

# Texas Collaborative for Excellence in Teacher Preparation

## EVALUATION UPDATE

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### Introduction

TxCETP is in its second program year of course reform in Science and Mathematics, recruitment to Science and Mathematics teaching, support of preservice and novice teachers and strengthening systemic connections. Over 250 faculty members from ten partner institutions, associated community colleges, and school districts were involved in a TxCETP activity during 2002. The impact of these institutions on the teaching pool of Texas is substantial, in that over 20% of the students taking the Texas certification test for teaching in 2001 graduated from one of the ten partner institutions.

Minnick & Associates, Inc. has been providing the Collaborative with evaluation services since the August, 2000. The following summary of our evaluation findings for program year 2 is based on an evaluation design that includes campus site visits; course observations; college faculty and administrator interviews; college student course surveys; college faculty, K-12 teachers and administrators online surveys; Regents' Initiative reports; Examination for the Certification of Educators in Texas (ExCET) test data, and project records, including data reported through NSF's online data collection system, meeting participation data, campus reports and other written documents.

### Summary of Findings

#### Course Reform

- 62 courses are under going reform by TxCETP in 2001 compared to 39 in 2000, an increase of 31%. Over 2,500 students were enrolled in these courses during Fall, 2001.
- According to student surveys administered in 90% of these courses, half (52%) of the students enrolled in TxCETP reforming courses indicated an intention to become licensed as a teacher, while about a almost a third (31%) are already participating in a teacher preparation program. (*On most TxCETP campuses a student cannot enroll in teacher preparation until their junior year.*)
- Over 80% of the 1,400 college students surveyed in TxCETP "reforming" courses reported that one of the instructional strategies used in their class was "working on problems related to real world or practice issues" (86%) and it was "Somewhat Helpful" (42%) or "Very Helpful" (38%).
- Implementation of course reform across the Collaborative and within campuses varies widely, as evidenced by classroom observations and student course surveys.
- "Time constraints" was identified as the biggest barrier to teaching in ways most beneficial for students, through an online survey of sixty-four faculty members at TxCETP institutions. Areas identified as contributing to the lack of time were: amount of subject area content, administrative responsibilities, and preparation time.

- Half or fewer of the students enrolled in TxCETP reforming courses indicated that the following instructional strategies occurred in their class: “Participating in whole-class discussions during which the instructor talked less than the students” (51%), “Designing and making presentations that help you learn class concepts” (49%), “Having a voice in decisions about course activities” (48%), “completing assessments/assignments that included portfolios (25%) or full-length papers” (46%).
- Progress was made on integrating the Texas Essential Knowledge and Skills (TEKS) into science and mathematics courses; especially at Texas A&M-College Station, where courses required for certification in the departments of Biology, Chemistry, Mathematics, Physics, and Statistics were analyzed for TEKS alignment.
- A two day Inquiry Institute was held in Corpus in May and attended by 45 participants.
- The Inquiry Road show was revived and presented at the SSI/TxCETP Preservice Conference with 92 people in attendance.
- Faculty members from community colleges have increased their involvement, with more than 20 attending one or more TxCETP activities. One faculty member from Coastal Bend has received training on conducting classroom observations and will be involved in observing novice teachers.

### **Recruitment of Undergraduates to SMT Teaching**

- Many of the TxCETP institutions have adapted existing 1-credit or no-credit courses as a vehicle for providing information to undergraduates regarding teaching, and SMT teaching in particular. Others have increased their outreach to high schools to recruit students into teaching fields.
- Half (52%) of the students enrolled in TxCETP reforming courses indicated an intention to become licensed as a teacher, while about a third (31%) are already participating in a teacher preparation program. *On most TxCETP campuses a student cannot enroll in the teacher preparation program until their junior year.*
- The “Inquiry Road Show” for secondary classrooms has not yet been introduced, since the inquiry road show for higher education was being revised.

### **Preservice and Novice Teacher Support**

- TxCETP was able to take advantage of the change in certification in Texas from K-8, to K-4, and 4-8, and design capstone courses for preservice mathematics and science courses.
- Some TxCETP campuses have followed the lead of Tarleton in establishing a student organization specifically for preservice teachers, in order to provide support for students in teacher preparation programs.
- A forum to build consensus and increase commitment to improve student teaching and career placement was scheduled for 2001, but was postponed. It is rescheduled for Spring, 2002.
- TxCETP began recruiting NSF scholars this past Fall, and currently has twenty-one preservice students identified. Some of these scholars will be involved in education research and development.

- TxCETP facilitated data collection meetings on the partner campuses involving the certification officer, campus leader(s) and others involved in the Collaborative.
- Individual faculty members and campuses have been active in placing preservice teachers in K-12 schools involved in reform efforts. However, the extensiveness of this effort has not been well documented.
- TxCETP has been active in statewide efforts with TSSI and others to revise ExCET to reflect more standards based instruction. Faculty members involved in TxCETP have also been involved in reviewing the content knowledge tested in the subject area exams.
- The Mathematics, Science and Technology Internship (MSTI) program was implemented in the summer of 2001. However, recruitment was slow and only 5 internships were awarded.
- Partner campuses have established field-based and professional based opportunities for inservice teachers. The partnership between Tarleton and the Fort Worth Museum of Science and Technology is a prime example of the universities reaching out to inservice teachers.

### **Strengthening Systemic Connections**

- TxCETP has worked closely with TRSI, and the now funded, South Texas RSI, in strengthening ties between the programs. The TRSI team attending the 2001 Southwest Regional Conference sponsored by NSF and SEDL was one of the few that included faculty members from institutions of higher education.
- TxCETP collaborated with TSSI to plan the Fall Forum held in Austin in October. The revised Inquiry Road Show for faculty was introduced at that time.
- Campus leaders have worked to mesh TxCETP activities with those of the Regents' Initiative. A successful model can be found at Commerce, where a TxCETP/Regents' Initiative Coordination Committee was formed and a faculty member was given release time to become the "TxCETP/Regents' Initiative Coordinator".

### **TxCETP Management and Implementation**

- The TxCETP web site has proven to be a strong focal point for the Collaborative and facilitated communication across the ten partner institutions. The site also provides access for faculty members from non-TxCETP institutions and a directory for those interested in the work of the collaborative.
- The Collaborative has initiated a process called "level 2 funding", which is beginning to distribute funds and accountability to the local campus leadership team. The process has been slow on some campuses but where implemented those campuses have demonstrated increased activity and effort.
- Data collection, management and monitoring of project data have been enhanced through the hiring of an Associate Project Director for Funded Initiatives with an emphasis on data coordinator. Data collection meetings were held on partner campuses to familiarize campus personnel with TxCETP data needs and deadlines.

- Partner institution participation and the strength of the Campus teams still vary widely by campus. However, there has been an expansion of TxCETP faculty involvement on most campuses, and increased awareness.
- TxCETP developed a standardized format for Course Components and Activity Templates, which should simplify the process of creating course components by faculty. The following Course Components are now available for faculty to use.

Science Course Components	Mathematics Course Components
Understanding Scientific Inquiry	Exponential Growth
The Key to Classification	Mathematical Connections
Introduction to Periodic Trends (Chemistry)	Ratio. Fraction. What's the Difference?
Introduction of Valence and Covalent Bonds (Chemistry)	An Introduction to Ratio and Proportion for Preservice Elementary Teachers
Protein Folding and Shape (Biology)	
Natural Selection (Biology)	

### **Participation by Campus and Discipline**

- Progress had been made regarding the involvement of faculty from mathematics, science and education, but it is still an issue on some campuses.
- One barrier may be time commitments, but it may also be a function of differing perceptions by faculty members in the three disciplines. While 55% of education faculty felt the SMT knowledge of their students was “more than adequate”, only 17% of the mathematics, and 14% of the Science faculty members responded similarly on a TxCETP faculty survey.