Texas Collaborative for Excellence in Teacher Preparation

TxCETP

Texas A&M International University

CAMPUS REPORT May 2005

I. INTRODUCTION

This document presents a progress report of the Texas A&M International University (TAMIU), with a focus on the cumulative impact of TxCETP and plans for sustaining accomplishments. The report is organized by TxCETP goals, which cover these areas:

1. Course reform
2. Recruitment of students to STEM teaching
3. Preservice teacher and novice teacher support
4. Systemic reform connections

Because of the inherent overlap between Goal 2: Recruitment, and Goal 3: Preservice teacher and novice teacher support, the reader may find individual campus differences in which goal accomplishments and plans are placed under.

The following data sources have been used to show evidence of the extent to which these goals have been achieved:

- NSF reporting system
- State Board of Educator Certifications
- Student and faculty course surveys
- Campus Team Leader reports/interviews
- Campus Strategic Plan
  NSF Scholar application narratives

To provide a context for interpreting the TxCETP progress data, the next section includes some background information on TAMIU - a brief campus description, faculty and K-12 teacher involvement in TxCETP, and student participation in the teacher education program.

II. BACKGROUND INFORMATION

1. CAMPUS DESCRIPTION

As the name implies, TAMIU is an international university. It is located in Laredo at the gateway to Mexico and serves as the intellectual center of a vibrant bilingual and bicultural community. Laredo is an enviable crossroads of international business and life. The University began as a "center" under Texas A&I University in August of 1970, offering junior and senior level course work to meet the demand in teacher education and business disciplines for south Texas. Over the years, the University grew and began to offer other bachelor degrees as well as graduate programs. In l977, the name was changed to Laredo State University, and the scope of its course and degree offerings expanded to international programs. In 1989, the University became a member of the Texas A&M University System, and in 1993 the name of the institution was changed to Texas A&M International University.

In l995, TAMIU became a four-year institution and was authorized to develop joint degree programs with Mexican and Canadian institutions of higher education.

TAMIU is committed to the preparation of students for leadership roles in their chosen profession. Programs focus on developing strong undergraduate and graduate offerings and a progressive agenda for global study and understanding across all disciplines. The ultimate goal is to improve the quality of life for citizens of the border region, Texas and the national and international communities.

Based on the most recent IPEDS data from school year 2003-04, the overall enrollment in fall of 2003 was 4,078. Over three-fourths of the students were undergraduates, and approximately 93% of them were Hispanic. The University awarded 583 Baccalaureate degrees between July 1, 2003 and June 30, 2004, 179 of these in Business Management, marketing and Related Sciences, 95 in Education, 53 in Security and Protective Services, 45 in Health Professions and Related Clinical Sciences, and 42 in Psychology. .

2. PARTICIPATION IN TXCETP BY CALENDAR YEAR

The following tables show the number of faculty and K-12 educators involved in TxCETP implementation and benefiting from these reform efforts by TAMIU since the year 2000:

Table 1a: Campus Participation by Calendar Year

	Implementation					Beneficiaries				
	2000	**2001**	**2002**	**2003**	**2004**	**2000**	**2001**	**2002**	**2003**	**2004**
College of Education	2	3	6	6	6	4	5	3	3	3
Science	2	6	4	4	5	1	3	6	6	6
Mathematics	2	5	5	5	6	1	2	0	2	0
Other	0	0	0	0	0	0	0	13	11	13
Total	**6**	**14**	**15**	**15**	**17**	**6**	**10**	**22**	**22**	**22**

Source: NSF Data Reports

Table 1b: Community College Participation

	Implementation					Beneficiaries				
	2000	**2001**	**2002**	**2003**	**2004**	**2000**	**2001**	**2002**	**2003**	**2004**
College of Education	0	0	0	0	0	0	0	0	0	0
Science	0	1	2	1	1	0	16	18	12	12
Mathematics	0	1	2	1	1	0	10	13	17	17
Other	0	0	0	0	0	0	0	0	0	0
Total	**0**	**2**	**4**	**2**	**2**	**0**	**26**	**31**	**29**	**29**

Source: Campus Activities Reports

Table 2: K-12 Participation by Calendar Year										
	Implementation					Beneficiaries				
	2000	2001	2002	2003	2004	2000	2001	2002	2003	2004
Elementary Teachers	0	0	0	0	0	0	0	0	0	0
Mathematics Teachers	0	12	15	15	15	1	7	8	8	8
Science Teachers	0	3	1	1	1	2	7	14	14	14
Mathematics/ Science Teachers	0	0	0	0	0	0	0	0	0	0
Administrators	3	6	9	9	9	3	35	11	11	11
Other/Unknown	0	1	2	2	2	0	0	7	7	7
Total	**3**	**22**	**27**	**27**	**27**	**6**	**49**	**40**	**40**	**40**

Source: NSF Data Reports

3. Student Participation in Teacher Preparation Program – Enrollment, Graduation, and Certification

The next four tables provide the following information:

- Juniors and seniors enrolled in teacher preparation program by major and ethnicity
- Bachelor degrees from the teacher preparation program by major
- Post-Baccalaureate certification students from the teacher preparation program by major
- Initial ExCET/TExES Test Takers by Area and Academic Year

The key for the column headers is as follows: E = Elementary Education, M=Mathematics, S=Science.

Table 3: Juniors & Seniors Preparing to be Teachers by Ethnicity and Major																				
Ethnicity	Fall 2000				Fall 2001				Fall 2002				Fall 2003				Fall 2004			
	E	M	S	Total	E	M	S	Total	E	M	S	Total	E	M	S	Total	E	M	S	Total
African American/Black	2	1	0	1%	1	0	0	---	1	0	0	---	1	0	0	---	3	0	0	1%
Anglo/White	6	0	0	2%	6	0	0	2%	6	0	0	2%	6	0	0	2%	5	0	1	1%
Hispanic	348	15	2	97%	346	14	3	98%	372	8	2	98%	371	36	12	98%	411	40	16	98%
Native American	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	0%
Asian	1	0	0	---	1	0	0	---	0	0	0	---	0	0	0	---	0	0	0	0%
Other/Not Reported	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	0%
Total	**357**	**16**	**2**	**375**	**354**	**14**	**3**	**371**	**379**	**8**	**2**	**389**	**378**	**36**	**12**	**426**	**419**	**40**	**17**	**476**

Source: NSF Data Reports

Table 4: Baccalaureate Degrees Awarded to Students Preparing to be Teachers by Major and Calendar Year																				
Ethnicity	**2000**				**2001**				**2002**				**2003**				**2004**			
	E	**M**	**S**	**Total**	**E**	**M**	**S**	**Total**	**E**	**M**	**S**	**Total**	**E**	**M**	**S**	**Total**	**E**	**M**	**S**	**Total**
African American/Black	1	0	0	1%	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	0%
Native American	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	0%
Asian	0	0	0	---	0	0	0	---	1	0	0	1%	0	0	0	---	2	0	0	1%
Anglo/White	2	0	0	2%	1	0	0	1%	2	0	0	2%	0	0	0	---	0	0	0	0%
Hispanics	90	1	0	96%	95	0	0	99%	82	1	1	97%	90	6	1	100%	121	6	6	97%
Other/Not Reported	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	---	2	0	0	1%
Total	**93**	**1**	**0**	**94**	**96**	**0**	**0**	**96**	**85**	**1**	**1**	**87**	**90**	**6**	**1**	**97**	**125**	**6**	**6**	**137**

Source: NSF Data Reports

Table 5: Post-Baccalaureate Students Certified by Major and Calendar Year					
Major	**2000**	**2001**	**2002**	**2003**	**2004**
Elementary Education	0	0	0	0	0
Mathematics	0	0	0	0	0
Science	0	0	0	0	0
Mathematics/Science	0	0	0	0	0
Total	**0**	**0**	**0**	**0**	**0**

Source: Campus Activities Reports

Table 6: Number of Initial ExCET/TExES Test Takers by Area and Academic Year					
Area	**(9/99-8/00)**	**(9/00-8/01)**	**(9/01-8/02)**	**(9/02-8/03)**	**(9/03-8/04)**
Early Childhood Education	34	39	61	21	-
Elementary Comprehensive	92	111	74	36	-
Professional Development (Elementary)	167	131	193	34	-
Generalist EC-4	-	-	-	40	181
Generalist 4-8	-	-	-	-	30
Pedagogy and Professional Responsibilities EC-4	-	-	-	160	153
Pedagogy and Professional Responsibilities 4-8	-	-	-	67	59
Pedagogy and Professional Responsibilities 8-12	-	-	-	61	72
Pedagogy and Professional Responsibilities EC-12	-	-	-	37	65
Mathematics (Secondary)	11	30	24	22	-
Mathematics 4-8	-	-	-	15	18
Mathematics 8-12	-	-	-	4	16
Mathematics/Science 4-8	-	-	-	-	2
Science 4-8	-	-	-	4	3
Science 8-12	-	-	-	5	3
Biology (Secondary)	9	14	8	3	-
Chemistry (Secondary)	-	-	-	-	-
Composite Science (Secondary)	-	1	2	4	-
Life/Earth Science (Secondary)	-	-	-	-	-
Life Science 8-12	-	-	-	1	4
Physical Science (Secondary)	-	-	-	-	-
Physics (Secondary)	-	-	-	-	-
Sociology (Secondary)	2	1	-	-	-

Source: SBEC Reports

III. CUMULATIVE IMPACT OF TXCETP ON THIS CAMPUS

GOAL 1: COURSE REFORM

This section of the report describes the cumulative impact made to date in the area of Course Reform to systemically improve STEM teacher preparation. Specifically how TxCETP has impacted this campus in the TxCETP wide objectives:

- Expand course reform from Biology to Chemistry, Physics, Earth Sciences, and courses taken by elementary, math/science preservice teachers and potentially to all students enrolled in these courses.
- Integrate Texas Essential Knowledge and Skills (TEKS) and the state standards for teacher certification into mathematics and science courses.
- Introduce course reform to faculty through the use of various TxCETP-sponsored projects (e.g., Multi-Initiative Dissemination Chemistry Workshops, Inquiry for Professors, TxCETP Forum)

In addition, other impacts on this campus as a result of involvement in the TxCETP initiative are reported.

CUMULATIVE IMPACT OF TxCETP ON COURSE REFORM

- During the spring of 2002, summer of 2003 and 2004–2005 academic year, TAMIU TxCETP Campus Action Team Leaders (T^2CATLs) invited undergraduate/graduate students with a strong background in mathematics or science from TAMIU and Laredo Community College (LCC) to apply to serve as tutors and teaching assistants at both college/university and public school levels. All the applicants came from TAMIU. Prior to assuming their tutoring / teaching assistant duties, the individuals selected studied tutor-training materials prepared during the previous Level II funding cycle. Furthermore, the tutors / teaching assistants were prepared by T^2CATLs to assume their responsibilities through a series of seminars focused on helping them understand and apply learner-centered pedagogies in mathematics and science instructional environments. These seminars and those that followed once the students began working helped them enhance their content knowledge and pedagogical content knowledge and skills.

  The participants provided tutoring assistance both out of class and in class as an assistant to the course professor / classroom teacher. To fulfill their teaching assistant roles, individuals collaboratively planned and delivered lessons with their mathematics / science professor / mentor. Anecdotal evidence collected suggests that these experiences proved to be very beneficial to the tutees, the tutors/teaching assistants, and mathematics and science teachers/professors with whom they were working. . This activity was intended to encourage mathematics and science faculty to actively participate in TxCETP related activities, as well as encourage talented mathematics and science undergraduate students to consider teaching as a career option.

- Mathematics and science faculty from TAMIU and LCC have participated in professional staff development aimed at helping public school mathematics and science teachers incorporate standards-based mathematics and science curriculum and instructional materials into their courses.

- The TAMIU TxCETP Campus Action Team (T^2CAT) continue to participate in TxCETP activity aimed at developing and disseminating a problems and solutions database for review materials for preservice teachers preparing to take the Mathematics Texas Examinations of Educator Standards (TExES).

- Mathematics and science faculty generated course materials (e.g., syllabi, examinations, individual lessons, etc.) will be made available through various means, including technology, to TxCETP stakeholders and other interested parties.

- Mathematics, science, education, and community college mathematics and science faculty continue to be involved in the development and implementation of mathematics and science courses preparing preservice mathematics and science teachers.

- Faculty continue to refine their courses by
  - Integrating hands-on, real world inquiry tasks,
  - Incorporating the use of technology to promote problem solving and critical thinking,
  - Including collaborative discussions to address problems from multiple perspectives.
  - The College of Science and Technology (now the College of Arts and Sciences) has begun to sponsor an annual conference at which faculty and students make presentations on their latest research. Teachers and students from area high schools are invited to attend.
  - TAMIU participates in the Professional Development Learning Communities Project, which is funded by the Meadows Foundation. This initiative is intended to engage Arts and Sciences faculty in professional development activities, including those in the areas of mathematics and sciences.
  - Faculty members from the mathematics and science departments have participated in professional meetings to explore ways to make instruction more inquiry based. Knowledge gained has been shared with colleagues in the academic departments and applied to reforming existing mathematics and science courses.
  - These activities are also being included as part of the field-based experiences of preservice teachers.

- A number of the courses have been team-taught, either with other faculty members in the department in which the course originated, or with high school teachers. Qualified faculty from area high schools teach some of the lower division Mathematics and Science courses. TAMIU Mathematics and Science faculty meet with the high school instructors prior to the beginning of the semester to review syllabi and insure that the high school instructors have a clear understanding of the knowledge and skills which students are expected to acquire by the end of the course. These instructors deliver the course(s) and Science labs, as needed. However, they always have easy access to TAMIU Mathematics and Science faculty for assistance. This strategy helps to reinforce the use of the inquiry based teaching and learning method.

- The Mathematics faculty at TAMIU has met several times and has developed a common syllabus, as well as a common final exam for College Algebra. The fact that some of the items on the final exam involve inquiry type of thinking has impacted to some degree the manner in which each of the sections of this course is taught.

Table 7: Reformed Courses and Student Enrollment by Calendar Year						
Course #	**Course Title**	**Enrollment**				
		2000	**2001**	**2002**	**2003**	**2004**
BIOL 1006	General Biology I – Lab 1L1	-	22	48	23	141
BIOL 1406	General Biology I	-	84	68	36	141
BIOL 2003	Organismal Biology Lab	-	-	25	25	36
BIOL 2403	Organismal Biology	-	-	26	27	35
COSC 2301	Fundamentals of Computer Science	-	-	-	8	38
EDBE 3340	Teaching Social Studies & Health in Spanish	-	-	-	21	-
EDBE 4334	Teaching the Content Areas in Dual Language/ECE-4	-	-	74	108	137
EDEC 3364	Mathematics and Science Principles for Young Children	-	-	30	20	25
EDDP 4324	Teaching Diverse Populations	-	-	26	30	193
ENSC 2410	Principles of Environmental Science	-	16	14	11	11
ENSC 4310	Environmental Toxicology	-	-	29	-	8
MATH 1314	College Algebra	-	27	183	153	480
MATH 1316	Plane Trigonometry	-	34	70	90	135
MATH 1324	Business Mathematics I	-	14	75	191	155
MATH 1350	Fundamentals of Mathematics I	-	-	-	23	118
MATH 1351	Fundamentals of Mathematics II	-	-	47	49	105
MATH 2413	Calculus I	-	28	-	80	74
MATH 3310	Introduction to Linear Algebra	-	-	26	28	39
MATH 3320	Modern Geometry	13	-	34	12	14
MATH 3325	Geometry	-	6	-	7	15
MATH 3330	Ordinary Differential Equations	-	16	-	31	23
MATH 3360	Statistical Analysis	-	-	-	20	28
MATH 3365	Discrete Mathematics	-	-	-	27	27
MATH 4305	Number Theory	-	-	-	18	24
MATH 4335	Advanced Calculus	-	-	-	18	24
MATH 4355	Selected Topics in Mathematics: History of Mathematics	-	-	-	10	4
MATH 4360	General Topology	-	4	-	-	10
MATH 4390	Mathematics in Middle and High Schools	-	-	8	14	19
MATH 5302	Bridge Linear Algebra	-	-	5	-	-
MATH 5355	Adv.Topics: Galois Theory	-	-	6	-	6
MATH 5365	Topology	-	5	-	-	3
Total		**13**	**256**	**278**	**1,080**	**2,068**

Source: NSF Data Reports

Table 8: Student and Faculty Course Survey Results by TxCETP Vision Indicators						
Vision Indicators	Percent of All Item Responses that were Always/Usually					
	Fall 2003		Spring 2004		Fall 2004	
	Student (n=161)	Instructor (n=10)	Student (n=206)	Instructor (n=14)	Student (n=0)	Instructor (n=0)
Course Design	58%	75%	72%	100%	-	-
Prior Knowledge	66%	84%	79%	83%	-	-
Instructional Strategies	67%	92%	77%	91%	-	-
Assessments	68%	80%	80%	88%	-	-
Problem Solving	64%	80%	77%	75%	-	-
Multiple Representations	63%	70%	73%	55%	-	-
Learning Environment	64%	93%	79%	100%	-	-
Books, Materials & Technology	60%	90%	68%	57%	-	-

Source: Fall, 2003 Course Surveys; Spring, 2004 Course Surveys; Fall, 2004 Course Surveys

GOAL 2: RECRUITMENT OF PRESERVICE TEACHERS

This section of the report describes the cumulative impact made to date in the area of Recruitment of more undergraduate students to STEM teaching. Specifically how this campus has been impacted by the TxCETP wide objectives:

- Use introductory courses and summer experiences to target freshmen and sophomore mathematics and science undergraduates for preservice teacher recruitment and retention.
- Use alternative certification and post-baccalaureate pathways for junior and senior mathematics and science majors who become interested in teaching careers.
- Recruit high school students from local districts, from the Texas and South Texas Rural Systemic Initiatives (TRSI and STRSI) districts, and from Regents' Initiative (TX A&M System Schools only) partner school districts to teaching careers.
- Recruit community college students with declared interest in STEM teaching careers, and facilitate their transfer to TxCETP campuses.

CUMULATIVE IMPACT OF TXCETP ON RECRUITMENT

High Schools: TAMIU has established a wide range of programs to recruit students to the teaching profession including the following:

- College of Education and College of Arts and Sciences (formerly College of Science and Technology) faculty members participate in Career Days and recruitment events at local high schools.
- The College of Arts and Sciences (formerly College of Science and Technology) sponsors tours for public school teachers and students in an effort to encourage students to pursue careers in mathematics, science, and/or engineering.
- The College of Education has sponsored a "Discover Teaching Day," which has enabled COE faculty to bring high school students to TAMIU to participate in different kinds of activities and learn about the joys of teaching.
- The COE also offers workshops to parents on how they can support their children's interests in mathematics and science.

- The COE faculty conducted a weeklong Summer Teaching Camp in 2001 and 2002. High School students attended classes especially prepared for them by university faculty to become familiar with the teaching profession. Students learned how mathematics and science could be taught through hands-on, problem-solving activities.
- Faculty from the College of Education and the College of Arts and Sciences (formerly College of Science and Technology) participate in the Advisory Council for the Laredo Independent School District's Project TEAMS (Together Everyone About Math and Science), funded by NSF, to provide input and support to encourage students to pursue careers in mathematics, science, and/or engineering.
- The University is also involved in the "Gear Up" outreach program to help high school students with AP courses. College students are utilized as mentors for the K-12 students.

Community College: A TAMIU-LCC Liaison Committee was established to facilitate communication between both institutions and to improve the advising process so that students take the appropriate courses at the community college in preparation for a smooth transition to TAMIU.

Vertical Alignment: In 2001 TAMIU began to participate in the Academic Road Map Project, which is funded by the Pew Charitable Trust and brings together stakeholders from high schools, community colleges, and universities to help insure that students have the necessary knowledge and skills to successfully begin and complete a higher education degree including one that involves teacher certification.

GOAL 3: SUPPORT FOR PRESERVICE AND NOVICE TEACHERS

This section of the report describes the cumulative impact made to date in the area of Support for Preservice and Novice Teachers to increase retention and quality. Specifically how TxCETP has impacted this campus in the TxCETP wide objectives:

- Disseminate reformed courses for preservice mathematics and science students. Include emphasis to tie to Informal Science partners (e.g., Fort Worth Museum, Texas Parks and Wildlife, Texas State Aquarium)
- Use student chapters of NCTM, NSTA, scholarships (TxCETP and Noyce Scolars), and travel awards to conferences to support preservice mathematics and science teachers.
- Assist with placement, induction and sustained professional development to novice mathematics and science teachers.

CUMULATIVE IMPACT OF TXCETP ON SUPPORT FOR PRESERVICE AND NOVICE TEACHERS

TAMIU prepared three Level II funding proposal to attract additional mathematics and science students into the teacher preparation program. A few of those who participated in this effort as tutors / teaching assistants were preservice mathematics teachers. These individuals were prepared to fulfill their role and responsibilities through seminars conducted by the T^2CATLs .

- TxCETP has enabled TAMIU to implement the NSF-TxCETP Teaching Scholars and Noyce Scholarship Programs. (See Table 9 below.)
- The University provides mentors for the field based preservice program, provides training for the mentors, and maintains a database of their training.

Table 9: TxCETP Scholars (L1), Student Awards (L2) and Noyce Scholars by Major												
Majors	**2002**				**2003**				**2004**			
	L1	**L2**	**Noyce**	**Total**	**L1**	**L2**	**Noyce**	**Total**	**L1**	**L2**	**Noyce**	**Total**
Elementary	0	0	0	0	0	0	0	0	0	0	0	0
Mathematics	4	0	0	4	5	3	2	10	7	2	1	10
Science	0	0	0	0	2	0	0	2	3	0	0	3
Mathematics/Science	0	0	0	0	0	0	0	0	0	0	0	0
Total	**4**	**0**	**0**	**4**	**7**	**3**	**2**	**12**	**10**	**2**	**1**	**13**

Source: TxCETP Scholarship Database

TAMIU scholars are participating in many TxCETP activities as described in the following student narrative:

"I have participated in community service by testing and grading papers in UIL meets, I have helped in Super Saturday (mathematics tutorials) and for six weeks I participated in after school tutorials… I also had the opportunity to observe three master mathematics teachers…All of these have been great experiences!"

Scholar applications provide a further insight to the quality of student being recruited on campus. The following excerpt from a scholar's application highlights this point:

"It is important that I teach students to work with problems that associate with real life situations. I also want students to be successful and leave my classroom knowing how to apply these skills. In order to reach my objectives, I must be able to better understand how to get the material across, how to evaluate it and how to deal with the individual behaviors of the student."

Novice Teacher Support: Faculty in the College of Education provides support for the induction programs in area school districts. Novice teachers meet regularly to discuss issues and follow-up workshops are arranged for the group as needed.

Academic Program Development

- In 2000, SCI 3301, "Current Topics in Science," was changed to NSCI 3301 and now serves as a capstone course for elementary education majors.
- In 2001, the Mathematics department developed a capstone course for secondary mathematics majors MATH 4390 Mathematics in the Middle & High Schools.
- Frequent communication between COE and College of Science and Technology (COST) (now College of Arts and Sciences) faculty and administration helps ensure that mathematics and science degree programs leading to teacher certification are current and well coordinated.
- TAMIU has established an ExCET / TExES Task Force on campus, which includes representatives from all areas that are covered by the certification exam. Through regular meetings, faculty members stay informed of student performance on these exams and discuss how degree and certificate programs may need to be modified in response to the strengths and needs demonstrated by student performance on the test.

Professional Development Program

- The faculty from the department of Mathematical and Physical Sciences, in collaboration with faculty in College of Education provide professional development institutes in mathematics that are available to novice and preservice teachers among other teacher groups. These professional development institutes are funded by grants from the Texas Higher Education Coordinating Board Teacher Quality Grants Program. Several of the faculty members involved are TxCETP faculty.

GOAL 4: MAKING SYSTEMIC REFORM CONNECTIONS

This section of the report describes the cumulative impact made to date in the area of Strengthening Systemic Reform Connections to maximize alignment and impact. Specifically how this campus has been impacted by the TxCETP wide objectives:

- Collaborate with STRIS/TRSI by involving mathematics and science specialists, and Teacher Partners in mentoring, lesson modeling, observations, workshops, etc. with TxCETP preservice and novice teachers.
- Collaborate with Texas Education Agency (TEA), State Board for Educator Certification (SBEC), and others to construct the new Texas Examinations of Educator Standards (TExES) to reflect standards-based instruction.
- Collaborate with Regents' Initiative (A&M Systems Schools) to coordinate activities with mathematics and science Academy members, campus recruiters, and data collection resources.

CUMULATIVE IMPACT OF TXCETP ON MAKING SYSTEMIC REFORM CONNECTIONS

A number of activities have been initiated to strengthen system reform connections including the following:

- A portion of the TAMUS Regents' Initiative funds are used to help pay for the COE recruiter to provide stipends to students pursuing degrees leading to mathematics and science teaching careers.
- A portion of the Teach for Texas funds is being used to support a student committed to obtaining a degree leading to a mathematics or science teaching career.
- Funding from the U. S. Department of Education has enabled TAMIU to establish Project RIO (Retention, Induction, and Outreach) in an effort to attract and prepare highly qualified educators, including those in the areas of mathematics and science.
- University faculty serves on different school and district-wide committees such as the Site-Based Decision Making Committee, School Support Teams, and the District Education Improvement Councils. All of these activities provide avenues for discussing issues that relate to mathematics and science teaching, curriculum development, and teacher preparation.

IV. STRATEGIES TO INSTITUTIONALIZE ACCOMPLISHMENTS

This section of the report describes plans for sustaining TxCETP accomplishments on this campus for each of the four goals: Course Reform, Recruitment of Students to STEM Teaching, Preservice Teacher and Novice Teacher Support and Systemic Reform Connections. In addition, plans to sustain

other accomplishments on this campus as a result of involvement in the TxCETP initiative are reported.

PLANS FOR SUSTAINING COURSE REFORM

Mathematics and science faculty will continue to use mathematics and science standards based materials purchased through Level II funds to plan and deliver mathematics and science course content, as appropriate. In addition, students enrolled in these mathematics and science courses will have access to these materials to help deepen their understanding of different mathematics and science concepts and how to explain these concepts to students with various learning styles. Furthermore, the common syllabus and common final exam for College Algebra will continue to be used, as appropriate. This concept of commonality may be extended to other multiple-section mathematics courses. Finally, the Classroom Observation Protocol instrument will be used to help enrich the quality of instruction in mathematics and science courses, as appropriate.

PLANS FOR SUSTAINING RECRUITMENT OF STUDENTS INTO STEM TEACHING

College of Education (COE) and College of Arts and Sciences (COAS) faculty will continue to work with the Texas A&M International University Office of Enrollment Management to prepare, disseminate, and explain at orientation functions information regarding mathematics and science degree programs leading to 4-8 and 8-12 teacher certification. Faculty will also share this information at career fairs sponsored by TAMIU and the school districts served by the University. This information will also continue to be disseminated on the TAMIU web site by visiting the appropriate pages on the COAS web site.

PLANS FOR SUSTAINING PRESERVICE AND NOVICE TEACHER SUPPORT

Once admitted into the Educator Preparation Program, mathematics and science pre-service teachers will progress through their field-based experiences in cohorts while completing Blocks 1, 2, and 3 in specifically designated semesters. Mathematics and science standards based materials purchased through Level II funds will be made available to pre-service teachers going through the block experiences to help support their instructional planning and delivery of mathematics and science content in their assigned classrooms.

During this time, COE and COAS faculty will continue to collaborate to insure that these pre-service teachers receive proper advisement and support to enroll in and successfully complete appropriate courses. Furthermore, COE Field Experiences faculty will insure that these pre-service teachers, like their classmates, are placed in public school mathematics and science classrooms, as appropriate, and that these classrooms are staffed by qualified mentor teachers capable of guiding the professional development of these pre-service teachers. In addition, mathematics and science pre-service teachers will be supported in their field-based experiences by TAMIU faculty and Field University Teaching Mentors (FUTMs). FUTMs are highly trained, experienced, retired educators who are employed by TAMIU to help guide and support pre-service and novice teachers. In addition, mathematics and science pre-service teachers, like their colleagues, will have access to e-mentoring support provided by TAMIU faculty, as needed.

Upon completion of their degree and certification program requirements, novice mathematics and science teachers will be supported, in part, by staff development provided through the school district. TAMIU will participate in the development and delivery of this staff development, as appropriate. In addition, these novice teachers will continue to have access to e-mentoring support provided by TAMIU faculty. TAMIU will explore additional avenues with participating school districts to expand the type of support that is provided to novice mathematics and science teachers.

PLANS FOR SUSTAINING SYSTEMIC REFORM CONNECTIONS

COAS and COE faculty will continue to stay abreast of and apply for different professional development grants and funding opportunities provided through different professional organizations and agencies. Among these are: National Science Foundations, U. S. Department of Education, American Association for the Advancement of Science, American Association of Science Teachers, National Council of Teachers of Mathematics, Charles A. Dana Center, Texas A&M University System Regents Initiative II, Texas Higher Education Coordinating Board, Texas Education Agency, and the Texas Engineering and Experiment Station (TEES) projects, and others. For example, TAMIU Mathematics and Education faculty obtained Teacher Quality Grant Program funding to support and extend the mathematical knowledge and skills of in-service and pre-service mathematics teachers during 2004-2005 and 2005-2006.

PLANS FOR SUSTAINING OTHER TXCETP-RELATED ACCOMPLISHMENTS

TAMIU and Laredo Community College Mathematics, Science, and Education faculties will continue to collaborate to enhance the educational opportunities for our students. Among the initiatives already underway is the agreement signed by both entities to allow students to enroll in one institution and to receive appropriate course credit in both. Moreover, mathematics and science faculties from both institutions will continue to collaborate in the planning and delivery of funded projects.