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Quality Enhancement Plan:

ACTon IDEAs

Applied Critical Thinking as Expressed Through Undergraduate Research

Texas A&M International University

ACT on IDEAs

Quality Enhancement Plan

Prepared for the Commission on
Colleges of the Southern Association
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Applied Critical Thinking as Expressed Through Undergraduate Research

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Executive Summary

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Executive Summary

Texas A&M International University (TAMIU) has chosen to focus the Quality Enhancement Plan (QEP) on building, integrating, and sustaining undergraduate research practices and programs, with an emphasis on applied critical thinking. The decision came after extensive dialogue with faculty, staff, and students as well as institutional data on student learning outcomes provided by the Office of Institutional Effectiveness and Planning.

The Plan is called *ACT on IDEAs. ACT* represents the focus of the plan – ***A***pplied ***C***ritical ***T***hinking – while *IDEAs* denotes the phases of the plan—***I***nvestigate, ***D***ecide, ***E***xpress, and ***A***chieve. *ACT on IDEAs* will: (1) Promote undergraduate research through direct connections with faculty and peers; (2) Empower undergraduate students by enhancing critical thinking and research skills; (3) Provide undergraduate students with the skills and opportunities to express their knowledge and apply it to substantive local and global issues. The broad-based QEP will impact all disciplines across the University and offer highly motivated students a multitude of enriching experiences, such as faculty-guided research opportunities, a Certificate in Research Methodology, and/or a variety of research workshops.

TAMIU's QEP will introduce students to research and then progressively tailor opportunities for those who seek a more educative experience in research. At the outset, all entering students will explore research in their freshmen year, specifically in seminar courses required for all incoming students. When these students advance to their sophomore year, they will be required to interact with faculty and research peers at various events. In these formative years for students, the Plan not only raises awareness of research across campus but connects students with faculty in their discipline. These connections are vital in creating a culture of research among students and helping to educate them about the prominent role of research at TAMIU, their role as members of the research community, and opportunities to actively engage in research as they matriculate through their respective academic programs. In students' junior year, the Plan targets a smaller population who will be enrolled in discipline-specific critical thinking courses. These courses will allow students to develop critical thinking and problem-solving skills to master higher-order learning outcomes. Finally, students motivated to pursue hands-on mentored opportunities with faculty will find various structured outlets where their critical thinking and research skills will be sharpened.

TAMIU has existing institutional capability to initiate the mission and goals of the QEP and will progressively strengthen this capability throughout the span of the Plan. A budget will be dedicated to the QEP and necessary personnel will be appointed or hired. An organizational structure will be created to allow for efficient operational management and administration of the QEP. The Plan will be coordinated by a Director of Undergraduate Research, who will oversee the development, implementation, communication, and assessment of the QEP. Based on lessons learned during the last QEP, various data reporting mechanisms will be positioned to allow speedy analyses of data by faculty, units/programs, departments, and colleges/school. This will be essential to making changes, if necessary.

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Introduction

Situated along the United States-Mexico border in South Texas, Texas A&M International University (TAMIU) is the intellectual center of the vibrant multilingual and multicultural community that is the city of Laredo. TAMIU is a Hispanic-serving institution whose students are 92.9% Hispanic and 58.7% female. Also, 77% of students are low income (eligible for Pell Grants) and 72.9% are first-generation college students. Since 1989, TAMIU has been one of 11 universities in The Texas A&M University System (TAMUS).

Although TAMIU draws its students predominantly from local counties (Webb, Zapata, Maverick, Jim Hogg, and La Salle), the university has a growing population from outside south Texas, including international students. Most students (88%), however, come from the Laredo area—a region primarily Hispanic (95%) with per capita incomes as follows: Webb County $14,692, Zapata $15,857, Maverick $13,498, Jim Hogg $17,727, La Salle $14,254, state average $25,809. Thus, TAMIU serves a population with the following demographics:

Median age	27.8
Educational attainment (BA or higher)	16.9%
Median income	$38,421
Family income below poverty level	30.6%
Family language used other than English	92% (primarily Spanish)

In Fall 2014, TAMIU had 7,554 enrolled students (undergraduate 6,741, graduate 790, doctoral 23), 219 full-time faculty, 272 classified staff, 168 administrative staff, and over 20,000 alumni. As befits its international designation, TAMIU has students from 31 different countries and faculty from 22 countries. The typical undergraduate is female, Hispanic, 21 years of age, receiving financial aid, working part-time, and first in her family to attend college. ACT scores for incoming students average 18, while the SAT average is 915, with 17% of first-time freshmen needing at least one developmental education course. The retention rates from first to second year for the Fall 2013 cohort was 75.6%, while the graduation rate for the Fall 2007 cohort was 51.3%.

Student demographic factors reveal that the institution provides educational opportunities to a traditionally underserved population. Aside from the University, situated in close proximity to Mexico, higher education would often be out of reach for those who could not relocate to another city, as the next closest institution of higher education is approximately 150 miles outside Laredo. However, TAMIU is no longer an institution of chance. While it had humble beginnings in the 1970s (originally called Texas A&I University at Laredo) it started a legacy of higher education for South Texas by addressing a demand in teacher education and business disciplines. TAMIU is now an institution of choice for students both from the region and from outside the Laredo area. It has transformed from an institution solely dedicated to the upper-level concept of higher education, offering only junior and senior level course work, to one that now offers a range of baccalaureate and masters programs and the Doctor of Philosophy degree in International Business. Programs focus on developing undergraduate and graduate offerings with a progressive international agenda for global study and understanding across all disciplines.

Although a relatively young four-year institution (formally established in 1995), TAMIU has many characteristics of a research university. According to the Boyer Commission on Educating Undergraduates in the Research University (1998), research universities are characterized by factors such as an international student body, interdisciplinary programs seldom found at smaller regional institutions, a commitment to create new knowledge, a special role in visual and performing arts, and world-class scholars. TAMIU shares most of these elements. The institution has a burgeoning international student population that adds a significant and valued dimension of diversity to the University and city community. It has successfully created distinctive undergraduate experiences such as Reading the Globe (a University-wide initiative spearheaded by University College that aims to unite students, TAMIU faculty and staff, and the community around a common academically oriented read that carries a remarkable study-travel opportunity for selected undergraduate students). It is dedicated to the creation of new knowledge and initiatives as evidenced in the work conducted by various Research Centers (Binational Center, Center for Earth and Environmental Studies, Center for Study of Western Hemispheric Trade, and the Texas Center for Border Economic and Enterprise Development). TAMIU also has a thriving visual and performing arts program that brings dance and theater arts presentations, art exhibits, and musical performances to the Center for the Fine and Performing Arts which opens its doors to the University and Laredo community. This further adds value to the diversity of our University constituents and our local area. Finally, the University is home to diverse faculty whose accomplishments are comparable to scholars at primarily research universities. Their scholarship elevates the level of education delivered to students and creates distinct opportunities for students to engage in research.

Cognizant of the changing demands of living in a binational community and the current growth in economic opportunities spurred by demands for energy and the region's natural resources, TAMIU seeks to raise the academic aspirations of our students and better prepare them for the opportunities and challenges of today's business, professional, and social climates. TAMIU has therefore chosen to base the QEP on applied critical thinking to enhance our students' abilities to generate questions, investigate and analyze data, present and effectively communicate their findings, and act on and achieve their professional and personal goals.

Selecting the QEP: An Institutional Process

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Selecting the QEP: An Institutional Process

The University began soliciting faculty, staff, and students for input about the design of a QEP during the Fall of 2012. The Provost appointed Co-Chairs of the QEP Steering Committee and brought together representatives from the College of Arts and Sciences (COAS), the A.R. Sanchez, Jr. School of Business (ARSSB), the College of Education (COE), the College of Nursing and Health Sciences (CNHS), the University College, the Killam Library, and Student Government Association (SGA). Extensive conversations with these University constituencies ensued over the course of various meetings. At each meeting, the Office of Institutional Effectiveness and Planning guided discussions about student learning outcomes and areas where students were not making significant progress as reflected in institutional data.

To solicit input from a wider-range of University constituents, the QEP Steering Committee Co-Chairs held open-forums at department, college, and University meetings throughout the 2013-2014 academic year. In addition, faculty were encouraged to send ideas to a specific QEP email address (QEP@tamiu.edu) and to vocalize thoughts at a University-wide Spring 2014 Retreat. Several open-forums at Student Government Association meetings were also held, and all students were encouraged to articulate their ideas. These fruitful efforts yielded 49 QEP topics such as:

Research
Reading
First Year Experience
Health & Healthcare
Analytical Reasoning
Decision Making
Language
Creating Connections
Active Learning
Collaborative Technology
Learning Beyond the Classroom
Student Success
Faculty-Student Interaction
Intercultural Competence
Internationalization
Study Abroad
Social Justice
Institutional Readiness
Writing
Student Scholarship
Sophomore Year Experience
Critical Thinking
Higher Order Thinking
Leadership
Communication
Information Literacy
Integrated Learning
Student Engagement
Academic Advising
Mentoring
Global Education
Cultural Engagement
Diversity
Community Engagement
Service Learning
Professionalism

Some of the ideas listed above resulted from the 2014 Spring Retreat. All University faculty and staff were first encouraged to read Jeffrey J. Selingo's book *College Unbound: The Future of Higher Education and What It Means for Students*. In January 2014, Mr. Selingo visited the institution and gave a presentation based on his research on the state of higher education. After reading the book and attending the presentation, faculty and

staff convened into small groups to discuss the innovative practices advocated by Mr. Selingo, some of which coincide with the institution's current practices and point to challenges that TAMIU faces as a young four-year institution. The strengths and weaknesses listed as a result of the small group discussions were incorporated into the analysis process to build goals for the University's strategic plan for 2016-2021 and the QEP.

The 49 QEP topics were narrowed into categories based on commonalities. They were then linked to institutional assessment data pertaining to student learning outcomes. Extensive discussions about viability, in terms of institutional capacity and capability, ensued at several QEP Steering Committee meetings. After taking all these factors into consideration, two ideas rose to the top of the QEP list of topics based on their ability to transform the undergraduate education of students— critical thinking and undergraduate research. The QEP Steering Committee merged these ideas and designed a plan dedicated to applied critical thinking as expressed through undergraduate research.

The Plan is called *ACT on IDEAs. ACT* represents the focus of the plan—***A***pplied ***C***ritical ***T***hinking – while *IDEAs* denotes the phases of the plan—***I***nvestigate, ***D***ecide, ***E***xpress, and ***A***chieve. *ACT on IDEAs* was selected based on its ability to produce the most impactful change on undergraduate education. Data from the Collegiate Learning Assessment (CLA), administered during Fall 2013, underscored that TAMIU students (all classifications) were below the national average on assessment categories of Analysis and Problem-Solving. For freshmen (n = 112), 37% were at a Below Basic level; 46% were at a Basic level; and 12% were at a Proficient level. Sophomore students (n=118) did not score any better. Forty-eight percent were Below Basic; 37% were Basic; and only 9% were Proficient. For juniors (n=28), 32% were Below Basic; 61% were Basic; and only 7% were Proficient. The scores for seniors (n=215) were slightly better, at least in the Proficient category; 21% were Below Basic, 53% were Basic, and 22% Proficient. In addition, a pilot test of a recently implemented Core Curriculum Critical Thinking (CCCT) rubric showed that of the 284 students participating in the exploratory assessment in multiple courses, 26% were rated as Accomplished in the category of *Inquiry*; 32% were rated as Competent in the category of *Analysis*; 32% were scored as Beginning in the *Synthesis* category; and 32% were rated as Competent in the *Product* category. All of the courses assessed were part of the core curriculum at TAMIU and thus most students were freshmen or sophomores. Table 1 in the appendix defines categories of the Core Curriculum Critical Thinking pilot test.

A review of literature on critical thinking quickly suggests that improvement of such skills is interrelated to keystone parts of undergraduate research such as: purposeful reasoning; argumentation; and inquiry using data, scholarly information and/or evidence (see Craney et al., 2011; Webber et al., 2013; Perry, 1970; Belenky et al., 1986; Baxter-Magolda, 1999; Helms, 1990). Furthermore, literature on undergraduate research emphasizes added benefits for students who actively engage in research activities which include increased retention, improved problem solving skills, and intellectual independence (The Council for Undergraduate Research, 2015). Taken in totality, the combination of applied critical thinking and undergraduate research would have the most substantial impact on students' undergraduate education at TAMIU. Based on institutional assessment data and the research focus of the Plan, the QEP Steering Committee decided to progressively scaffold efforts starting in the freshmen year and culminate efforts in the students' senior year.

Review of Literature

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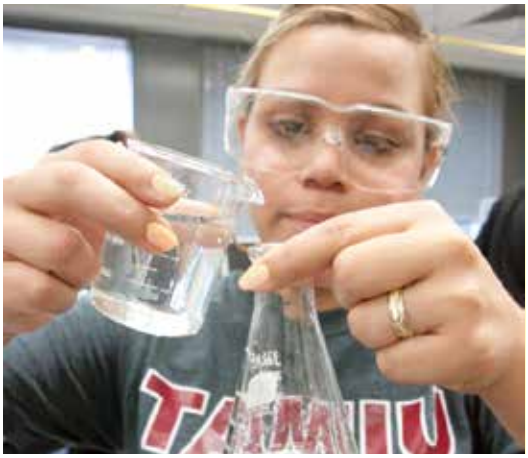

Review of Literature

The Benefits of Undergraduate Research

Research has been a growing force in undergraduate education for the past 15 years. While undergraduate research gained prominence as an essential element of higher education, it was narrowly concentrated in certain disciplines and/or fields and found mainly at research universities (Webber, Laird, & BrckaLorenz, 2013). Today, however, its status as a core element of undergraduate education in a number of liberal arts colleges and universities is evidence of its relevance and expanding popularity (Hu et al., 2007). Ample findings exist, for instance, denoting the value of undergraduate research (see Craney et al., 2011; Webber et al., 2013; Perry, 1970; Belenky et al., 1986; Baxter-Magolda, 1999; Helms, 1990). According to the Council for Undergraduate Research (2015), a consortium of nearly 10,000 individuals and over 650 colleges and universities, undergraduate research:

- Enhances student learning through mentoring relationships with faculty
- Increases retention
- Increases enrollment in graduate education and provides effective career preparation
- Develops creativity, problem solving, and intellectual independence
- Develops an understanding of research methodology
- Promotes an innovation-oriented culture.

While the above-mentioned benefits of undergraduate research can be realized by all students, there are robust empirical findings that point to the profound impact of faculty-guided research on traditionally under-represented populations such as racial and ethnic minorities, females, and first-generation and low socioeconomic college students (Boyd & Wesemann, 2009; Crowe, 2007; O'Neill, 2009; Osborn & Karukstis, 2009; Pascarella & Terenzini, 2005). In particular, engagement in scholarly activities significantly improved retention and graduation rates for these populations of students. It was also a pivotal factor in students' decisions to pursue graduate degrees and a defining factor in the successful matriculation and completion of those advanced degrees.

Other empirical studies have found that undergraduate research improves oral and written communication skills and sharpens research skills (Craney et al., 2011)—which are highly valued by employers. Research can also increase self-confidence and establish life-long learning. Webber et al. (2013) adds that "the research experience contributed substantially to cognitive and affective development of students, including intellectual curiosity, understanding scientific findings, thinking logically about complex material, and synthesizing information from diverse sources" (p. 230). Therefore, undergraduate research enhances critical thinking skills. In fact, discourse on undergraduate research emphasizes critical thinking as one of the most salient benefits of undergraduate research.

According to Scriven and Paul (1987), critical thinking is defined as:

> The intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action. In its exemplary form, it is based on universal intellectual values that transcend subject matter divisions: clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, depth, breadth, and fairness. (Scriven & Paul, 1987)

While there are divergent definitions of critical thinking, institutions of higher education are most familiar with psychology-based theories and their resulting definitions of critical thinking which focus on problem-solving and often refer to critical thinking as high-order thinking skills. Bloom's (1956) taxonomy is evidence of this branch of critical thinking. Another central theme is that learning to think critically happens or develops over time. Perry (1970) noted that students' developmental trajectory of critical thinking varies, especially for minority and female students. More recent evaluations (Belenky, Clinchy, Goldberger, & Tarule, 1986; Baxter-Magolda, 1999; Helms, 1990) confirmed challenges with students' developmental trajectories. Kurfiss (1988) and Baxter-Magolda (1992) found that students' classification was central to an understanding of the development of critical thinking skills. Both found that freshmen students more readily accepted the instructor's lecture as absolute truth while upper-classmen accepted the lecture but were inquisitive as to whether there were varying truths. Thus, there should be a developmental process that allows students to transform from receptacles of knowledge to ones that receive, inquire, and challenge knowledge in their respective fields.

For faculty, the benefits of undergraduate research can be equally valuable. Students can provide faculty with new perspectives on research and spark creative ideas about the production of scholarly work. Some have referred to this as the "accidental collision of ideas" between faculty and students that becomes necessary to extend the breadth of knowledge in the field. In a sense, "students provide a lubrication that breaks down intellectual barriers between faculty members. When students at every level join with faculty in common inquiry, the opportunities for accidental collision of ideas are optimized" (Boyer Commission, 1998, pp. 15-16). Aside from tangible benefits like publications, presentations, etc., engaging undergraduate students in research also yields intangible rewards for faculty. Chopin (2002) found that faculty feel personal satisfaction when they are part of students' personal and professional growth. Zydney et al. (2002) stated that faculty provided opportunities for research to their undergraduate students out of a desire to enrich students' academic and professional lives. They also found that faculty involved in undergraduate research projects with their students had a vested interest in the quality of life at their institution and had increased job satisfaction.

Student-Centered Research Institutions

The Boyer Commission on Educating Undergraduates in the Research University, created in 1995 under the auspices of the Carnegie Foundation for the Advancement of Teaching, discussed the critical thinking developmental trajectory and argued that universities must restructure undergraduate education to nurture the developmental process. Starting in the freshmen year, universities should construct an inquiry-based first-year experience characterized by freshmen seminars where students interact with faculty across campus and begin to explore research. The establishment of learning communities and block schedules was also mentioned by the Commission. Traditional pedagogical tools that only inspire students to engage in note-taking and passive listening must be abandoned in favor of activities, assignments, and exams that inspire creativity and a thirst for research. Building on the freshmen year, the Commission recommended reinforcing inquiry-based skills at all levels of curriculum so that students understand their new role on this path of inquiry.

The Commission proposed that research universities, along with any universities aspiring to be student-centered research institutions, provide the following opportunities to all undergraduate students:

1. Opportunities to learn through inquiry rather than simple transmission of knowledge.
2. Training in the skills necessary for oral and written communication at a level that will serve the student both within the university and in postgraduate profession and personal life.

3. Appreciation of arts, humanities, sciences, and social sciences, and the opportunity to experience them at an intensity and depth the student can accommodate.
4. Careful and comprehensive preparation for whatever may lie beyond graduation, whether it be graduate school, professional school, or first professional position. (Boyer Commission, 1998, p. 12).

The Commission also described the symbiotic relationship that must be present for these factors to truly transform the undergraduate experience for students, as well as convert a university from being an "archipelago of intellectual pursuit," (p. 9) to an intellectual ecosystem where faculty and students share a mission of discovery, inquiry, investigation, and learning. The ideal model, according to the Commission, will produce a profound change on undergraduate education for both students and faculty, as both will embark on an adventure of discovery.

Best Practices in Mentored Undergraduate Research

In light of the QEP focus, a review of best practices in undergraduate research and critical thinking was conducted. In particular, a small group from the QEP Steering Committee, including the Co-Chairs, reviewed successful QEP initiatives at other institutions. For instance, the committee reviewed QEPs at the University of Houston (*Discover-Based Learning: Transforming the Undergraduate Experience through Research*), Clemson University (*Clemson Thinks*[2]), George Mason University (*Student as Scholars: Fostering a Culture of Student Scholarship*), and the University of Louisville (*Ideas to Action: Using Critical Thinking to Foster Student Learning and Community Engagement*). While all have distinct features appropriate to their respective QEPs and student populations, the graph below summarizes common best practices.

Further examination revealed, much like the Boyer Commission (1998) had discussed, that QEPs at other institutions worked best when the Plan: (1) embedded a culture for the QEP early in students' academic career; (2) incorporated research-based/critical thinking-based courses into curricula; (3) included SLOs in such courses that appropriately corresponded to students' classification; (4) adopted robust and multiple assessments of the QEP mission, goals, student and/or program learning outcomes; (5) provided mentored research opportunities; (6) included culminating experiences either in research, critical thinking, or a combination of both; (7) encouraged faculty to utilize innovative pedagogical tools to achieve the mission and goals of the QEP; (8) provided professional development opportunities for faculty and students and (9) included co-curricular activities into the QEP.

The Council on Undergraduate Research (2012), in their *Characteristics of Excellence in Undergraduate Research* Report, further delineated best practices, with respect to the infrastructure and resources institutions will need to build and/or create to have successful undergraduate research programs. The Council advocated:

- Creating a campus culture that values and rewards undergraduate research.
    - Providing appropriate resources and recognition to faculty and students engaged in research (e.g., awards, release time for faculty, inclusion of research with students as a high priority in faculty annual evaluations, etc.).
    - Involving other campus constituents, such as student affairs personnel, co-curricular programs and/or link existing programs such as service learning, study abroad, internships, and research fellowships, to undergraduate research.
    - Providing research opportunities to a broad range of students as is practical.
- Having administrative support and commitment.
    - Providing internal budgetary support such as start-up funding for faculty, money for students to purchase equipment/supplies, and travel money for students and faculty to present at conferences.
    - Revising promotion and tenure guidelines to reflect new faculty-student research priorities.
- Reorganizing the Office of Graduate Studies and Research to include undergraduate research.
    - Hiring a Director to oversee and coordinate all campus-wide undergraduate research activities including research conferences, symposia, or other events that highlight faculty and student research.
- Creating and/or enhancing a research grants office.
    - Informing faculty and students of research opportunities.
    - Managing grant applicants and post-award administration.
- Ensuring sufficient library resources.
    - Having sufficient computers, study places, etc.
    - Having sufficient scholarly and/or other books, journals, monographs, etc. to conduct research.
- Providing professional development opportunities to faculty and students.
    - Educating faculty on innovative pedagogical tools.
    - Rewarding faculty for implementing innovative pedagogical tools.
    - Providing mentorship training for faculty and students.
    - Providing students with research guides, seminars, workshops, etc., to reinforce research skills.
- Instituting Student Research Conferences, Research Symposia, and/or Research Events.
    - Providing opportunities for faculty and student to present research.
    - Providing students opportunities to network with faculty and peers.
- Redesigning and/or creating curriculum to match student research goals.
    - Scaffolding undergraduate research in courses so that students can acquire and practice transferrable skills and later apply them to independent or faculty-student research projects.
    - Including research or research-like experiences in courses.
- Redesigning and/or creating course schedules.
    - Allowing faculty to modify course delivery.
    - Restructuring faculty teaching days/times so that they are available throughout the academic year to mentor students.
    - Creating blocks of time throughout the day/week to allow faculty to mentor students.

- Training students in responsible conduct of research.
    - Educating students on ethics in research.
- Providing course credit for students who engage in research.
- Incorporating a summer research program for students.
- Adding faculty and student compensation for faculty-student research projects.
- Having multiple means to assess student learning outcomes.
    - Collecting benchmark data.
    - Collecting cross-sectional and longitudinal data.
- Including program assessments.
    - Adding a mechanism to obtain feedback from students and faculty on their satisfaction with program activities.
    - Adding a mechanism to collect data on the number of students and demographic variables of students who participate in research, the level of their engagement, and outcomes resulting from their participation.
    - Adding a mechanism to collect data on the efforts of faculty mentors and outcome resulting from their work with undergraduates (e.g., conference presentations, co-authored publications, etc.).
    - Adding a mechanism to track students after graduation (e.g., collecting data on career plans and how undergraduate research helped them professionally).
- Aligning institutional strategic plans to reflect the importance of undergraduate research. (CUR, 2012, pp. 2-19)

ACT on IDEAs

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ACT on IDEAs

TAMIU has chosen to focus the QEP on building, integrating, and sustaining undergraduate research practices and programs, with an emphasis on applied critical thinking, to nurture students' inquiry-based transformational journey. The Plan, called *ACT on IDEAs*—a name that represents the focus and phases of the QEP, is expected to produce the most beneficial change on undergraduate education. It will leverage successful efforts across the University (which will be more thoroughly discussed in the section *Institutional Capability*), integrate dispersed yet highly productive faculty research endeavors, and create new prospects for students and faculty to engage not only in dialogue about undergraduate research but also to execute research goals. The Plan is mindful that students can have varying culminating undergraduate research experiences. Thus, faculty representatives from the COAS, COE, CNHS, ARSSB, and University College will help structure curricula and assessment artifacts to reflect the QEP.

In line with the broad-based nature of the QEP, TAMIU has chosen to define research as:

The systematic inquiry or investigation into a subject in order to discover facts and/or principles, increase the sum of scholarly knowledge, or enrich artistic/creative ability.

The definition of research encompasses inquiry-based learning in all disciplines. Thus, "research," as discussed throughout this report, is inclusive of scholarship in dance, art, literature, humanities, business, nursing, mathematics, science, and the social and behavioral sciences. TAMIU has also chosen to adopt Scriven and Paul's (1987) contemporary approach to critical thinking and define it as the:

Intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information.

Both operational definitions directly connect to the research mission of TAMIU and the responsibility of faculty, which is driven by Texas A&M University System policy 12.01 "Academic Freedom, Responsibility and Tenure" Section 2.1:

The fundamental responsibility of faculty members as teachers and scholars includes maintenance of a competence in their field of specialization and the exhibition of professional competence in the classroom, studio, laboratory, and in the public arena through activities such as discussions, lectures, consulting, performances, exhibitions, publications, and participation in professional organizations.

ACT on IDEAs Mission Statement:

The Plan reflects TAMIU's mission by promoting instruction and investigation through undergraduate research that will provide students with the skills and abilities both to think critically and apply their knowledge and understanding to an international community and global marketplace. It will empower students by cultivating decision-making skills and enhancing methods of expression.

ACT on IDEAs Student Learning Outcomes (SLOs)

TAMIU will implement QEP Student Learning Outcomes (SLOs) as follows:

Year/ Phase	SLOs Assessed	Assessment Activity
1. Establishing Benchmarks (2015-16)	SLO 1: Students will be able to justify appropriate conclusions based on the evaluation of facts and correlated data SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem SLO 3: Students will be able to solve problems by evaluating information and designing solutions	Core Curriculum Critical Thinking Rubric (CCCT) • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses Collegiate Learning Assessment (CLA+) • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses National Survey of Student Engagement (NSSE) • Selected Freshmen and Senior Students
2. Investigate (2016-17)	SLO 1: Students will be able to justify appropriate conclusions based on the evaluation of facts and correlated data	CCCT • Selected Courses Critical Thinking Assessment Test (CAT) • Selected Courses Junior-level CTE Courses
3. Decide (2017-18)	SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem	CCCT • Selected Courses CAT • Selected CTE Courses NSSE • Selected Freshman and Senior Students *ACT on IDEAs*/ WIN Combined Rubric • Selected CTE/ WIN Courses
4. Express (2018-19)	SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem SLO 3: Students will be able to solve problems by evaluating information and designing solutions SLO 4: Students will be able to articulate their research findings through written, performance, and/or oral presentation	CCCT • Selected Courses CLA+ • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses *ACT on IDEAs*/ WIN Combined Rubric • Selected CTE/ WIN Courses LBV Academic Conference Rubric • Designated Conference Presentations
5. Achieve/ QEP Analysis (2019-20)	SLO 1: Students will be able to justify appropriate conclusions based on the evaluation of facts and correlated data SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem SLO 3: Students will be able to solve problems by evaluating information and designing solutions SLO 4: Students will be able to articulate their research findings through written, performance, and/or oral presentation	CLA+ • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses NSSE • Selected Freshman and Senior Students CAT • Selected CTE Courses

TAMIU's SLOs reflect a logical learning process in which students first gain awareness of research, followed by the acquisition of skills that will help them articulate or express their research findings. The University expects students to master the ability to: justify appropriate conclusions based on the evaluation of facts and correlated data (SLO 1); analyze new data, information, or observations creatively when defining a research problem (SLO 2); solve problems by evaluating information and designing solutions (SLO 3); and articulate their research findings through written, performance, and/or oral presentation (SLO 4).

ACT on IDEAs Institutional Goals

1. All native[1] undergraduate students will explore research in their freshmen year by:
    a. interacting with faculty and research peers (Student Research Ambassadors) in UNIV 1101 and 1102 courses, and
    b. attending presentations on various research-related topics.
2. Many native sophomore students, enrolled in specific courses, will become aware of research and research opportunities on campus by:
    a. attending required events such as *Investigate Research Day*, *Lunch and Learn about Research*, *Researchers Bureau, Research Circles*, and various presentations on research-related topics held throughout the academic year.
3. Critical thinking skills will be enhanced through discipline-specific coursework in students' junior year that improves problem-solving skills and research skills.
4. Seniors, who are highly motivated, will receive opportunities to participate in faculty-guided research, earn a Certificate in Research Methodology, and/or improve research skills by attending intensive workshops.

TAMIU expects that, by the mid-term review period in Year 5, the percentage of native students participating in research (listed below) will increase by a minimum of 10% from baseline data collected in Year 1. Data will include student participation in: (1) the Lamar Bruni Vergara & Guillermo Benavides Z. (referred to as LBV in this report) Academic Conference, (2) faculty-guided research, (3) Honors thesis or other publications including TAMIU's open-access online journal for undergraduate research, (4) art exhibit, dance or music performance/recital, or (5) other juried presentation/performance at TAMIU or at a research-based academic conference. Because native freshmen are required to orally present their findings at the First Year Academic Conference, this will allow for longitudinal analyses. TAMIU expects scores to progressively improve from the First Year Academic Conference as students progress through the phases of the QEP and later present at the LBV Academic Conference.

It is important to note that TAMIU's QEP seeks to give all students ample opportunities to explore and engage in research. The phases of the QEP, which will be discussed in a subsequent section, first introduce research to students in the freshmen year, then directly connect students to faculty in the sophomore year, and then reinforce skills in critical-thinking enhanced (CTE) courses during their junior year. The final phase of the QEP provides culminating structured faculty-guided mentorship opportunities for students highly motivated to engage in research. Accordingly, all native TAMIU freshmen will explore research in their freshmen year, specifically in freshmen seminar (UNIV) courses—which are required for all incoming freshmen. When these students advance to their sophomore year, they will be required to attend a specific number of presentations. In these formative years, the Plan raises awareness of research across campus. Students will learn about research generally as well as the importance of research in their respective degree programs from faculty. Students will also learn essential elements of research in sophomore courses which will help them master SLO 1. In the junior year, the Plan targets a smaller population of students who will be enrolled in discipline-specific CTE courses that will target critical thinking and problem-solving skills. Students will also be taught skills to master SLOs 2 and 3. Finally, students motivated to pursue hands-on structured mentored opportunities with faculty will find various outlets to sharpen their critical thinking and research skills to reinforce SLO 3 and master SLO 4.

1 An entering freshman who has never attended any other college/university. Includes students enrolled in the fall term who attended for the first time in the prior summer term. Also includes students who entered with advanced standing (college credits earned before graduation from high school).

Description of Plan

The Socialization Process for Students

TAMIU will provide ample opportunities for students to learn, practice research skills, and actively engage in research. This will first occur as students are intentionally connected to faculty and their research as well as to peers who are or have been engaged in independent or faculty-guided research projects. This latter group, known as Student Research Ambassadors, will provide first-hand knowledge of the transformational journey that transpires when one engages in research. Faculty and Student Research Ambassadors will open dialogue about research so that students begin to appreciate the importance of research to their academic fields and to everyday life. TAMIU will invite faculty across the university to present their research and its impact on their field of study in UNIV 1101 and 1102 courses. Student Research Ambassadors will build on these presentations by discussing the benefits of research for students. Ongoing dialogue will continue via a year-round Guest Speaker Series, called the *Researchers Bureau*, which will feature research by TAMIU faculty and researchers from across the country (the latter possibly conducted via web conferencing). Discussions about research will be reinforced through other presentations about ethics of research and essential skills of research/creative activities (e.g., developing a hypothesis, research questions, etc.). These presentations will be coordinated by the Director of Undergraduate Research, who will work closely with the Office of Research and Sponsored Projects (ORSP). The Writing Center and the Killam Library will assist with presentations on themes such as: writing an abstract, developing a literature review, format and documentation (APA, MLA, Chicago Style, etc.), poster presentation skills, and oral presentation skills.

Web/Internet resources will be posted to a dedicated QEP website (e.g., online tutorials, a student researcher's toolkit, podcast of faculty discussing research, etc.) to further supplement the above-mentioned initiatives. In addition, the website will have a searchable feature allowing students to look for: (1) TAMIU faculty based on research interests, (2) research opportunities (stipend-supported and/or volunteer) on campus, (3) development opportunities (research workshops, trainings, etc.), and (4) grants to support research or travel. TAMIU has a subscription to software (SPIN/GENIUS/SMARTS) that both passively and actively searches for Federal, State and Foundation funding opportunities. The QEP website will provide information to help students register for this service. The Office of Career Services and the ORSP will help educate students on the QEP website and help interested students to find/apply for grants/internships, etc.

In total, all of these events, activities, and presentations will help socialize students into the prominent role of research at TAMIU, their role as members of the research community, and opportunities to actively engage in research as they matriculate through their academic programs. This socialization process, as noted by several experts in undergraduate research, is important to transform students from passive to active learners as well as to introduce students to research norms, expectations, and their role as scholars/researchers (Chubin & Ward, 2009; Gentile, 2007; Merkel, 2003; Merkel & Baker, 2002).

> Professional socialization can be fostered through mentoring relationships, discipline-based student clubs, independent research projects, volunteer service, and informal interactions with faculty members… When students are exposed to the norms of their disciplines, they learn what their organizations consider acceptable and important in terms of conduct, priorities, and other affairs. (Hu et al., 2008, pp. 30-31).

Based on a review of literature, particularly a review of best practices and QEP initiatives at other universities, direct engagement of students in research will occur during the sophomore year. Students enrolled in the sophomore courses below will be required to attend five research events, one of which will be the *Investigate Research Day* (events described below).

- BIOL 2421 General Microbiology
- CHEM 2423 Organic Chemistry I
- CHEM 2425 Organic Chemistry II
- ECO 2301 Principles of Macroeconomics
- ECO 2302 Principles of Microeconomics

- ENGL 2322 British Literature Through Neoclassicism
- ENGL 2323 British Literature from the Romantics to the Present
- ENGL 2327 American Literature to the Civil War
- ENGL 2328 American Literature from the Civil War to the Present
- ENGL 2332 Survey of World Literature to 1650
- ENGL 2333 Survey of World Literature Since 1650
- ENGL 2365 Literature and Film
- PSCI 2305 American National Government
- PSCI 2306 American State Government
- PSYC 2301 Introduction to Psychology

Since some combination of these classes is required for most majors, at least 500 sophomore students are enrolled in them each semester courses are offered. Such students will be required to attend the *Investigate Research Day* and one or more *Lunch and Learn about Research* events or presentations as part of the *Researchers Bureau*. The *Investigate Research Day* is a one-day event held in both Fall and Spring semesters featuring faculty representatives from the COAS, COE, ARSSB, and CNHS who host round-table discussions, exhibits, and performances related to their research. *Lunch and Learn about Research* will present small group discussions (maximum 20 students) with faculty researchers, Student Research Ambassadors, or local field-experts/practitioners throughout the academic year. The *Researchers Bureau* is a year-round speaker series featuring presentations by TAMIU faculty or researchers from across the country (the latter possibly conducted via web conferencing).

With the help of University College, in particular the Sophomore Success Program, sophomores will meet with Student Research Ambassadors for *Research Circles* (small group mentoring sessions). While not required, *Research Circles* will provide guidance on research-related activities on campus and help with the development of oral and written communication skills as well as presentation skills.

To enhance the socialization process during these formative years, TAMIU has initiated a Summer Research Program that introduces students to research methodology. The Program consists of workshops offered during Summer Sessions. These workshops will introduce students to various qualitative and quantitative methods used for research as well as methods specific to their field of study. Workshops will be taught by qualified faculty, and students may obtain course credit with permission of the department chair of their major.

While students will interact with faculty and research peers more directly during their sophomore year, the QEP will incorporate critical thinking-enhanced (CTE) courses into curricula for juniors—in line with best practices at other institutions. These courses, which will be at the 3000-level (or junior level), will be modified versions of required courses. The section below discusses the role of faculty, programs, departments, and colleges in curricular decisions. For students, these courses will promote the improvement of discipline-specific critical thinking and real-world problem solving skills. The institution will begin by training a cohort of 20 faculty members, who will then teach the first CTE courses. Thus, in the initial years of the QEP, not all juniors will partake in this portion of the Plan. However, since the faculty qualified to teach CTE courses will increase by cohorts of 20 every year throughout the span of the QEP, all juniors will eventually take CTE courses. CTE courses will be designated in course schedules and on student transcripts. The designation in course schedules will easily inform students about emphasis on critical thinking in course assignments, exams, and other assessments. The designation on transcripts will be helpful to potential employers as well as those making admission decisions for undergraduate and graduate programs. Finally, the CTE designation will allow the University to send invitations or announcements about research events or opportunities to students enrolled in such courses.

Those unable to take CTE courses in the early years of the Plan will have other opportunities to continue their socialization process. All juniors, for instance, will benefit from presentations on responsible conduct of research and career options that emphasize research skills, the annual all-campus LBV Academic Conference, and information about volunteer research opportunities. All juniors will be invited to apply for the TAMIU Undergraduate Fellowship Program—a competitive program through which students can earn stipends to conduct research, purchase supplies, materials, equipment, etc. A board of Faculty, Staff, and Student representatives,

chaired by the Director of Undergraduate Research, will review applications and select 20 recipients. Students will be selected based on criteria such as: grade point average, application letter/essay, a letter of support from the faculty member who will serve as his/her mentor, and two letters of recommendation from other faculty. Though the institution will grow the number of recipients by five students each year, students not receiving funds will be encouraged to apply for other research projects made possible through extramural and intramural faculty funding.

Juniors may also develop research and critical thinking skills by pursuing a Certificate in Research Methodology, with a concentration in qualitative, quantitative, or mixed methods. The Certificate, intended for undergraduates in various disciplines across TAMIU, integrates a wide variety of junior and senior level courses and encourages a multidisciplinary approach. The Certificate will meet the needs of highly engaged students and will prove useful both in terms of career opportunities and contribution to our global community. The latter element is addressed through a research project that requires students to analyze secondary data about an issue or problem of global significance. Secondary data can be obtained from the Inter-university Consortium for Political and Social Research (ICPSR) or other research-based organizations, or faculty can share their own data for student projects. Criteria for admission include: (1) completion of 60 or more semester credit hours of coursework, (2) submission of an application to the Director of Undergraduate Research, and (3) a grade point average of 3.0 or better. To receive the Certificate upon graduation, students must maintain a B or better in Certificate coursework. Coursework consists of four upper-level division courses (12-16 semester credit hours) plus a summer research workshop. Below is suggested coursework which will be reviewed by the Director of Undergraduate Research in consultation with the Associate Dean of Research and Sponsored Projects, college/school representatives, college/school deans, and the Provost during Year 1 of the QEP. With the support of the above individuals, submission will be made to curriculum committees for approval.

Certificate in Research Methodology

Choose one of the following courses:

- ACC 4392 Accounting Research
- BIOL 3416 Introduction to Biological Statistics
- COMM 3310 Methods of Inquiry
- CRIJ 3305/SOCI 3305/PSCI 3301 Research Methods in Social Sciences
- HIST 3303 Historical Methods
- MATH 3360 Statistical Analysis
- PSYC 3302 Research Methods in Psychology

Required Courses:

- ENGL 3301 Writing Across the Disciplines
- Quantitative Research Methods, Qualitative Research Methods, or Mixed Methods
- Undergraduate Research (discipline-specific course which requires completion of the research project; other courses such as those taken under a study abroad experience, upper-level service-learning experience, or internship may be accepted as alternatives, subject to the approval of the Director of Undergraduate Research).

Required Component

- Summer Research Workshop (five weeks): provides undergraduate students with a unique and expansive research experience that introduces all aspects of research (e.g., exploration of a research query from start to finish, data management training, and focused methodological education in quantitative or qualitative research). The Workshop prepares students for their research project and should be taken the summer before their senior year.

Development opportunities for highly-engaged students will be afforded to recipients of the TAMIU Undergraduate Fellowship Program as well as any student involved in research with faculty and the Certificate program. With respect to faculty-guided research opportunities, TAMIU believes that for any faculty-student

research projects to be effective, impactful, and meaningful for both mentors and student mentees, the latter must attend workshops that elaborate on the mentor/mentee relationship. Since the creation of new knowledge will be part of these students' culminating research experience, they will present their findings at the LBV Academic Conference. They will also have opportunity to receive travel funds to present research findings at regional or national academic conferences. Students involved in the Certificate (which may include the same students involved in faculty-guided research) will be afforded workshops and seminars on statistical techniques, data interpretation, and analyses. Travel monies will also be available for students to travel to the programs/ workshops/trainings that will further enhance research skills.

The Socialization Process for Faculty

While students are undergoing the socialization process, so will faculty. In the QEP's first year, faculty development will realign their role to meet the mission and goals of the Plan. After a review of two-year plans in all disciplines and decisions on which required junior-level classes are most appropriate to embed higher-order critical thinking/research skills (program faculty as well as departments and colleges/school will have discussions during Year 1 of the QEP to make these determinations), a cohort of 20 faculty will participate in an intensive workshop or seminar on critical thinking and will be rewarded for the implementation of innovative pedagogical tools with a monetary stipend. Successful completion of the workshop plus submission of deliverables (e.g., creation of a syllabus reflecting QEP SLOs), will qualify a faculty member to teach CTE courses the subsequent year. These courses, which will be at the 3000-level or junior level, will be modifications of courses already required in students' degree plans. For instance, programs, with the necessary approvals described below, may decide to use Research Methods courses and/or Writing-Intensive (WIN) courses (which are part of the previous QEP) with added learning outcomes to reflect *ACT on IDEAs* SLOs. Or, they may select a required non-WIN course. In the spirit in which the QEP topic was selected, TAMIU will give faculty flexibility in the selection of courses to be designated as CTE. However, since CTE courses will require students to submit a writing artifact, it would be more efficient to utilize WIN courses or courses that have a writing component for the QEP. The rationale behind the writing artifact is related to empirical findings showing a relationship between enhancing writing skills and critical thinking skills. That is,

> Students who think critically use writing as an important tool both for communicating important ideas and for learning. They use writing to deepen their understanding of important concepts and to clarify interrelationships between concepts. They consistently write in such a way as to become more clear, precise, accurate, relevant, deep, broad, logical and significant as thinkers. In writing, they are able to clearly and accurately analyze and evaluate ideas in texts and in their own thinking. They consistently learn to write as they write to learn. In other words, they use writing as an important tool for learning ideas deeply and permanently. (CriticalThinking.org, 2013)

Once a course has been selected for CTE modification, the faculty member teaching it will need to receive necessary approvals. This is important to ensure that the course aligns with the QEP mission, goals, and SLOs as well as the Plan's assessment processes. The operational aspects of this process are as follows:

1. CTE faculty create/modify syllabus to reflect QEP SLOs.
    a. Syllabus must have QEP SLOs
    b. Syllabus must identify/describe writing artifact to be assessed
    c. Syllabus must identify when assessments will be administered
2. Proposed syllabus containing the above details sent to unit/program coordinator (or director) for review
    a. Unit/program coordinator reviews and sends it to department chair
        i. Returns it for amendments, if necessary
    b. Department chair checks syllabus and sends it to college/school dean
        i. Returns it for amendments, if necessary
    c. College/school dean checks syllabus and submits it to QEP Coordinating Team
        i. Returns it for amendments, if necessary
    d. QEP Coordinating Team approves syllabus/ class
3. Faculty collects assessment data
    a. Data sent to the Office of Institutional Effectiveness and Planning and the unit coordinator

   b. Data analyzed by Assessment Specialist and unit/program coordinators
   c. Unit/program coordinators hold meetings with faculty teaching course
4. Unit/program and department develop plans of action to address issues arising from analysis and feedback.

Faculty teaching CTE courses will be assigned a Library Liaison who will assist them with needed course resources. Training on assessment instruments, such as the Core Curriculum Critical Thinking rubric and the Critical Thinking Assessment Test (CAT) will be needed. Professional development will be provided even for those not participating in CTE courses, so that they too can refine their pedagogical tools. Distinct development opportunities will also be provided to specific faculty who engage in student research mentorships. Finally, faculty teaching in the Certificate program and the Summer Research Program are eligible to receive travel money to attend training to enhance research skills.

Institutional Change

The University, over the course of several years, has transitioned from a primarily teaching institution to one that promotes the value of research for both faculty and students. In 2007, research received a greater emphasis at TAMIU. This change in focus was introduced by the Texas A&M University System Chancellor, endorsed by the President, promoted by the Provost, and integrated into the TAMIU Strategic Plan 2011-2015 to include the following goals: (1) broaden the participation of students in research; (2) increase externally-funded research and scholarship; and (3) expand and develop collaborative and multidisciplinary research activities. Undergraduate research has been a top activity contributing to student engagement at TAMIU according to student surveys. In the last few years, TAMIU created the Office of Research and Sponsored Projects (ORSP) that oversees all intramural (e.g., University Research Grants, commonly known as URGs) and extramural faculty research efforts and the LBV Academic Conference. Also, institutional commitment has improved as demonstrated by increased start-up funding to support faculty scholarship, intramural research opportunities for faculty, conference travel funds for both faculty and students, and reduced teaching loads for tenure-track and highly productive tenured faculty.

The growth in student enrollment, however, and the corresponding need to increase the number of courses offered at TAMIU creates unique challenges for faculty research. While the University is committed to providing a solid academic foundation the University's growth in student enrollment has often diverted attention away from research. Until recently, faculty carried increased teaching loads per semester (sometimes 3-4 courses for tenured faculty per semester) and research agendas were often difficult to maintain. Intramural support for faculty research has steadily increased and the institution as a whole is transitioning into a research-intensive institution. The upsurge of faculty applying for and receiving intramural research grants as well as external funds is evidence of another layer of commitment at TAMIU, as shown in the table on the next page.

Research Grants

	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014
Proposals Submitted	45	45	54	72	56
Proposals Awarded	10	9	8	10	12
Faculty/Staff Submitting Proposals	27	34	26	35	31
Total Funds Received [2]	$1,745,353	$979,660	$995,647	$1,084,618	$1,248,081
Intramural Research Funds		$209,278	$191,379	$186,026	$205,391
Total Funds Received		$2,051,106	$2,093,251	$2,197,285	$1,937,856

While research is growing and some external grants involve undergraduates in research, there are many more qualified students than there are stipend-supported undergraduate research opportunities. Thus, the QEP increases opportunity for highly motivated students to engage in research via the TAMIU Undergraduate Fellowship Program and the Certificate in Research Methodology. Year 3 of the QEP will include many outreach efforts to encourage students to apply for these programs. With respect to the fellowship, an initial group of 20 students will be funded in Year 4 and the number of students will grow by 5 each subsequent year of the QEP. In order to align course schedules as well as annual evaluations, the University will instruct colleges/schools, and more specifically, departments and units, to assess two-year plans in all disciplines and multi-year course schedules to ensure appropriate courses are being offered to support the Certificate in Research Methodology. Teaching schedules will also need to be reviewed so that faculty schedules are appropriately structured to allow for mentorships. An examination of faculty midterm reviews and annual review guidelines will also take place so that undergraduate research is clearly and prominently described.

The section on *Actions to be Implemented* discusses more specific personnel additions. The University is committed to hiring necessary support staff to implement and sustain QEP activities. A restructuring of the QEP organizational structure will also occur (see section on *Organizational Structure* for more detailed information). Based on the experience of the past QEP, *Write On TAMIU!*, *ACT on IDEAs* sees two significant areas of institutional change: operational administration and "closing the loop." *ACT on IDEAs* will link the unit/ program coordinators at the departmental level to a central QEP Coordinating Team (chaired by the Director of Undergraduate Research) rather than to a Program Director (in the case of *Write On TAMIU!* this was the Director of the Writing Program). This approach increases efficiency and speed in areas of communication and coordination, and it controls the flow of information and data. By avoiding the identification of *ACT on IDEAs* with a central figure from a specific program and enhancing the involvement of localized coordinators, it will increase the "sense of ownership" at the department level and increase faculty contribution to this initiative. The Director of Undergraduate Research, appointed by the Provost, will be associated with administration rather than a program, and will have greater flexibility in appropriating resources and apportioning assessment responsibilities. By efficiently delegating duties and organizing the flow of information, the new structure allows for a speedier cycle of data collection, analysis, and reporting. Once again, as departments report findings to their faculty in a clear and timely manner, faculty will feel greater ownership of the process and embed *ACT on IDEAs* more readily into their programs.

The other lesson learned from the previous QEP involved information flow. Before, program faculty often claimed that data would not flow down quickly enough to allow them to make timely and necessary changes, despite reports being compiled and uploaded to the website of the Office of Institutional Effectiveness and Planning by program/unit coordinators. In order to "close the loop," the QEP will streamline information flow. Under the *ACT on IDEAs* plan, the unit/ program coordinator will receive assessment data collected in designated classes. This coordinator will collate and analyze the data with the assistance of the QEP Assessment Specialist. The

2 Total funds received for 2011 and 2012 decreased due to State-wide budgetary reductions which resulted in increased faculty teaching loads. Thus, research productivity declined slightly during those years.

coordinator will then present a report to the Department Chair who will engage the unit/ program in evaluating the data and developing an action plan. This effectively "closes the loop" at the program level, allowing direct feedback and establishing "ownership" of the process and the discipline-specific relevancy of the assessment findings. The Department Chairs will then send program reports to the Dean who will organize a college report shared both with the QEP Coordination Team (Chaired by the Director of Undergraduate Research) and the Office of Institutional Effectiveness and Planning. This will facilitate reports to Faculty and Staff Senates, the Student Government Association, and SACSCOC, "closing the loop" at the institutional level. The second most important step will be to collate information in a centralized repository, such as the QEP webpage, for faculty to access. Faculty will receive notices via multiple platforms (e.g., email, web announcements, etc.) informing them to check the QEP website for needed information and updates.

Phases of the QEP

TAMIU will implement *ACT on IDEAs* in phases over academic years 2015-2019. This process will establish the practices of the QEP in teaching and embed its principles in the University's culture. The fifth year, 2019-2020, will serve as the mid-point review period, allowing for comprehensive analysis of the data collected. This review will identify the Plan's strengths and challenges and help determine its effectiveness with respect to institutional goals.

Phase 1/Year 1 will entail gathering baseline data on students' critical thinking skills as demonstrated through a random sample of artifacts drawn from freshmen enrolled in UNIV 1102 courses and from seniors enrolled in discipline-specific capstone courses. The Core Curriculum Critical Thinking (CCCT) rubric will be used to assess these artifacts as a direct measure. Additionally, the Collegiate Learning Assessment (CLA+) will be employed as a direct measure of critical thinking, and the National Survey of Student Engagement (NSSE) as an indirect measure. Year 1 will also involve gathering baseline data on students' engagement in research activities such as: (1) the LBV Academic Conference, (2) faculty-guided research, (3) Honors thesis or publication, (4) art exhibit, dance, or music performance/recital, and (5) other juried presentations/performances at TAMIU or at research-based academic conferences. Data will be collected via an online survey platform.

Phase 1/year 1 will also establish infrastructure required to implement QEP events and activities, as well as planning for faculty and student development seminars/workshops (e.g., consulting with the Director of Undergraduate Research to hire necessary support staff). Tasks for the year will also include: (1) assessing two-year plans and multi-year course schedules in all disciplines to ensure that course offerings and faculty teaching schedules are conducive to mentorships; (2) examining faculty midterm review and annual review guidelines so that undergraduate research is clearly and prominently described; (3) reviewing/approving curriculum to ensure that applicable courses are offered to support the QEP, especially in relation to the Certificate in Research Methodology; (4) meeting with all colleges, departments, and programs to identify assessable writing artifacts and to review the *ACT on IDEAs/WIN Combined Rubric*, (5) assessing library resources in relation to undergraduate research, (6) initiating development of and establishing an editorial board for a TAMIU open-access journal to publish outstanding undergraduate research projects, and (7) continuing with faculty development initiatives. The latter will commence the summer before Year 1 to enable an initial cohort of faculty to disseminate information regarding modification of SLOs in preparation for CTE courses in subsequent years of the QEP.

Phase 2/Year 2 will concentrate on the investigation of research and include presentations in UNIV courses by faculty from the COAS, COE, CNHS, and ARSSB as well as Student Research Ambassadors. Throughout the year, the Director of Undergraduate Research will coordinate activities related to topics such as Ethics of Research and Essentials of Research and Creative Activities (e.g., developing a hypothesis, research questions), and the Writing Center and the Killam Library will host presentations on writing an abstract, developing a literature review, format and documentation (APA, MLA, Chicago Style, etc.), poster presentation skills, oral presentation skills, etc. Presentations delivered through the *Researchers Bureau* will also occur regularly. Student artifacts will be assessed through use of the CCCT rubric in select sophomore courses, and the Critical Thinking Assessment Test (CAT) will be applied in selected junior-level courses. Assessment will focus primarily on sophomore students' ability to justify appropriate conclusions based on the evaluation of facts and correlated data (SLO 1). Finally, Year 2 will continue faculty developmental seminars/workshops to qualify instructors to teach CTE courses in Year 3.

Phase 3/Year 3 will focus on decision-making. While Year 2 activities, assessment, and faculty development opportunities will continue, this phase will implement CTE courses for junior students. Faculty certified through the intensive workshop/seminar offered in Year 2, and who have gained necessary approvals, will teach such courses, which will be part of students' required coursework at the 3000-level and adapted from existing curriculum. The courses will promote improvement of critical thinking and real-world problem solving skills, include a writing artifact, and have common SLOs. A Library Liaison will assist CTE faculty with needed course resources. The Director of Undergraduate Research will conduct presentations on student development opportunities, such as the TAMIU Undergraduate Fellowship Program, the Certificate in Research Methodology, and the LBV Academic Conference. The Office of Career Services will assist with presentations related to career opportunities that emphasize research skills. Assessment will occur in CTE courses using the CCCT rubric, the CAT, and the *ACT on IDEAs/WIN Combined Rubric* (to assess a writing artifact). Assessment will focus on students' ability to analyze new data, information, or observations creatively when defining a research problem (SLO 2). Year 3 will inaugurate the application process for the Certificate in Research Methodology and the TAMIU Undergraduate Fellowship Program. For the latter, students will submit Research proposals to a Board of Faculty, Staff, and Student representatives who will select 20 research fellowship recipients. For the Certificate in Research Methodology, a board of faculty, chaired by the Director of Undergraduate Research, will review applications and make admission decisions based on established criteria.

Phase 4/Year 4 will emphasize expression in students' senior year. Participants in the TAMIU Undergraduate Fellowship Program will begin their research projects alongside their respective faculty mentor(s). This program, through which students may earn elective credits toward their degree, requires students to present their findings at a juried presentation/performance at TAMIU (such as the LBV Academic Conference, Honors Thesis presentation, etc.) or at a research-based academic conference. They can also publish their scholarship in TAMIU's open-access online journal for undergraduate research, provided that it is accepted by the editorial board. Faculty and students involved in directed mentored-opportunities must complete development workshops/seminars as well as an online training program maintained by the University of Miami that offers curricula in human subjects research, animal research, and the responsible conduct of research entitled the Responsible Conduct of Research through the Collaborative Institutional Training Initiative (CITI). Assessment during this year will concentrate on the ability of students to analyze new data, information, or observations creatively when defining a research problem (SLO 2); solve problems by evaluating information and designing solutions (SLO 3); and articulate their research findings through written, performance, and/or oral presentation (SLO 4).

Phase 5/Year 5 will be devoted to analyzing program data related to *ACT on IDEAs*. While oversight and evaluation of the Plan is a continuous process, this stage allows those involved in the implementation of *ACT on IDEAs* to use accumulated data to identify and make needed adjustments. At this point, TAMIU will reflect on what the Plan has helped students "Achieve" by using undergraduate research to enhance critical thinking. This ensures that the findings from 2020-2025 will be accurate and useful and that the methods and processes efficiently improve the quality of instruction and learning. Necessary modifications will be made at this stage to ensure alignment with the QEP mission and goals. This review will identify both the strengths and challenges of the original plan and help determine effectiveness with respect to institutional goals.

Assessment Plan

Assessment will be the key to determining the QEP's success in terms of SLOs and institutional goals. Multiple direct and indirect measures of effectiveness will be employed that will allow for cross-sectional and longitudinal analyses. Many of the assessment instruments are currently used by the University, such as the CCCT rubric. The University also participates in the National Survey of Student Engagement (NSSE)—a survey administered to first-year and senior students, and utilizes a Graduating Student Survey each semester. To enhance these tools, the University will use the Critical Thinking Assessment Test (CAT), which allows faculty to develop authentic scenarios and case studies that require students to answer short essay questions based on real-world social problems. The QEP will also implement the Collegiate Learning Assessment + (CLA+) to establish and monitor benchmarks for critical thinking skills for Freshmen and Seniors.

The assessment plan will begin with the collection of benchmark or baseline data as demonstrated by a random sample of artifacts produced by freshmen in UNIV 1102 courses and seniors in capstone courses. The CCCT rubric will be used to assess students' critical thinking skills in four areas: Inquiry, Analysis, Synthesis, and Product. Similar to the assessment procedure for the Core Curriculum, artifacts (e.g., exams, final exams, group projects/performances, individual presentations/performances, lab projects, term papers, or writing assignments) will be appraised in the four areas. Competency can be at the level of deficient, beginning, competent, accomplished, or exemplary. Freshmen are expected to perform at the beginning level as they are learning to think critically, while seniors are expected to be at the accomplished or exemplary level in all critical thinking skills. Faculty who use the instrument enter students' identification numbers, allowing for collection of data over time and the ability to longitudinally track student progress. In addition to the CCCT rubric, the University will use the CLA+ to assess progress of SLOs. Given the research orientation of the QEP, TAMIU will utilize the CAT in junior-level CTE courses. A pre-test will be administered during the first month of the course and a post-test will be administered the last month of course. Since the number of CTE courses will gradually expand throughout the span of the QEP, this will allow for trend analyses.

The CAT is divided into four areas:

1. Evaluating Information: separate factual information from inferences; interpret numerical relationships in graphs; understand the limitations of correlational data; evaluate evidence and identify inappropriate conclusions.
2. Creative Thinking: identify alternative interpretations for data or observations; identify new information that might support or contradict a hypothesis; explain how new information can change a problem.
3. Learning and Problem Solving: separate relevant from irrelevant information; integrate information to solve problems; learn and apply new information; and use mathematical skills to solve real-world problems.
4. Communication: communicate ideas effectively.

The test is usually one-hour in duration; students answer 15 questions, mostly with short essay responses. There are several unique aspects of this assessment. First, unlike other instruments, CAT uses real-world problems to gauge students' thought processes and their ability to solve problems creatively. Second, it allows for dynamic assessment, since students are presented with various pieces of information that may lead to different conclusions. Students must learn how to separate relevant from irrelevant information to produce appropriate solutions. Thus, they are given multiple opportunities to learn and/or enhance critical thinking skills as they complete questions on the test. Third, according to various experts on critical thinking, students find the CAT interesting and applicable to real-world situations (Deeds & Callen, 2007). It may therefore provide a more accurate reflection of students' critical thinking skills than many other instruments. Fourth, resident faculty are intrinsically involved in scoring CAT test questions, contributing to TAMIU's efforts to directly include faculty in QEP assessment. Finally, as it was created with National Science Foundation monies and tested throughout the country, the CAT is a well-validated instrument with high face validity, high construct validity, and high reliability (Stein et al., 2007).

Another direct measure of assessment, especially related to students' writing ability, will be the *ACT on IDEAs/WIN Combined Rubric*. The WIN rubric is currently used to assess writing artifacts in writing-intensive (or WIN) courses and the combined rubric integrates elements of *ACT on IDEAs* into the existing WIN rubric. This combined rubric will allow for an evaluation of student's ability to: investigate ideas, conduct an analysis or evaluation of a discipline-specific problem, and synthesize information in order to express or draw appropriate and logical conclusions. A proposed *ACT on IDEAs/WIN Combined Rubric* can be found in the appendix and Year 1 of the QEP will require faculty review and approval.

The following table delineates more specific information about the assessment plan, instruments, and measurement of SLOs.

Year/ Phase	SLOs Assessed	Assessment Activity
1. Establishing Benchmarks (2015-16)	SLO 1: Students will be able to justify appropriate conclusions based on the evaluation of facts and correlated data SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem SLO 3: Students will be able to solve problems by evaluating information and designing solutions	Core Curriculum Critical Thinking Rubric (CCCT) • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses Collegiate Learning Assessment (CLA+) • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses National Survey of Student Engagement (NSSE) • Selected Freshmen and Senior Students
2. Investigate (2016-17)	SLO 1: Students will be able to justify appropriate conclusions based on the evaluation of facts and correlated data	CCCT • Selected Courses Critical Thinking Assessment Test (CAT) • Selected Courses Junior-level CTE Courses
3. Decide (2017-18)	SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem	CCCT • Selected Courses CAT • Selected CTE Courses NSSE • Selected Freshman and Senior Students *ACT on IDEAs*/ WIN Combined Rubric • Selected CTE/ WIN Courses
4. Express (2018-19)	SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem SLO 3: Students will be able to solve problems by evaluating information and designing solutions SLO 4: Students will be able to articulate their research findings through written, performance, and/or oral presentation	CCCT • Selected Courses CLA+ • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses *ACT on IDEAs*/ WIN Combined Rubric • Selected CTE/ WIN Courses LBV Academic Conference Rubric • Designated Conference Presentations
5. Achieve/ QEP Analysis (2019-20)	SLO 1: Students will be able to justify appropriate conclusions based on the evaluation of facts and correlated data SLO 2: Students will be able to analyze new data, information, or observations creatively when defining a research problem SLO 3: Students will be able to solve problems by evaluating information and designing solutions SLO 4: Students will be able to articulate their research findings through written, performance, and/or oral presentation	CLA+ • Freshmen/ UNIV 1102 • Seniors/ Selected Capstone Courses NSSE • Selected Freshman and Senior Students CAT • Selected CTE Courses

Indirect measures of assessment will include NSSE. In particular, the University will collate student responses to questions pertaining to perceived learning at the institution, such as those that ask about experiences that contributed to their knowledge, skills, and personal development in thinking critically and analytically; writing clearly and effectively; working effectively with others; and speaking clearly and effectively. The institution will also monitor responses related to participation in high-impact practices such as faculty-guided research and culminating experiences. NSSE will also allow for an assessment of students' perceptions about their ability to:

- Analyze the basic elements of an idea, experience, or theory, such as examining a particular case or situation in-depth and considering its components.
- Synthesize and organize ideas, information, or experiences into new, more complex interpretations or relationships.
- Make judgments about the value of information, arguments, or methods such as examining how others gathered and interpreted data and assessing the soundness of their conclusions.

Since the QEP includes faculty-guided research opportunities, faculty and student perceptions of collaborative research will also be collected. Validated instruments, based on a review of scholarly research, will inform decisions on the particular surveys that will be utilized.


AMIU

ACT on IDEAs: Accomplishing the Mission and Goals of TAMIU

TEXAS A&M **INTERNATIONAL** UNIVERSITY


Dr. Billy F. Cowart Hall

ACT on IDEAs: Accomplishing the Mission and Goals of TAMIU

The QEP seeks to improve a vital component of student learning and achievement that reinforces the institutional mission and goals. TAMIU's mission "prepares students for leadership roles in their chosen profession in an increasingly complex, culturally diverse state, national, and global society" (Strategic Plan 2011-2015). Enhancing applied critical thinking skills while inquiring about discipline-specific issues and problems not only prepares students for graduate and professional education but also prepares them to enter and successfully contribute knowledge to a complex and multifaceted society. *ACT on IDEAs* also relates to the following goals of the Strategic Plan:

- Goal 1.3 Provide high-quality general education and degree programs that develop leadership skills.
- Goal 3.4 Broaden educational experiences of students through participation in student research/ scholarship.

Moreover, *ACT on IDEAs* connects with the previous QEP, *Write on TAMIU!,* which stated that its goal was for students to "become better writers who can think analytically and logically" who "demonstrate sharpened communication skills and assume leadership roles" in their chosen professions and communities. *ACT on IDEAs* directly relates to these aspirations and will build on the foundation of QEP assessment already laid down over the past 10 years. Additionally, it ties into the Texas Higher Education Coordinating Board's new core curriculum for all state public institutions. The Texas Higher Education Coordinating Board articulated Basic Intellectual Competencies and Exemplary Educational Objectives for the core curriculums of all public institutions of higher learning in the State of Texas. The Basic Intellectual competencies are defined in the areas of:

- Reading
- Writing
- Speaking
- Listening
- Critical Thinking
- Computer Literacy

Exemplary Education Objectives are defined in the areas of Communication, Mathematics, Natural Sciences, Humanities and Visual and Performing Arts, and Social and Behavioral Sciences. Furthermore, an institution has the option to include an additional, institutionally designated component in its core curriculum. TAMIU structured its core curriculum to address the Basic Intellectual Competencies and Exemplary Educational Objectives as defined by the Texas Higher Education Coordinating Board. Even before the new mandate by the state, TAMIU in 2007 articulated a set of Principles of Undergraduate Learning, which specify the intended summative outcomes of an undergraduate education at the University. The Principles are can be found in the Appendix.

While all of the areas of the core curriculum are linked to the QEP, the area of Critical Thinking is of particular salience. Critical Thinking embraces analytic and creative application of qualitative and quantitative skills in order to evaluate arguments and construct alternative strategies. Problem solving is one application of critical thinking used to address an identified task. This intellectual competence is an institutional priority, as it is directly referenced in every area of the core curriculum. In fact, critical thinking is the kind of competence that relies on competencies in Reading and Listening, and Reflection. That critical thinking is so frequently referenced in the exemplary educational outcomes throughout the core suggests that these other competencies— while they may be less frequently referenced specifically — are also profoundly important.

Institutional Capability

TEXAS A&M **INTERNATIONAL** UNIVERSITY

Institutional Capability

TAMIU has an established culture of teaching students critical thinking skills and encouraging undergraduate research. First-year students become involved in research opportunities as they present library research projects. University College offers Freshmen Seminar courses (UNIV Courses) that assess critical thinking. As part of the UNIV 1102 curriculum, students learn how to formulate a research question, thus receiving the foundation for applied critical thinking through undergraduate research as freshmen. The course also includes a collaborative instructional partnership with the Killam Library that teaches students to find appropriate research materials. Their research experience culminates in an oral presentation at the First Year Academic Conference.

Students not part of the UNIV courses may engage in research at the annual all-campus LBV Academic Conference. Presentations and research projects are assessed by faculty, and winning undergraduate and graduate students are recognized with cash prizes and certificates. Since its 2009 inception, a total of 1,188 students have presented research at the LBV Academic Conference, which recently saw an increase from 149 participants in 2011 to well over 300 in Spring 2014. With respect to undergraduates, the number of submissions has increased from 248 in Spring 2012 to 325 in Spring 2014.

For students ready to compete at a higher level, TAMIU offers support for presenters at the annual Texas A&M System Pathways Student Research Symposium. A handful of students participated in 2007 compared with 76 presenting in Fall 2013. Also, at last year's competition, an undergraduate TAMIU biology student earned the Top 1% Award for research in life science. Since 2009, the Office of Graduate Studies and Research has supported approximately 200 undergraduate and graduate students presenting at the symposium.

Additional programs encourage undergraduate research. The University Honors Program (UHP), for instance, provides high-achieving students (minimum GPA is 3.25) the choice of pursuing either a University Honors Diploma, which involves 36 semester credit hours of Honors coursework and a senior Honors thesis, or a University Honors Certificate, which requires 18 semester credit hours of Honors coursework and has the option of the senior Honors thesis. Honors credit is granted for courses in two different forms: through "stand-alone" Honors courses (specially designated core curriculum courses and advanced electives) designed to be writing-intensive and discussion-based; and through contracting for Honors credit, in which individual faculty and students agree to additional and/or expanded assignments to enhance student knowledge, acquisition of skills, and/or research in the discipline. The senior Honors thesis incorporates a year or more of undergraduate research under direction of a designated faculty advisor in the student's major; the thesis itself is to be of a length and scope equivalent to a quality journal article in the discipline. In order to complete the requirements for their diploma or certificate with thesis, Honors students must present their thesis to a panel of at least three faculty members of the UHP Advisory Board or other faculty volunteers. The faculty adjudicators rate each presentation according to a rubric, and report results to help students craft the final drafts of their theses.

The UHP has experienced tremendous growth since an administrative reorganization during the fall 2013 semester. Beginning in spring 2014, a total of 118 students were enrolled in the Program. In fall 2014, numbers increased to 179 students, of whom 59% were new to the Program. Including graduations, resignations, and

transfers, the Spring 2015 cohort was 172 students, of whom 18% are new. TAMIU believes that the Program will continue to grow as the QEP prompts more students seek opportunities for undergraduate research.

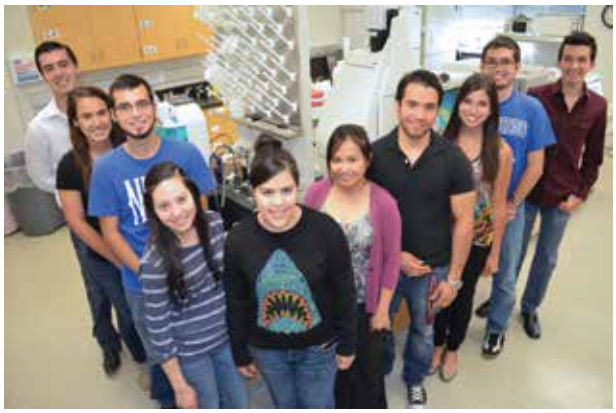
The Department of Biology and Chemistry also has had an active program of undergraduate research for many years. Students may choose a research mentor depending on faculty schedules, numbers of students already involved and the interests of both the student and faculty member. Students may register for 1- 4 credit hours in research per semester, and a maximum of eight credit hours may be counted as upper division electives. Students are expected to work with their mentor on the project assigned for 3-4 hours per week per credit hour. Most students make an oral presentation, either at a departmental level (held each semester on Reading Day), at the LBV Academic Conference, or at a regional or national research-based conference.

Moreover, student organizations, such as the Criminal Justice Association (CJA), actively support undergraduate research and encourage students to present original research at regional or national conferences. Since CJA's inception as a student organization, numerous students have conducted original research and have presented their findings at national conferences such as the Academy of Criminal Justice Sciences and the American Society of Criminology.

Extramural research grants also make it possible for students to be involved in research. A grant by the Department of Education entitled *Building Scholars* connects students to faculty early in their academic life. For instance, although TAMIU first- and second-year students have a variety of services available to them and receive high-quality introductory knowledge about research, very few get to know faculty members in their area of study before their junior year. *Building Scholars* allows TAMIU to initiate students' exploration of their chosen field by encouraging faculty across the University to teach the University Seminar 1102 course. As part of these courses, faculty can use their research to reinforce concepts. Additional grants from the National Science Foundation (NSF), Department of Homeland Security (DHS), and other organizations, agencies, and foundations provide further opportunities for undergraduate students to participate in research. Below are a few examples:

Andrea Almendarez, left, Dr. Claudia San Miguel, center, and María Del Rosario Benavides spent 10 weeks in Tucson, Ariz., researching domestic trafficking as part of a summer research fellowship from the Department of Homeland Security Center of Excellence. The work will provide useful information and help law enforcement identify and rescue victims of human trafficking.

A group of 9 Texas A&M International University faculty members and students traveled to East Asia this summer to conduct research funded by the National Science Foundation. Pictured left to right (front row) are faculty members Dr. John Kilburn, Dr. Ruby Ynalvez, and Dr. Marcus Ynalvez. Pictured in the back row are TAMIU students: Alvaro Sánchez, Jorge Luís Aviles, María Del Rosario Benavides, Jessica Denise Chandarlis, Selina Fuentes, and Enrique Ramírez.



Texas A&M International University students and recent graduates conducted research using state of the art technology at TAMIU. They are, left to right: Ignacio R. Alaniz III (TAMIU '14); Sophia Quiñones, biology major; Juan José García, biology major; Laura A. De Llano, biology graduate student; Kassandra Compeán, biology graduate student; Dr. Ruby A. Ynalvez, TAMIU associate professor of biology; Patrick J. Palacios, biology graduate student; Amanda Michelle Garza (TAMIU '14); Ricardo Pedraza (TAMIU '14); and Álvaro Sánchez (TAMIU '14). The research equipment was acquired through National Science Foundation (NSF) grants.

Texas A&M International University biology majors Ashley García (left) and Eileen Martínez (middle) are joined by their TAMIU mentor Dr. Mónica Mendez. Both students competed and were accepted for prestigious summer internship programs at the University of South Dakota and Dartmouth College respectively.

The current QEP is not meant to override such activities, but rather to coalesce efforts and to extend the benefits of undergraduate research to constituents across TAMIU's campus. The University's goal is to embed undergraduate research into existing courses and create new initiatives, such as the Certificate in Research Methodology, so that students of all disciplines can reap the benefits of engaging in research.

Financial Plan

TEXAS A&M **INTERNATIONAL** UNIVERSITY

Financial Plan

TAMIU is cognizant that resources must be reinforced, realigned, and/or initiated to sustain the mission and achieve the goals of the QEP. Accordingly, the institution will hire new personnel and provide in-kind funds to support the QEP.

New Appointments and Hires

- The Provost has appointed Dr. Dan Mott (Professor of Zoology) as Director of Undergraduate Research (DUGR) and he will serve as the key functionary for implementation of *ACT on IDEAs.* For supervisory purposes, the DUGR will answer directly to the Provost. Dr. Mott will spend 50% of time on QEP duties for the first year. During this period the main QEP activity will be establishing benchmarks, which requires less administrative support than subsequent years. Thereafter, the DUGR will spend 75% time on QEP duties, including:
  - working directly with the QEP Assessment Specialist and unit/program coordinators, as well as other relevant offices, such as the Office of Research and Sponsored Projects, the Writing Center, the Killam Library, the Office of Public Relations, the Office of Information Technology, the Office of Career Services, and others directly involved with the implementation of student-related activities and/or events.
  - serving as the Chair of the QEP Coordinating Team.
- QEP Assessment Specialist: he/she will be a new hire. This is a critical position based on lessons learned from the past QEP regarding timely analyses of data and timely turnaround of results. He/she will work under supervision of the Director of Undergraduate Research and work closely with the Associate Vice-President of Institutional Effectiveness. Duties include:
  - overseeing the QEP data collection processes
  - assisting unit/ program coordinators
  - monitoring progress and implementation of the data assessment plan
  - analyzing data
  - providing reports and/or giving presentations.

Other Direct Costs

- Faculty Development funds to:
  - bring consultants to campus for faculty developmental workshops or seminars to enhance teaching pedagogies related to the QEP
  - provide faculty with stipends to implement new teaching pedagogies in CTE courses and to submit deliverables
  - provide faculty with stipends for teaching in the Summer Research Program
  - provide faculty and students involved in faculty-mentored research with trainings and/or developmental workshop or seminars.

- provide research stipends to recipients of the TAMIU Undergraduate Fellowship Program
- provide travel funds to key personnel (e.g., Director of Undergraduate Research and Assessment Specialist) to attend trainings, workshops, seminars
- provide travel money to students and faculty involved in faculty-mentored research so they can attend academic conferences
- provide travel money to faculty participating in the Certificate in Research Methodology's summer workshops so they can travel for training
- provide stipend for Faculty Mentor of the Year
- provide necessary materials and supplies to Student Research Ambassadors
- purchase assessment instruments such as the CAT
- purchase software to develop and maintain QEP website
- purchase software to develop online tutorials, toolkits, training modules, and other helpful resources for students and faculty
- market/promote QEP activities.

Texas A&M International University
Quality Enhancement Plan (QEP)
Start Date: Fall 2015; End Date: August 2025

Budget Categories	Year 1	Year 2	Year 3	Year 4	Year 5
A. Senior Key Personnel					
1 Director of Undergraduate Research (tenured-faculty; 50% faculty duties - in-kind funds; 50% administrative QEP duties) for a 12-month contract	$65,000	$66,950	$68,959	$71,028	$73,159
Total Senior Personnel	**$65,000**	**$66,950**	**$68,959**	**$71,028**	**$73,159**
B. Other Personnel					
1 Assistant Director/Assessment Specialist, salary of $55,000 for 12 months	$55,000	$56,650	$58,350	$60,101	$61,904
Total Other Personnel	**$55,000**	**$56,650**	**$58,350**	**$60,101**	**$61,904**
Fringe Benefits					
Director of UG Research	$19,500	$20,085	$20,688	$21,308	$21,948
Assistant Director/Assessment Specialist	$16,500	$16,995	$17,505	$18,030	$18,571
Total Benefits	**$36,000**	**$37,080**	**$38,193**	**$39,338**	**$40,519**
D. Travel					
Travel for Key and Other Personnel to Conferences	$50,000	$50,000	$50,000	$50,000	$50,000
Travel for Fellowship recipients to travel to regional and/or national conferences or for Certificate students to travel for research training/workshops	$20,000	$20,000	$20,000	$20,000	$20,000
Total Travel	**$70,000**	**$70,000**	**$70,000**	**$70,000**	**$70,000**
E. Other Direct Costs					
Material and supplies and other consumables	$10,000	$10,000	$10,000	$10,000	$10,000
Consultants	$25,000	$25,000	$25,000	$25,000	$25,000
Workshop/event meals for student-research engagement	$5,000	$5,000	$5,000	$5,000	$5,000
Faculty Stipends for CTE workshops (deliverables, course implementation) and Summer Research Program workshops	$20,000	$20,000	$20,000	$20,000	$20,000
Student Research Stipends (20 students x 1,500 a semester); number of students increases by 5 each year	$60,000	$75,000	$90,000	$105,000	$120,000
Faculty Mentor Stipends	$20,000	$20,000	$20,000	$20,000	$20,000
Faculty Mentor Awards	$2,000	$2,000	$2,000	$2,000	$2,000
Assessment software, instruments, etc.	$14,000	$10,000	$10,000	$16,500	$10,000
Total Other Direct Costs	**$156,000**	**$167,000**	**$182,000**	**$203,500**	**$212,000**
F. Total Direct Costs					
Total	**$382,000**	**$397,680**	**$417,502**	**$443,967**	**$457,582**

Actions to be Implemented

TEXAS A&M **INTERNATIONAL** UNIVERSITY

Actions to be Implemented

As noted above, TAMIU has initiated a culture for research at the undergraduate level. This is demonstrated by: (1) the growing number of students who participate in the all-campus LBV Academic Conference, (2) the inclusion of research in UNIV curriculum, (3) the Honors Program, and (4) external grants providing research opportunities for undergraduate students. To buttress the institution's efforts, TAMIU will expand existing programs and initiate new ones as well as review and modify (if necessary) infrastructure to support undergraduate research. The table below outlines activities, the focus of the plan, and the timeframe for implementation.

Activities

Pre-Year 1	• Faculty development initiatives commence the summer before Year 1 to ensure that an initial cohort of faculty are available to disseminate information to others regarding modification of SLOs, in preparation for CTE courses in subsequent years of the QEP. • Appoint Director of Undergraduate Research.
Year 1	• Collect initial benchmark data to discern critical thinking competencies for random sample of freshmen and seniors. • Establish necessary infrastructure to implement QEP activities as well as faculty and student development seminars/workshops: - Hire necessary support staff • Set-up QEP website • Assess two-year plans in all disciplines and multi-year course schedules to ensure appropriate courses are being offered and that faculty teaching schedules are appropriately structured to allow for research mentorships. • Examine faculty midterm review and annual review guidelines so that undergraduate research is clearly and prominently described in such reviews. • Review/approve curriculum to ensure that applicable courses are offered to support the QEP, especially the Certificate in Research Methodology. • Assess library resources to allow for undergraduate research across multiple disciplines. • Establish TAMIU's open-access online journal for undergraduate research and establish editorial board. • Meet with all colleges, departments, and programs to discuss assessments and review/approve the *ACT on IDEAs/WIN Combined Rubric*. • Initiate Summer Research Program.
Year 2	Focus: "*Investigate*" • *Investigate Research Day* (1-day event held twice an academic year) - Roundtable discussions by faculty representatives from the COAS, COE, CNHS, ARSSB and Student Research Ambassadors • Year-round Presentations on: - Ethics of research - Essentials of research (e.g., developing a hypothesis, research questions, etc.) - Writing an abstract - Developing a literature review - Format and documentation (APA, MLA, Chicago Style, etc.) - Poster presentation skills - Oral presentation skills • Researchers Bureau (e.g., guest speaker series) • Web/Internet Resources posted to dedicated QEP website (e.g., online tutorials, podcast of faculty discussing research, etc.)

Year 3	Focus: "Decide" • Certified cohort of faculty from Year 2 teach CTE courses - CTE courses can be from existing curriculum and are required 3000-level. Courses will: ▪ promote the improvement of critical thinking and real-world problem solving skills ▪ include a writing artifact ▪ have common SLOs • Year-round Presentations on: - Student Development Opportunities (e.g., Responsible Conduct of Research through the Collaborative Institutional Training Initiative, etc.) - LBV Academic Conference - TAMIU Undergraduate Fellowship Program - Certificate in Research Methodology - Volunteer Research Opportunities across campus (e.g., faculty labs, faculty research projects, grants, etc.) - Career Opportunities • Commence Application process Spring semester for the TAMIU Undergraduate Fellowship Program and the Certificate in Research Methodology • Review applicants for Certificate in Research Methodology.
Year 4	Focus: "Express" • Recipients of the TAMIU Undergraduate Fellowship Program begin proposed project/activity • Certificate students complete Research Project.
Year 5	Focus: "Achieve" • Analyze data and methods related to *ACT on IDEAs*. - TAMIU expects that by the mid-term review period in Year 5, the percentage of native students participating in research will increase by 10% from baseline data collected in Year 1. Data will include number of students who participate in: (1) the LBV Academic Conference, (2) faculty-guided research, (3) Honors thesis or other publication including TAMIU's open-access online journal for undergraduate research, (4) art exhibit, dance, or music performance/recital, or (5) other juried presentation/performance at TAMIU or at a research-based academic conference. • While oversight and evaluation of the Plan is a continuous process, this stage allows those involved in the implementation of *ACT on IDEAs* to make any needed adjustments and alterations. It is at this point that TAMIU will reflect on what the Plan has helped students to "Achieve" through the application of critical thinking to undergraduate research. This ensures that the findings from 2020-2025 will be accurate and useful and that the methods and processes operate efficiently and in such a way as to improve the quality of instruction and learning.

Organizational Structure

TEXAS A&M **INTERNATIONAL** UNIVERSITY

Organizational Structure

As previously mentioned, the Director of Undergraduate Research (DUGR) will lead the Plan. Appointed by the Provost, he will serve as key functionary for implementation of *ACT on IDEAs*. The Director of Undergraduate Research will answer directly to the Provost. Dr. Mott will spend 50% of time on QEP duties for the first year. During this period the main QEP activity is establishing benchmarks, which requires less administrative support than subsequent years; thereafter the DUGR will spend 75% time on QEP duties, including: (1) working directly with the QEP Assessment Specialist and unit/program coordinators, as well as other relevant offices, such as the Office of Research and Sponsored Projects, the Writing Center, the Killam Library, the Office of Public Relations, the Office of Information Technology, the Office of Career Services, and others directly involved with the implementation of student-related activities and/or events; (2) serving as Chair of the QEP Coordinating Team.

While the Director of Undergraduate Research is integral to the process, the unit/program coordinators (or directors) are vital. These coordinators, with the assistance of the QEP Assessment Specialist, will submit a report (incorporating scores, analysis, and plan of action) to the department chair. As TAMIU departments are mostly multi-disciplinary, the coordinator takes the collective information and organizes it to identify correlations and trends (important as departmental disciplines are related in nature). The department chair then submits the report to the college dean. The chair also briefs his/her department on findings so that units/programs can see connections and distinctions between disciplines in relation to *ACT on IDEAs*. The units and departments, as the entities nearest the class-room with the most immediate connection to student learning, can best gauge the quality of learning and how to proceed based on the data, feedback, and analysis. This micro-view shows most clearly the impact *ACT on IDEAs* will have on students. Thus, there is a micro-loop closure at this level.

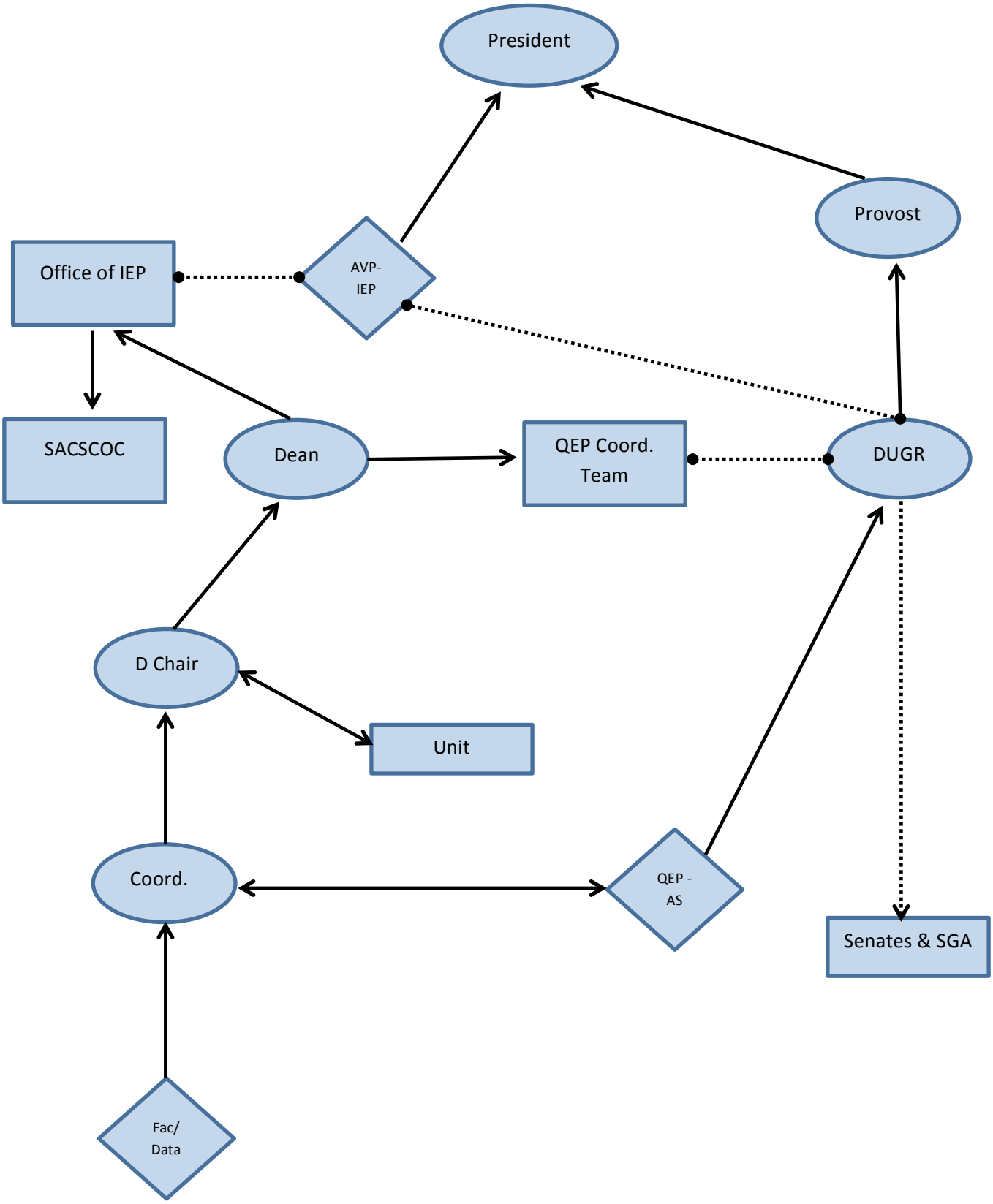
The Plan also “closes the loop” at the macro-/ institutional level. The deans, having received department reports from the chairs, will organize the material into a college report shared both with the QEP Coordination Team (Chaired by the Director of Undergraduate Research) and the Office of Institutional Effectiveness and Planning. This will facilitate reporting of institutional assessment data to Faculty Senate, Staff Senate, the Student Government Association, and SACSCOC.

As indicated, faculty members also play a vital role. Unit faculty will identify classes suited to *ACT on IDEAs* and designate artifacts for assessment. They will also determine the types of assessment artifacts which best serve their discipline and how they align with the *ACT on IDEAs* rubric. A proposed syllabus containing details of aligned assessment artifacts will be sent to the unit/program coordinator for review and if he/she determines proper alignment, he/she will send it to the department chair. The chair will check the syllabus and send it to the dean, who will engage in a similar assessment and present the aligned document to the QEP Coordinating Team. As information regarding program development flows between faculty, coordinators, and

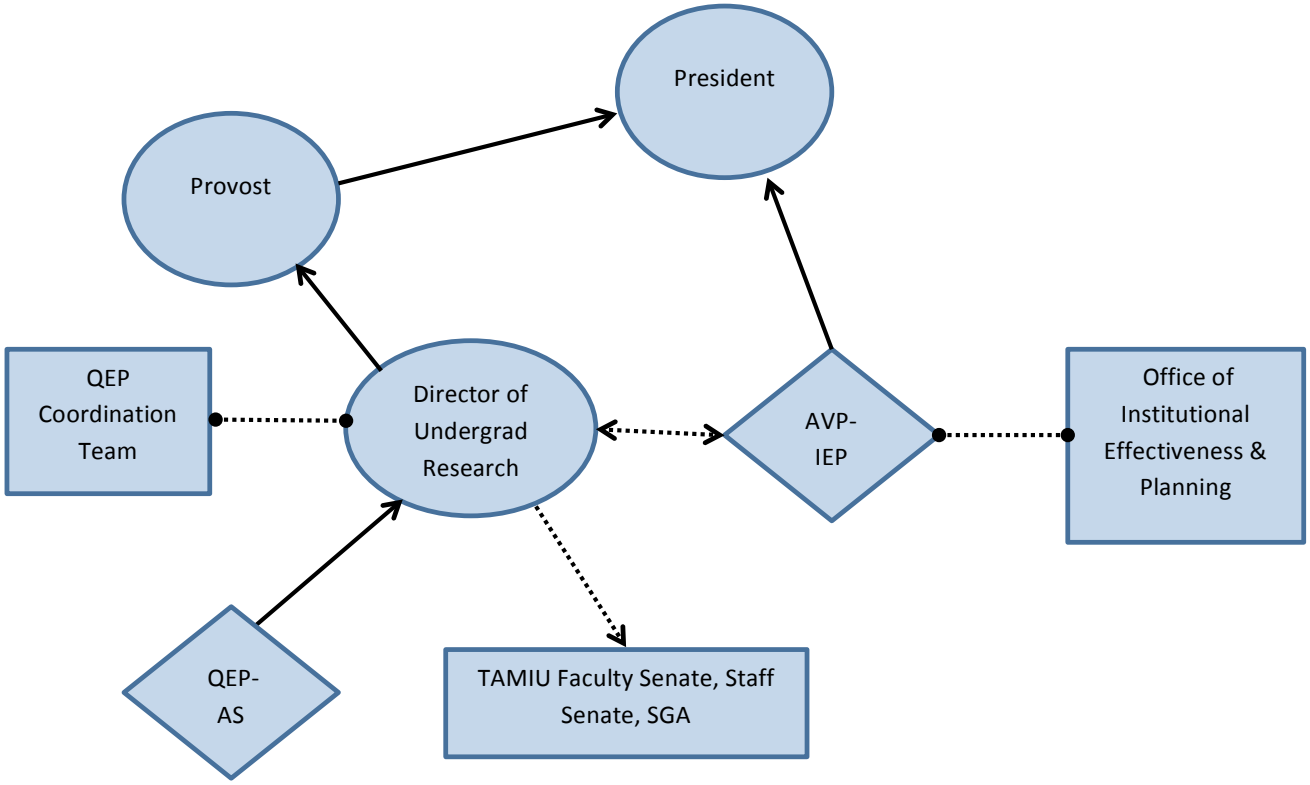
chairs, the deans, the QEP Coordinating Team, and the Office of Institutional Effectiveness will deal with the institutional effects of *ACT on IDEAs* and SACSCOC compliance.

The following diagrams help to delineate the organizational structure:

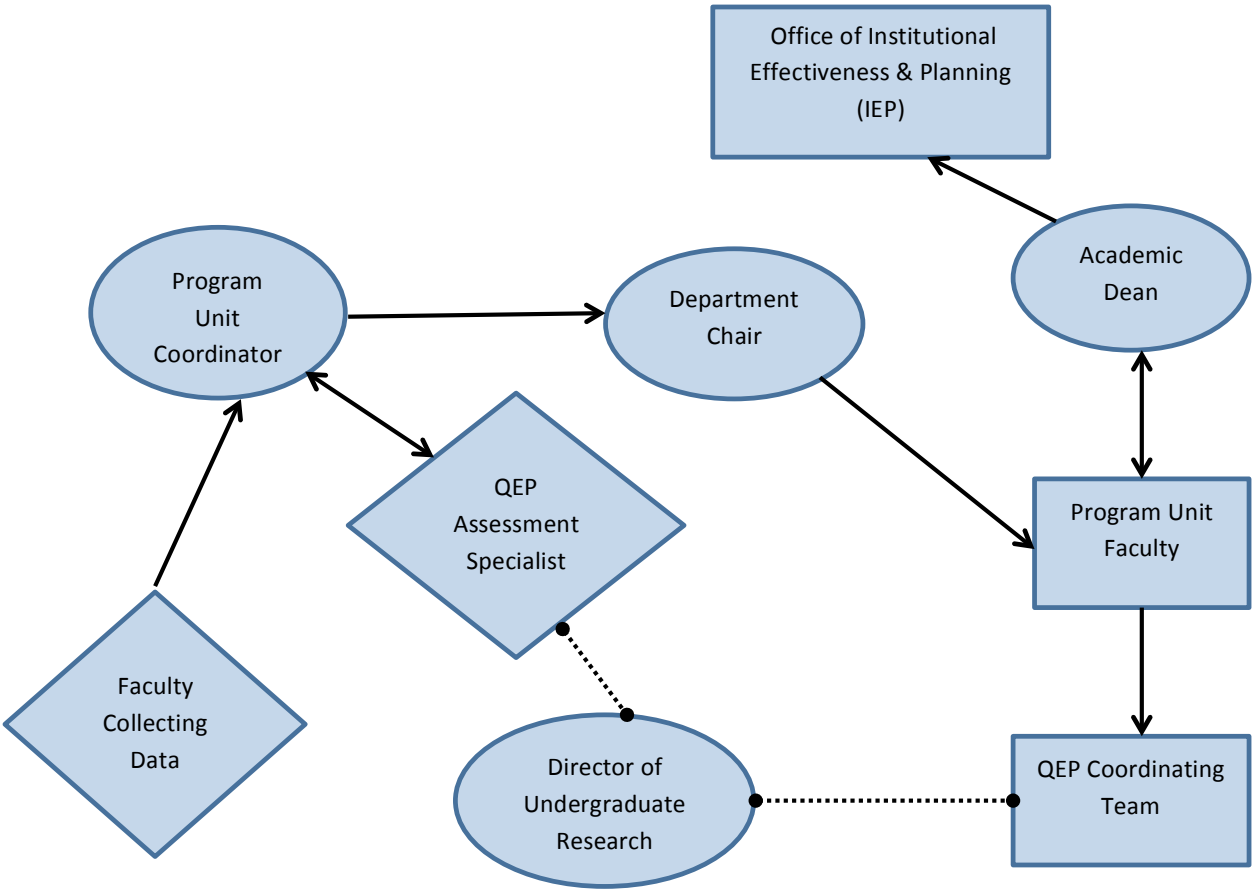
Overall Organizational Flow



QEP Reporting Flow



Assessment Data Flow



Development and Chronology of the QEP: ACT on IDEAs/ QEP Development Timeline

TEXAS A&M **INTERNATIONAL** UNIVERSITY

Development and Chronology of the QEP: ACT on IDEAs/ QEP Development Timeline

November, 2012:

- Provost appoints Drs. Claudia San Miguel and Stephen M. Duffy co-chairs of the QEP initiative
- Drs. San Miguel and Duffy meet to discuss basic issues and approaches.

December, 2012:

- Initial QEP Committee meets to deal with broad approaches to topic selection, how to connect to various constituencies (Faculty Senate, Staff Senate, SGA), and to discuss the general timeframe.

February, 2013:

- Series of discussions regarding nature and parameters of suitable topics and the best ways to solicit suggestions.

March – May, 2013:

- Reviewing successful prospectuses gathered from SACSCOC website.

June – August , 2013

- QEP members meet to discuss best ways to make all constituencies aware of QEP activity and selection and how best to go about categorizing QEP topics. The main emphasis focuses on development of a portal (qep@tamiu.edu) to run from July to October where TAMIU community members can submit suggestions. The collection of suggestions ensues.

September – October, 2013:

- Drs. San Miguel and Duffy meet with the Faculty Senate (September 6, October 4), Staff Senate (September 10), and Student Government Association (September 26). Through the portal, meetings, and individual submissions, Drs. San Miguel and Duffy receive 32 suggested topics (that reach 49 by March 2014) which they divide into 8 main categories
- Executive Council plans to invite Jeff Selingo to speak at the Faculty and Staff Assembly in January (October 7). Discussion entails as to how to maximize this opportunity to consider future directions for TAMIU.

November – December, 2013:

- SGA administers a survey of QEP topics and receives feedback from 133 students
- QEP leaders discuss the Selingo visit with Executive Council members and decide that the related retreat activities will greatly benefit the QEP topic selection process.

January, 2014:

- The Selingo presentation and retreat take place on the January 21. Each breakout session has a QEP-related question for discussion and a QEP response sheet available for faculty members who wish to add suggestions or feedback. Each breakout session has to report minutes back to the Associate Provost for compilation and analysis.

February, 2014:

- The Associate Provost sorts and organizes the information/ feedback generated by the Selingo retreat and reports the findings to the Executive Council.

March, 2014:

- QEP Leadership Team members analyze the Selingo retreat report/ feedback and identify the promotion of Critical Thinking and Undergraduate Research as two themes consistent across the breakout session responses
- Drs. San Miguel and Duffy meet with the faculty of all the COAS, COE, CNHS, and the ARSSB to discuss QEP and the emergence of Critical Thinking and Undergraduate Research as main subjects of interest.

April, 2014:

- COAS college and department retreats have sessions with extensive discussion of Critical Thinking and Undergraduate Research
- QEP Leadership team solicits campus-wide opinions, including web-based responses
- Dr. Duffy updates SGA on campus-wide responses.

May – July, 2014:

- QEP Leadership Team members develop the basic components of *ACT on IDEAs* based on the concept of Critical Thinking expressed through Undergraduate Research
- QEP update meeting with available committee members, Chairs and Deans (July 21) to lay out principles of *ACT on IDEAs*.

August, 2014:

- Drs. San Miguel and Duffy present *ACT on IDEAs* to QEP Committee and to the Executive Council Retreat. Revisions occur after feedback from these meetings.
- Drs. San Miguel and Duffy present the revised version of *ACT on IDEAs* to the Faculty and Staff Assembly as the new QEP.
- The QEP Leadership Team meets with Dr. Marcela Uribe (PROF Center) to discuss faculty development plan.

September-December 2014

- The QEP Leadership Team meets with Dr. Uribe to discuss faculty development commencing summer 2015 (September 3).
- Drs. San Miguel, Duffy, and Lindberg meet with the IRB Chair to discuss the impact of the QEP in terms of IRB submissions by undergraduate students (September 25).
- The QEP Leadership Team meets to discuss the QEP draft and timeline for submission (October 10).
- Drs. San Miguel and Duffy submit a draft of the QEP to the QEP Leadership Team (November 11).
- The QEP Leadership Team revises draft (Nov. 12- December 1).
- The QEP Leadership Team submits a revised draft to the President and Provost (December 2).
- The QEP Co-Chairs meet with the PROF Center to discuss a budget for faculty development (December 4).
- Drs. San Miguel and Duffy revise draft based on new feedback (December 19-31).

January 2015

- The QEP Leadership Team sends updated draft of the QEP to the President and Provost (January 9).
- Dr. San Miguel briefs Executive Council on the QEP (January 13).
- Dr. San Miguel meets with the President to discuss the QEP (January 14).
- Dr. San Miguel briefs Executive Council on recent revisions to the QEP (January 22).
- Dr. San Miguel revises draft and briefs QEP Committee and Executive Council of QEP revisions (January 23).
- Dr. San Miguel revises draft and briefs QEP Committee and Executive Council of latest revisions (January 26). Based on feedback, the draft is revised.
- Dr. San Miguel submits final draft to the Office of Public Relations for print (January 27).

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Conclusion

A review of research-based evidence as well as best practices confirms that engaging students in undergraduate research is an effective pedagogical tool that leads to improved academic success and personal development for students. Scholarly discourse also notes the harmonizing and entwined relationship between critical thinking skills and research, the former producing additional and complimentary benefits to student success and personal growth. TAMIU has chosen to focus the QEP on building, integrating, and sustaining undergraduate research practices and programs, with an emphasis on applied critical thinking, to facilitate students' transformational journey.

The Plan, called *ACT on IDEAs,* is an extension of the University's fundamental mission to provide high-quality education and to prepare the next generation of leaders. The Plan will: (1) Promote undergraduate research through direct connections with faculty and peers; (2) Empower undergraduate students by enhancing critical thinking and research skills; (3) Provide undergraduate students with the skills and opportunities to express their knowledge and apply it to substantive local and global issues. Enhancement of applied critical thinking skills through undergraduate research will both ready students for entry into advanced study programs (graduate and professional degrees) and raise their value as employees in their chosen professions. They will be able to think logically, use data efficiently, and discern how to achieve goals. TAMIU is committed to ascertaining that all graduates are able to compete on the highest levels by maintaining rigorous standards that promote development of applied critical thinking skills. These skills are widely applicable, portable when workers make career changes, and essential to the application of specialized knowledge in all areas of life.

Consistent with best practices across the country, TAMIU will embed a culture for undergraduate research early in students' academic career. The institution will also incorporate critical thinking-based courses into curricula and SLOs will appropriately correspond to students' classification. Students will receive a multitude of research opportunities, including a fellowship program and a Certificate in Research Methodology. Robust and multiple assessments will determine the effectiveness of the Plan.

TAMIU realizes that development of critical thinking and research skills is a gradual process. Consequently, the Plan is structured in phases that build upon one another to ultimately improve students' skills in these areas. Embedded within the phases is a careful implementation and assessment plan that underscores key elements of critical thinking and research. The elements will be assessed in selected courses and/or activities during certain years. Assessment, nonetheless, will be continuous throughout the phases, and the fifth year (2019-2020), the Achievement phase, will serve as a mid-point review period that will examine progress toward goals.

The QEP is also attentive to faculty and their pivotal role in this process. Thus, a faculty development plan will focus on retooling notions of applied critical thinking as expressed through an undergraduate research project

and/or activity and include opportunities to hone research skills. Student development is also critical as they too will need to undergo socialization to help them appreciate the role of research at TAMIU, their role as members of the research community, and opportunities to engage in research as they matriculate through their academic programs. This socialization process, as noted by experts in undergraduate research, is important to transform students from passive to active learners as well as to introduce students to research norms, expectations, and their role as scholars/researchers.

Institutional support for and commitment to undergraduate research is essential to the QEP's implementation and success. TAMIU has transitioned from a primarily teaching university to one that promotes research for both faculty and students. To ensure that the institution maintains a campus culture that values and rewards undergraduate research, a review of faculty midterm review and annual review guidelines will occur in the QEP's initial year to confirm that undergraduate research is clearly and prominently described.

In summary, the QEP aspires to transform student learning across the curriculum and disciplines. It seeks to extend the frontiers of research knowledge to all students. The foundation of this effort will be a broad-based plan that systematically scales up interest, engagement, and knowledge in research. TAMIU realizes that building, integrating, and sustaining undergraduate research practices and programs, with an emphasis on applied critical thinking will require time, as will development of students' knowledge and skills. The University also knows that infrastructures are necessary to achieve successful outcomes. TAMIU has several elements in place, such as the Office of Research and Sponsored Projects, and will hire new personnel and establish new initiatives to sustain the QEP. A Director of Undergraduate Research has been appointed who will oversee the QEP's development, implementation, communication, and assessment. New initiatives (such as the *Investigate Research Day*, *Lunch and Learn about Research* events, presentations as part of the *Researchers Bureau*, *Research Circles*, a Summer Research Program composed of intensive workshops, CTE courses, a Certificate in Research Methodology, and the TAMIU Undergraduate Fellowship Program) will enhance undergraduate student learning and achievement and reinforce TAMIU's mission.


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Appendix

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Core Curriculum Critical Thinking Rubric

TAMIU students should demonstrate the ability to achieve competency in the core curriculum classes. Your class has been selected to be included in the assessment of the Critical Thinking Competency.

There are 4 parts to the critical thinking assessment: Inquiry, Analysis, Synthesis and Product.

Students will demonstrate on a scale of 0-4 a level of competency for each of these parts.
4= Exemplary. 3= Accomplished. 2= Competent. 1=Beginning. 0=Deficient.

INQUIRY - what is the mastery level of the student for selecting, examining and interpreting materials or problems?

EXEMPLARY: An exceptional examination of a matter through interpretation of evidence, instructions, problems and tasks. Identifies a creative, focused and manageable topic that addresses an idea or problem with numerous supporting details and examples which are organized logically and coherently. Methodology or theoretical framework are skillfully developed, and may be synthesized across disciplines or from relevant sub-disciplines.

ACCOMPLISHED: Thoroughly examines a matter through interpretation of evidence, instructions, problems, tasks. Identifies a focused and manageable/doable topic that appropriately addresses the main idea or problem with some supporting details and examples in an organized manner. Critical elements of methodology or theoretical framework are appropriately developed with more subtle elements explored.

COMPETENT: Thoroughly examines a matter through interpretation of evidence, instructions, problems, tasks. Identifies a focused and manageable/doable topic that appropriately addresses relevant aspects of the topic. Critical elements of methodology or theoretical framework are appropriately developed; however, more subtle elements are ignored or unaccounted for.

BEGINNING: Accurately examines a matter through interpretation of evidence, , problems, tasks. Identifies a topic that while manageable/doable, is too narrowly focused and leaves out relevant aspects of the topic. Critical elements of methodology or theoretical framework are missing, incorrectly developed, or unfocused.

DEFICIENT: An incomplete examination of a matter through interpretation of evidence, instructions, problems, tasks. etc. Identifies a topic that is far too general and wide-ranging to be manageable or doable. Inquiry design demonstrates a misunderstanding of methodology or theoretical framework.

ANALYSIS: What is the level of mastery of the student in identifying, explaining or presenting an analysis or in problem solving?

EXEMPLARY: Identifies and presents exceptional explanations of complex explanations of complex analyses or identifies and promotes novel or alternative problem solving. Takes information from sources with enough interpretation/ evaluation to develop comprehensive analysis or synthesis. Expert viewpoints are questioned thorough. Fulfills assignment by choosing format, language, and/or visual representation that enhances meaning, making clear the interdependence of language and meaning, thought, and expression. States a conclusion that is a logical extrapolation from the inquiry findings.

ACCOMPLISHED: Identifies and presents detailed explanations of complex analyses or identifies novel or alternative problem solving. Takes information from sources with enough interpretation or evaluation to develop coherent analysis or synthesis. Viewpoints of experts are subject to careful questioning. Fulfills assignment by choosing format, language, and/or visual representation to thoroughly connect content and form, demonstrating awareness of purpose and audience. States a conclusion that uses logical reasoning to respond to the inquiry findings.

COMPETENT: Identifies and presents thorough explanations of complex analyses or identifies novel or alternative problem solving. Takes information from sources with enough interpretation or evaluation to develop coherent analysis or synthesis. Viewpoints of experts are subject to questioning. Fulfills assignment by choosing format, language, and/or visual representations that more incisively connect content and form, demonstrating awareness of purpose and audience. States a conclusion focused solely on the inquiry findings. The conclusion arises specifically from and responds specifically to the inquiry findings.

BEGINNING: Identifies and presents accurate explanations of complex analyses or identifies novel or alternative problem solving. Takes information from sources with some interpretation or evaluation, but not enough to develop a coherent analysis or synthesis. Viewpoints of experts are taken mostly as fact with little questioning. Fulfills assignment by choosing format, language, and/or visual representation that connects in a basic way what is being communicated (content) with how it is said (form). States a general conclusion that, because it is so general, also applies beyond the scope of the inquiry findings.

DEFICIENT: Identifies and presents incomplete explanations of complex analyses or identifies novel or alternative problem solving. Information is taken from sources without any interpretation or evaluation. Viewpoints of experts are taken as fact, without question. Fulfills assignment through an appropriate form of communication. States an ambiguous, illogical or unsupportable conclusion from inquiry findings.

SYNTHESIS: What is the level of competency for identifying, organizing and synthesizing ideas and solutions?

EXEMPLARY: Identifies, organizes, and evaluates exceptional arguments or presents well connected and holistically transformed ideas into original concepts. Synthesizes in-depth information from relevant sources representing various points of view/approaches. Independently creates wholes out of multiple parts or draws conclusions by combining examples, facts, or theories from more than one field of study or perspective. Integrates alternative, divergent, or contradictory perspectives or ideas fully. Transforms ideas or solutions into entirely new forms.

ACCOMPLISHED: Identifies, organizes, and accurately evaluates thorough arguments or presents obviously connected ideas and recognizes missing information. Presents in-depth information from relevant sources representing various points of view/ approaches. Independently connects examples, facts or theories from more than one field of study or perspective. Incorporates alternative, divergent, or contradictory perspectives or ideas in a nuanced manner. Synthesizes ideas or solutions in a novel manner.

COMPETENT: Identifies, organizes, and evaluates thorough arguments or presents obviously connected ideas. Presents detailed information from relevant sources representing several points of view/ approaches. Independently recognizes examples, facts or theories from more than one field of study or perspective.

BEGINNING: Identifies, organizes, and evaluates accurate arguments or presents connected ideas. Presents information from relevant source representing limited points of view/ approaches. When prompted, connects examples, facts, or theories from more than one field of study or perspective. Includes (recognizes the value of) alternate, divergent, or contradictory perspectives in a small way.

DEFICIENT: Identifies, organizes and evaluates incomplete arguments or presents weakly connected ideas. Presents information from irrelevant sources representing limited points of view/ approaches. Shows awareness that more than one avenue of inquiry could be used in understanding the problem. Acknowledges (mentions in passing) alternate, divergent, or contradictory perspectives or ideas. Recognizes existing connections among ideas or solutions.

PRODUCT: What is the level of competency of the student in presenting conclusions and outcomes?

EXEMPLARY: Follows evidence to present exceptional conclusions, solutions, and/or products or takes an innovative approach to a task to present innovative and novel conclusions, solutions, and/or products. Conclusions and related outcomes (consequences and implications) are logical and reflect student's informed evaluation and ability to place evidence and perspectives discussed in priority order. Extends a novel or unique idea, question, format, or product to create new knowledge or knowledge that crosses boundaries.

ACCOMPLISHED: Follows evidence to present insightful conclusions, solutions, and/or products or takes an innovative approach to a task to present innovative and novel conclusions, solutions and/or products. Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly. Creates a novel or original idea, question, format or product.

COMPETENT: Follows evidence to present unambiguous conclusions, solutions, and/or products or takes an innovative approach to a task to present innovative and novel conclusions, solutions, and/or products. Conclusion is logically tied to a range of information, including opposing viewpoints; related outcomes (consequences and implications) are identified clearly. Creates a novel or unique idea, question, format or product.

BEGINNING: Follows evidence to present mostly unambiguous conclusions, solutions, and/or products or effectively approaches a task to present conclusions, solutions, and/or products. Conclusion is consistently tied to information (because information is chosen to fit the desired conclusion); some related outcomes (consequences and implications) are identified clearly. Experiments with crating a novel or unique idea, question, format or product.

DEFICIENT: Somewhat follows evidence to present conclusions, solutions, and/or products or takes a somewhat effective approach to present conclusions, solutions, and/or products. Conclusion is inconsistently tied to some of the information discussed; related outcomes (consequences and implications) are overly simplified. Reformulates a collection of available ideas.

ACT on IDEAs/ WIN Combined Rubric

	Exemplary: 4	Accomplished: 3	Competent: 2	Beginning: 1	Deficient: 0
1a. Investigation:	Exceptional examination of a focused, manageable topic. Methodology and theoretical framework is skillfully developed and uses extensive evidence to support logical, coherent conclusions.	Thorough examination of a focused, manageable topic. Critical elements of the methodology and theoretical framework are appropriately developed and use evidence to support logical, coherent conclusions.	Accurate examination of a topic that is manageable and appropriate. Critical elements of methodology and theoretical framework are appropriate but evidence has little elaboration and produces limited conclusions.	Complete examination of a topic that, while manageable, is too narrowly focused. Critical elements of methodology or theoretical framework are missing. Evidence is insufficiently developed producing rudimentary conclusions.	Incomplete examination of a topic that is too general, recycled, or inappropriate. Methodology and theoretical framework is misunderstood and evidence is missing. Conclusions are inaccurate, illogical, or non-existent.
1b. WIN: Research	• Consistently uses reliable, relevant, appropriate sources • Consistently & correctly cites sources in-text & parenthetically • Unfailingly uses appropriate documentation • Complete absence of plagiarism • Thoughtful, insightful, effective synthesis of writer's ideas with info from sources	• Frequently uses reliable, relevant, appropriate sources • Infrequent errors citing sources in-text & parenthetically • Few lapses in use of appropriate documentation • Complete absence of plagiarism • Frequent insightful synthesis of writer's ideas with info from sources	• Uses sources, most of which are reliable and relevant • Occasional errors citing sources in-text or parenthetically • Occasional lapses in use of appropriate documentation • Complete absence of plagiarism • Some effective synthesis of writer's ideas with info from sources	• Frequently uses unreliable or irrelevant sources • Frequent errors citing sources in-text or parenthetically • Frequent lapses in use of appropriate documentation • Complete absence of plagiarism • Unsuccessfully attempts to synthesize writer's ideas with info from sources	• Lacks sources or uses unreliable, irrelevant, inappropriate sources • Missing citations and has widespread errors citing sources in-text or parenthetically • Little or no use of appropriate documentation • Evidence of plagiarism • No synthesis of writer's ideas with info from sources
2a. Decision-Making:	Exceptional analysis and evaluation of a problem. Takes into account multiple perspectives and then chooses a novel approach that enhances the examination of the problem. Conclusion is a logical, coherent extrapolation of the evidence.	Thorough analysis and evaluation of a problem. Takes into account multiple perspectives and chooses an approach that fully connects the examination to the problem. Conclusion is a logical, coherent response to the evidence.	Accurate analysis and evaluation of a problem. Takes into account an adequate number of perspectives and chooses an approach that connects the examination to the problem. Conclusion is logical and coherent, but focused on a limited part of the evidence.	Complete examination of a problem. Uses limited number of perspectives accepting these viewpoints as fact. Chooses an approach that connects the examination to the problem in only a basic way. Conclusions relate to generalities regardless of evidence	Incomplete examination of a problem. Uses limited number of perspectives accepting these viewpoints as fact. Chooses an inappropriate approach or one that connects the examination to the problem in only a basic way. Conclusions are ambiguous, illogical, or unsupported by evidence.
2b. WIN: Focus	• Prompt is completely & clearly addressed • Well-developed, interesting opening leads to central idea(s) • Clear, interesting central idea(s) stated/implied & gradually revealed • Specific audience, occasion, or situation addressed with appropriate language	• Prompt is clearly addressed • Effective, though less detailed opening leads to central idea(s) • Clear central idea(s), stated explicitly • Awareness of audience, situation, & occasion	• Prompt is addressed • Adequate opening leads to a central idea • Central idea may not be immediately clear but is evident by the end of the piece • Occasional awareness of audience, situation, & occasion	• Prompt is partially or unclearly addressed • Rudimentary opening to writing sample • Ambiguous or unclear central idea • Little or no awareness of audience, situation, or occasion	• Prompt is not addressed • No opening or intro • No central idea • No awareness of audience, situation, or occasion
3a. Expression:	Exceptional presentation of conclusions or product. Presentation demonstrates mastery of the evidence, approach, and conclusions.	Thorough presentation of conclusions or product. Presentation demonstrates advanced command of the evidence, approach, and conclusions.	Accurate presentation of conclusions or product. Presentation demonstrates command of the evidence, approach, and conclusions.	Complete presentation of conclusions or product. Presentation demonstrates an understanding of the evidence, approach, and conclusions.	Incomplete presentation of conclusions or product. Presentation demonstrates an oversimplified or inadequate understanding of the evidence, approach, and conclusions.
3b. Organization & Development	• Consistently logical & effective writing & structure • Smooth, sophisticated transitions between & within ¶s • Body ¶s provide convincing & detailed evidence/examples • Effective, thorough discussion & explanation of topic • Interesting, effective, insightful conclusion	• Usually logical & effective ¶ing & structure • Mostly smooth transitions between & within ¶s • Detailed evidence/examples in body ¶s with only occasional lapses • Mostly convincing, competent discussion of topic • Concludes paper effectively	• Occasionally inconsistent logic or unclear ¶ing & structure • Occasional transitions between & within ¶s • Body ¶s contain adequate but inconsistent levels of detailed evidence • General, occasionally convincing discussion of topic • Concludes adequately	• Rarely logical, mostly ineffective ¶ing • Awkward or missing transitions between & within ¶s • Inadequate evidence/ examples in body ¶s or confusing explanations • Rarely convincing discussion of topic • Weak/mechanical/incomplete conclusion	• No logic and no ¶ing • No transitions • Body ¶s provide random or no evidence, discussion, or explanation • Ineffective, unconvincing discussion of topic • Missing, ineffective, dull, incoherent, or irrelevant ending
WIN: Style & Sentence Structure	• Sophisticated, effective, appropriate diction • Sophisticated, varied sentence length & structure • Consistent tone and appropriate voice • Consistently smooth, clear, readable syntax • Free of sentence faults and errors • No wordiness	• Usually sophisticated, mostly accurate diction • Frequently varied sentence length & structure • Usually consistent tone and voice • Frequently smooth, clear, readable syntax • Infrequent errors • Little wordiness	• Unsophisticated but generally accurate diction • Some variety in sentence length & structure • Occasionally inconsistent tone and voice • Clear, occasionally tangled syntax • Occasional errors • Some wordiness	• Often limited, frequently imprecise diction • Mostly simple, rarely varied sentence length & structure • Frequently inconsistent tone inappropriate voice • Distracting, unidiomatic expressions & syntax • Frequent errors • Wordy	• Limited, imprecise diction prevents communication of complex ideas • Unsophisticated or no variation in sentence length & structure •Inconsistent, inappropriate tone and voice • Unreadable • Widespread errors • Excessive wordiness
WIN: Grammar & Mechanics	• Free of grammatical errors • Free of usage and mechanical errors • Appropriate/correct format	• Few grammatical errors • Infrequent usage and mechanical errors • Appropriate/correct format	• Some grammatical errors • Some usage or mechanical errors • Appropriate/correct format	• Distracting number of grammatical errors • Distracting number of usage or mechanical errors • Incorrect format	• Excessive errors in grammar or mechanical conventions • Distorted, obscured, or incomprehensible meaning • Inappropriate/incorrect format
Achievement	Exceptional use of appropriate skills to reach conclusions and solutions. Approach is innovative and lends high confidence to the value of current work and future progress.	Thorough use of appropriate skills to reach conclusions and solutions. Approach shows ability to innovate and lends confidence to the value of current work and future progress.	Accurate use of appropriate skills to reach conclusions and solutions. Approach shows understanding of available options, the capacity to the produce adequate work, and the ability to progress.	Complete use of appropriate skills to reach conclusions and solutions. Approach shows limited understanding of available options, the capacity to often produce adequate work, and the ability to progress with further development.	Incomplete use of appropriate skills to reach conclusions and solutions. Approach shows severely limited understanding of available options, little capacity to produce adequate work, and will need remediation to progress.

Undergraduate Learning Principles

Respective & Expressive Communication Skills

- Use appropriate reading strategies to acquire, demonstrate an understanding of different texts' meanings.
- Orally express ideas clearly, coherently, and in an organized manner through various means to inform, persuade, describe or entertain.
- Communicate ideas in writing through clear, coherent and organized prose for intended audience, occasion and purpose.
- Identify a research topic; utilize appropriate resources; synthesize and organize; gather, analyze, and interpret data and effectively disseminate information.

Critical Thinking

- Interpret, analyze and evaluate various forms of communication from multiple perspectives; synthesize and arrive at conclusions and decisions supported by evidence.
- Critically examine one's arguments and conclusions and those of others.
- Construct well-reasoned arguments explaining phenomena, validating conjectures, supporting positions. Gather evidence supporting arguments, findings, or lines of reasoning.
- Support or refine claims based on the results of an inquiry.
- Use quantitative, qualitative skills to solve problems and address issues creatively and constructively.

Integration & Application of Knowledge

- Utilize an understanding of more than one academic discipline to identify/explain a social, legal, economic, political, or technological issue; utilize appropriate resources to clearly communicate how issues could be addressed.
- Establish knowledge and skills to enable students to extend topic scope beyond individual discipline.

Understanding Society & Culture

- Examine the similarities and differences among individuals in human history, societies, and ways of living.
- Recognize and understand contributions of individuals from diverse ethnic and cultural backgrounds.
- Explore and communicate an understanding of interdependence of global, national, state, and local issues.
- Effectively interact with others in a changing global context.

Appreciating Values & Ethics

- Appreciate and respect value systems of diverse cultures.
- Utilize ethical reasoning to guide personal/professional decision-making; be accountable for one's actions.