectively, and
> - Seek ongoing improvement to integrate knowledge and skill through reflection on their thinking and learning processes.

The experiential learning component expanded its offerings this past year as well. The course designation system was expanded to include 26 course sections over 14 departments (663 students; 26,700 completed hours of engagement). For the specific listings of courses, see http://www.utc.edu/think-achieve/beyond/courses.php)

Year Three Assessment

The QEP program assessments include both cognitive and non-cognitive measures. Experiential learning participation is also collected as an element of the QEP assessment program.

The Critical Thinking Assessment Test (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 seniors in 2013-14 (compared to 190 seniors in spring 2013). Seniors tested in 2013 had an overall mean score of 16.90, while seniors tested 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.

Additional measures 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. During the 2012-13 academic

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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.

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. Questions addressing the following five classroom skills are most closely linked to critical thinking.

- *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, which indicates that faculty see themselves placing greater emphasis on teaching higher level skills while students perceive there is more emphasis at the memorization level. 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.

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.

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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.
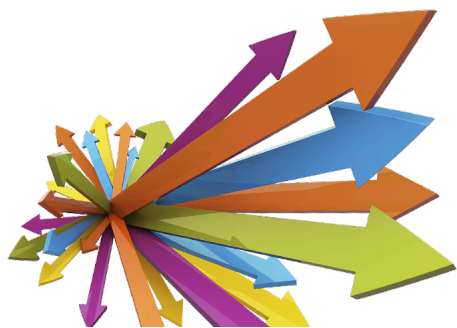
Plans for 2014-15

Continued improvement is needed to increase faculty integration of critical thinking teaching concepts into the classroom. Next year's faculty development activities will emphasize specific information on how to address and teach critical thinking skills in classroom and experiential learning settings.   Focus on year four will also include resolving issues related to the documentation of the experiential learning efforts to ensure that experiential learning is documented and valued as an institutional priority.

The QEP team will also work with the departments and programs to develop and assess critical thinking outcomes at those levels. Through the institution-wide curriculum mapping project, programmatic level assessment will involve the articulation and evaluation of critical thinking outcomes. 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 efforts to improve student critical thinking skills are maintained once the five-year program is completed. The team will focus on building 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. A noted challenge of the ThinkAchieve project has been acceptance and follow through of the experiential learning component as faculty view the documentation as a burden. To help address this, better documentation and tracking

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of the experiential learning will be implemented on campus with a new focus on prior learning assessment (PLA). 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 plan for how to include this as a part of the student transcript/record through the PLA implementation. In addition, we will implement faculty development opportunities to help train faculty on efficient grading practices for student reflections to overcome the perceived burden of assessment of such efforts.

Our third year has highlighted critical issues related to an institutional project of this size. While our direct assessment measures seem to be producing results, it is becoming apparent that faculty have a difficult time implementing improvements in the classroom geared toward increasing critical thinking skills. A little over 30% of faculty participate in ThinkAchieve activities, but that participation may ultimately impact 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 require students to be more actively engaged in their learning can present challenges to those who might be used to more passive forms of teaching and learning. It can take many semesters for faculty to perfect new strategies that engage students with thinking. Retention, Promotion and Tenure committees must recognize faculty scholarly contributions to the SoTL as a part of a robust research/scholarship agenda that includes legitimate peer-review processes.

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 has been 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.

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2013-14 Think Achieve Advisory Group

Kathleen Wheatley, Management, Chair
Karen Adsit, Academic Affairs
Dee Dee Anderson, Student Development
Deborah Arfken, University Planning
Fran Bender, Student Retention and Success
Vic Bumphus, Criminal Justice
Virginia Cairns, Library
Bengt Carlson, Walker Center for Teaching & Learning
Andrew Clark, Alumni Affairs
Dawn Ford, Walker Center for Teaching & Learning
Dick Gruetzemacher, Planning, Evaluation and Institutional Research
Matthew Guy, English
Andrew Horton, Athletics
Linda Johnston, School of Education
Deborah McAllister, School of Education
Susan Ritz, University Planning
Victoria Steinberg, Modern and Classical Languages and Literatures
Cecelia Wigal, Industrial Engineering

2013-14 ThinkAchieve Awards Task Force

Rich Allen, Management
Virginia Cairns, Library
Bengt Carlson, Walker Center for Teaching & Learning
Ethan Carver, Biological and Environmental Sciences
Dawn Ford, Walker Center for Teaching & Learning
Margaret Kovach, Biological and Environmental Sciences
Elizabeth O'Brien, School of Education
Verbie Prevost, English
Erika Schafer, Music

2013-14 ThinkAchieve Experiential Learning Task Force

Dee Dee Anderson, Student Development
Jose Barbosa, Biological and Environmental Sciences
Fran Bender, Student Retention and Success
Frank Butler, Management
Bengt Carlson, Walker Center for Teaching & Learning
Amy Doolittle, Social Work
Dawn Ford, Walker Center for Teaching & Learning
Rebecca Jones, English
Gary McDonald, Engineering
Robin Pearlstein, School of Nursing
Shalin Shah, Student

2013-14 Faculty Fellows Learning Communities

Pop Culture in the Classroom
Leader: Ralph Covino, *History*
    Participants:
    Jessica Auchter, Political Science
    Jennifer Boyd, Biological and Environmental Sciences
    Lindsay Irvin, History
    Hope Klug, Biological and Environmental Sciences
    Craig Laing, Sociology, Anthropology, and Geography
    Jessica Peacock, Health and Human Performance

Research Cycle in Teaching
Leader: Priscilla Seaman, *Library*
    Participants:
    Susan McDonald, Occupational Therapy
    Carrie Meadows, English
    Will Stern, Health and Human Performance
    Alice Tym, Sociology, Anthropology, and Geography

Problem-Based Learning
Leader: Cheryl Robinson, *Education*
    Participants:
    Angela Ballard, Communication
    Claire McCullough, Computer Science and Engineering
    Madonna Kemp, English
    David Witt, Management
    Kelli Hand, Nursing

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Cindy Taylor, Planning, Evaluation and Institutional Research
Cecelia Wigal, Industrial Engineering

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Amy Doolittle, Social Work
Dawn Ford, Walker Center for Teaching & Learning
Rebecca Jones, English
Gary McDonald, Engineering
Robin Pearlstein, School of Nursing
Allison Quintanilla, Student

2014-15 Faculty Fellows Learning Communities

The Flipped Classroom: Getting Students More Involved in their Learning
Will Stern, *Health and Human Performance*
    Participants:
    Ann Buggey, English
    Amy Doolittle, Social Work
    Gary Maynard, Sociology
    Eric O'Neil, Biology
    Chris Smith, Nursing

Fallacious Arguments and Teaching
Talia Welsh, *Philosophy and Religion*
    Participants:
    Rowan Johnson, English
    Claire McCullough, Computer Science
    Michael Thompson, History

ThinkAchieve Staff

Dawn Ford, PhD
Executive Director, Walker Center for Teaching & Learning
423.425.4204
Dawn-Ford@utc.edu

Bengt Carlson, MA
Experiential Learning Coordinator
423.425.5825
Bengt-Carlson@utc.edu

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