



West Texas A&M University

CAMPUS REPORT

May 2005

I. INTRODUCTION

This document presents a progress report of the West Texas A&M University (WTAMU), 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 the strategies and activities are placed to accomplish these goals.

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 WTAMU - 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

WTAMU is located in the Texas Panhandle, twelve miles south of Amarillo in Canyon. It is the state's northernmost senior institution of higher learning. Originally West Texas State Normal College, the name was changed to West Texas State Teachers College in 1923. It became West Texas State College in 1949 and West Texas State University in 1963. The university joined the Texas A&M University System in 1990 and became West Texas A&M University in June 1993.

The mission of WTAMU is to educate students to be informed, responsible, creative and articulate decision makers who will exercise good citizenship, appreciate diversity and be professionally competitive. WTAMU's major areas of emphasis include teacher preparation, business, agriculture, fine arts, nursing and environmental science. All programs shall be built upon a solid foundation of

required courses in communication, history and political science, and studies that develop strong critical thinking and problem-solving skills, as well as an understanding of cultural diversity and an appreciation for the fine arts and humanities.

WTAMU now offers 54 undergraduate and 30 graduate degree programs, with emphasis on Agriculture, Business, Education, Music, Nursing and Natural Science. WTAMU's Alternative Energy Institute is recognized internationally for its work in wind energy and wind turbines.

Based on IPEDS, the overall enrollment has increased 9% from Fall 1998 (N=6,358) to Fall 2003 (N=7,023). 79% of the Fall 2003 student body were undergraduates. The ethnic make up was approximately 79% White, 14% Hispanic, and the remaining, Black, Asian, Native American and non-resident alien. The university awarded 928 Baccalaureate degrees between July 1, 2003 and June 30, 2004, 179 of these in Business Management, Marketing and Related Sciences, 144 in Liberal Arts and Sciences, 137 in Multi/Interdisciplinary Studies, 59 in Visual and Performing Arts, and 51 in Biological and Biomedical Sciences.

Amarillo Community College is the largest two-year feeder institution.

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 WTAMU 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	0	0	0	0	0	0	0	0	0	0
Science	4	2	2	3	2	0	2	2	4	3
Mathematics	2	3	1	3	3	0	0	1	2	4
Other	0	0	0	0	0	0	0	0	0	0
Total	6	5	3	6	5	0	2	3	6	7

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	0	0	0	0	0	0	0	0	0
Mathematics	0	0	0	0	6	0	0	0	0	6
Other	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	6	0	0	0	0	6

Source: Campus Activities Reports

	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	0	0	0	5	0	0	0	0	5
Science Teachers	0	0	0	0	0	0	0	21	0	0
Administrators	0	0	0	0	1	0	0	0	0	1
Total	0	0	0	0	6	0	0	21	0	6

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/TEsES Test Takers by Area and Academic Year

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

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	4	1	0	1%	5	0	0	1%	2	0	0	1%	0	0	0	---	0	0	0	0%
Anglo/White	207	32	38	87%	264	25	31	86%	288	18	25	88%	149	30	29	85%	0	0	0	0%
Hispanic	24	6	6	11%	35	5	2	11%	34	4	1	10%	27	3	4	14%	0	0	0	0%
Native American	2	0	0	.5%	2	1	0	1%	4	1	0	1%	3	0	0	1%	0	0	0	0%
Asian	0	0	0	---	2	0	0	.5%	1	0	0	---	1	0	0	---	0	0	0	0%
Other/Not Reported	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	---	288	42	31	100%
Total	237	39	44	320	308	31	33	372	329	23	26	378	180	33	33	246	288	42	31	361

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	---	1	0	0	.5%	0	0	0	---	0	0	0	0%
Native American	0	0	0	---	1	0	0	1%	4	0	0	2%	1	0	0	---	0	0	1	1%
Asian	0	1	1	1%	0	0	0	---	1	0	0	.5%	0	0	0	---	0	0	0	0%
Anglo/White	115	3	2	85%	119	3	2	93%	130	3	4	90%	91	7	9	85%	1	2	5	8%
Hispanic	18	0	0	13%	9	0	0	7%	9	1	0	7%	16	1	2	15%	0	1	2	3%
Other/Not Reported	0	0	0	---	0	0	0	---	0	0	0	---	0	0	0	---	73	10	3	88%
Total	134	4	3	141	129	3	2	134	145	4	4	153	108	8	11	127	74	13	11	97

Source: NSF Data Reports

Table 5: Post-Baccalaureate Students Certified by Major and Calendar Year

Major	2000	2001	2002	2003	2004
Elementary Education	18	20	9	55	32
Mathematics	2	4	3	5	15
Science	3	2	2	11	20
Mathematics/Science	0	0	0	0	0
Total	23	26	15	71	67

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	17	20	28	29	-
Elementary Comprehensive	149	145	214	167	-
Professional Development (Elementary)	185	182	259	160	-
Generalist EC-4	-	-	-	33	185
Generalist 4-8	-	-	-	-	-
Pedagogy and Professional Responsibilities EC-4	-	-	-	43	126
Pedagogy and Professional Responsibilities 4-8	-	-	-	28	60
Pedagogy and Professional Responsibilities 8-12	-	-	-	49	105
Pedagogy and Professional Responsibilities EC-12	-	-	-	14	132
Mathematics (Secondary)	12	18	22	25	-
Mathematics 4-8	-	-	-	6	20
Mathematics 8-12	-	-	-	4	13
Mathematics/Science 4-8	-	-	-	2	4
Science 4-8	-	-	-	7	16
Science 8-12	-	-	-	3	9
Biology (Secondary)	9	12	18	18	-
Chemistry (Secondary)	3	-	2	2	-
Composite Science (Secondary)	2	5	4	11	-
Earth Science (Secondary)	-	2	2	-	-
Life/Earth Science (Secondary)	1	-	4	2	-
Life Science 8-12	-	-	-	2	10
Physical Science (Secondary)	-	-	-	-	-
Physical Science 8-12	-	-	-	1	-
Physics (Secondary)	2	-	1	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

- Collaboration with community colleges in coordinating course content and inquiry-based instruction strategies.
- Mathematics and Science faculty trained in inquiry-based instruction who can mentor new WTAMU faculty.
- Preservice and novice teachers will be taught using inquiry-based instruction and should therefore teach using inquiry-based instructional strategies once they begin their teaching careers.
- WTAMU faculty will provide workshops, both formally and informally, on a period basis with area community college faculty, WTAMU faculty, and mathematics and science teachers.

Table 7: Reformed Courses and Student Enrollment by Calendar Year

Course #	Course Title	Enrollment				
		2000	2001	2002	2003	2004
MATH 220	Fundamentals of Math I	-	60	149	171	167
MATH 221	Fundamentals of Math II*	-	-	82	109	165
MATH 305	Computer Math I*	80	80	79	49	126
MATH 306	Computer Mathematics II	16	24	26	20	-
MATH 331	College Geometry*	60	60	54	54	27
MATH 350	Elementary Problem Solving*	60	60	54	104	67
MATH 494	Mathematical Principles I	-	-	-	-	4
MATH 495	Mathematical Principles II	-	-	-	-	7
PHYS 390	Astronomy*	-	-	18	13	25
NSCI 101	Integrated Science: Physics*	150	150	150	163	166
NSCI 102	Integrated Science: Chemistry*	100	100	100	147	182
NSCI 201	Integrated Earth Science*	-	-	-	-	111
NSCI 202	Integrated Science: Biology*	100	100	100	77	87
NSCI 321	Principles of Physical Science	-	-	-	-	20
Total		556	624	812	907	1154

* Reformed prior to the beginning of TxCETP

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=53)	Instructor (n=4)	Student (n=70)	Instructor (n=2)	Student (n=0)	Instructor (n=0)
Course Design	70%	83%	64%	100%	-	-
Prior Knowledge	81%	80%	68%	90%	-	-
Instructional Strategies	73%	100%	62%	100%	-	-
Assessments	77%	78%	64%	83%	-	-
Problem Solving	69%	83%	59%	75%	-	-
Multiple Representations	75%	67%	72%	83%	-	-
Learning Environment	69%	75%	63%	100%	-	-
Books, Materials & Technology	36%	0%	41%	0%	-	-

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

- Substantial increase in the number of post baccalaureate students receiving certification in education, mathematics, and science.
2000-2002: 64
2003-2004: 138
- Substantial increase in course enrollment in MATH 1350 (220), MATH 1351 (221), MATH 305, and NSCI 101, and NSCI 102 course since 2002.

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 Scholars), 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

- Dramatic increase in the number of scholarships awarded beginning in 2003 with 5 students, each receiving \$1,000 to 17 students in 2004 each receiving \$1000.
- Scholarship students in 2003-2005 work with local school districts providing tutoring to middle school students.
- Scholarship students were provided opportunities to develop curriculum to address specific needs of students they tutored in collaboration with the campus administrator and teachers.

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	0	0	0	0	4	0	0	4	4	11	0	15
Science	0	0	0	0	0	0	0	0	0	0	0	0
Mathematics/Science	0	0	0	0	1	0	0	1	0	2	0	2
Total	0	0	0	0	5	0	0	5	4	13	0	17

Source: TxCETP Scholarship Database

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

- Developed a network with local community colleges as well as with other A & M universities.

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

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PLANS FOR SUSTAINING RECRUITMENT OF STUDENTS INTO STEM TEACHING

- Collaborate with area community colleges to assist and recruit mathematics and science students interested in teaching.
- Provide information during educational job fairs.
- Continue to increase communications with school districts and WTAMU College of Education.

PLANS FOR SUSTAINING PRESERVICE AND NOVICE TEACHER SUPPORT

- Continue to provide mentoring services to novice and inservice teachers.
- Continue to provide inquiry-based instruction in education mathematics and science content courses.
- Continue to train newly hired WTAMU faculty in inquiry-based instruction.
- Professional development to all faculty.

PLANS FOR SUSTAINING SYSTEMIC REFORM CONNECTIONS

- Continue collaboration efforts both locally and statewide whenever possible through workshops, conferences, meetings and via various communications media.

PLANS FOR SUSTAINING OTHER TxCETP-RELATED ACCOMPLISHMENTS

- Explore other funding resources to continue the tutoring program, which has benefited not only the scholarship students but the local school districts.
- Continue to provide training in inquiry-based instruction and attend conferences and workshops in order to meet the ever changing needs of preservice and novice teachers.
- To seek other grants that might provide the necessary resources to continue the scholarships, training, and mentoring programs.