

TEXAS COLLABORATIVE FOR EXCELLENCE IN TEACHER PREPARATION  
NATIONAL VISITING COMMITTEE REPORT (Year 1)

NSF Award #DUE-9987332

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Site Visit Report prepared by Dr. Jack Bristol

Name of Project: Texas Collaborative for Excellence for Teacher Preparation (TxCETP)

Date of Visit: October 12-13, 2000

NVC Members attending: Jack Bristol, Alfredo de los Santos, Jr., Sandra Laursen, Vicente Llamas, Elaine Seymour

Others present: Myles Boylan representing the National Science Foundation; Mary Mattingly, Dean, College of Arts and Sciences, Texas A&M University-Kingsville; Bambi Bailey, Department of Curriculum and Instruction, Texas A&M International University, Laredo; James Clark, Dean, College of Agriculture, Nursing and Natural Sciences, West Texas A&M University-Canyon; Judy Kelley, Program Director, Texas Rural Systemic Initiative, West Texas A&M University-Canyon; Paul Kennedy, CETP PI, Southwest Texas State University-San Marcos; Jorja Kimball, Texas Engineering Experiment Station; Barbara Kimbell, Associate Director, New Mexico CETP; Juan Lira, Professor of Education, Texas A&M International University-Laredo; Gary Low, College of Education, Texas A&M University-Kingsville; Ann Lopez, Dean, Del Mar College-Corpus Christi; Winifred Mallam, Assistant Professor, Texas Woman's University-Denton; Michael Marder, PI, University of Texas CETP-Austin; Mark Morvant, Department of Chemistry, Texas A&M University-Corpus Christi; Kirk Minnick, Program Evaluator; Candice O'Brien, Graduate Student, Texas A&M University-Corpus Christi; Gracie Olalde, Texas A&M University-Corpus Christi; Ed Cooke, Science Department Chair, Del Mar College; Bill Mareth, Mathematics Department Chair, Del Mar College; Den Doughty, Physics Department, Texas A&M University-Commerce; Harriet Lamm, Mathematics Professor, Coastal Bend College; Arouna Davies, Mathematics Professor, Prairie View A&M University; Norma Neeley, Texas RSI and Presidential Awardee.

The meeting was opened by Program PI Mauro Castro and Project Director Kit Price Blount. The two gave an overview of the program and objectives. The Texas CETP is a five year program that encompasses ten institutions; eight of which are in the Texas A&M system and include Texas

A&M University-College Station, Texas A&M International University, Prairie View A&M University, Texas A&M University-Commerce, Texas A&M University-Corpus Christi, Texas A&M University-Kingsville, West Texas A&M University, and Tarleton State University. Also included in the program are Angelo State University and Texas Women's University. Several community colleges as well as K-12 partnership schools are also included in the very large endeavor. The PI, project director, and assistant director all have well established leadership records and are committed to K-16 Science, Math, Engineering, Technology (SMET) reform. All of the university and some of the community college partners were represented in the initial national visiting committee meeting although it was not completely apparent to the visiting committee that the involvement of faculty on the Texas A&M University-College Station Campus was as strong as the other nine campus sites.

The objectives of the Texas CETP are: 1) to implement course reform integrating content, pedagogy, and classroom management across the ten partner institutions, 2) to recruit more and better prepared teachers into science, mathematics, and technology teaching, 3) to develop and implement programs that support and sustain preservice and novice teachers and 4) to strengthen National Science Foundation Systemic connections throughout Texas CETP. This will include linkages with the Texas Rural Systemic Initiative, the Texas Statewide Systemic Initiative, the Urban Systemic Initiatives and Programs within Texas, the Texas Alliance for Minority Participation (AMP) and the GK-12 Fellows from the Texas Rural Systemic Initiative. It was noted that the 10 participating institutions are all linked to a series of community colleges that enroll well above 60,000 students. It was also noted that the 10 institutions in the Texas CETP produced about 2,500 teachers a year, which represents 20% of the total Texas teacher production. The majority of the individuals graduating with a certification are in the elementary areas and Texas like many other states is experiencing a shortage of science and math teachers especially at the 9-12 level. During the presentation, it was stated that approximately 100 faculty are involved across the 10 institutions. It was also mentioned during the course of the morning presentation that the Chancellor of the Texas A&M System had mandated a significant increase in the number of secondary math and science teachers that would be produced throughout the A&M system.

In order to facilitate coordination and implementation of the program and achieve the goals, campus action teams have been formed on each of the ten campuses. The teams will consist of community college as well as K-12 teachers, members from the Colleges of Education and Arts and Sciences on each campus as well as a Dean and/or a Department Chair. Also included will be alternative certification officers and representatives from business, school district central offices and perhaps, directors of informal science settings. In addition to the campus action teams, a Texas CETP Management Advisory Team consisting of individuals from the Texas Education Agency, the Texas Rural Systemic Initiative, the Texas Statewide Systemic Initiative, a representative from Chancellors office of Texas A&M System and the Associate Project Director from the very large New Mexico CETP. The Texas CETP is fiscally administered through the Texas Engineering Experiment Station which also provides an overall coordinating structure between the Texas Rural Systemic Initiative, the South Texas Rural Systemic Initiative, the community colleges, various bridge programs, the Texas A&M Regents Initiative and the GK-12 Center for Information

## Technology and Science.

A discussion of the Texas CETP approach to course reform indicated that course components had been and will continue to be designed, that at present that are perceived to be the essential elements that one would want to incorporate into a preservice science or mathematics course. The course component then could be transported from one campus to another without the necessity of reforming the entire course on a given campus while at the same time incorporating what are considered by the working groups on each campus to be the essential elements. The course components have been designed to include the Texas Essential Knowledge and Skills (TEKS) as well as the objectives or components on the Texas ExCET exam. David Sanchez commented on ongoing course reform in mathematics and it was noted eight of the campuses in the TxCETP used college algebra as an entry-level college credit course while two do not. Texas A&M begins college credit with calculus. A discussion also ensued concerning recent legislation that has led to K-4 math/science certification, 4-8 certification and 8-12 certification. This is a refreshing improvement as Texas until this time had no middle school certification track. A math capstone course was also discussed and will be pursued by David Sanchez. A delightful presentation was made by Mark Morvant of the Chemistry Department at Texas A&M Corpus Christi. His hands on activity leading to an understanding of the periodic table was very well thought out and well done.

Kirk Minnick gave an overview of the proposed evaluation of the program. It is obvious that he has touched base with evaluators on some of the component campuses including the Education Research and Evaluation Laboratory at Texas A&M College Station. The evaluation proposal contains both formative and summative components and a variety of tools were discussed. The proposed evaluation plan was extremely extensive and will require data acquisition from all ten campuses. Much of the existing data available from the State will be used but budgetary limitations will certainly require tightening the assessment component.

## SUMMARY --RECOMMENDATIONS

- **Collaboration:** The TxCETP is a well-conceived effort and seems to have built fairly strong connections to a large number of NSF funded reform efforts and amongst themselves. The faculty at the smaller comprehensive institutions are well placed to spend their time and creative energies on the project and the administrators at these institutions voiced their strong support for a reward system that would encourage participation. The small numbers of faculty now participating that were present at the NVC visit were enthusiastic and reflect well on the program. Whether or not faculty at the larger Texas A&M Research I campus will be as enthusiastic or rewarded is not clear at this time. It was not clear to the NVC that strong ties have been established between the two-year feeder institutions for the ten campuses involved. It is essential that recruitment efforts include these institutions and that the course reform activities likewise involve these campuses, as large numbers of preservice teachers are very likely to be transferring into the four year institutions.
- **Focus:** The TxCETP is a very large and ambitious program. Care must be taken to focus on what the problems are, what needs to be fixed, and why should additional faculty join the effort.

It is important to develop an understanding of what the problem is that the group is addressing, what the group believes will fix the problem and why it needs to be fixed, that is, to define a theory of action. This ability to articulate the project's focus will also be important in recruiting new participants. Evaluation then would flow from the above focus or series of questions. The assessment needs to be focused and certainly paired down somewhat so that the evaluator can get his arms around the task.

- **Development of Course Components:** The course component concept is a good approach and hopefully will provide for exportable essential elements from campus to campus. However, the NVC urges the group not to reinvent the wheels that may already exist. The faculty in TxCETP are urged strongly to find out about existing reform activities across the country. Numerous workshops have been conducted. Materials have been developed that can be nicely used in preservice math/science reform activities. Search for such activities. This would be an excellent project for a graduate student! The development groups should also keep in mind, as time goes on, how they might evolve processes for making sure their materials are good, complete, consistent, and tested for multiple institutions so that they can be flexible and readily shared. The Southwest Development Lab (SEDL) in Austin could possibly assist with such monitoring and testing of materials.
- **Campus Teams:** The National Visiting Committee urges the PI and Project Director to ensure that the campus action teams contain a dean, science and math chairs, and both junior and senior faculty. It is extremely important that the individual on each of the ten campuses who is responsible for the integrity and collection of student database information is also on each campus action team. Without this individual, the challenge to the evaluator of the program maybe at times insurmountable in terms of getting data and getting into a form that can be used for comparative purposes across the ten campuses. The National Visiting Committee also recommends that each campus action group be monitored in terms of growth or lack of participation. It is also recommended that the process on each campus be documented. Are workshops held? Who attends? Who is involved? And, it is worthy to note, are there barriers cropping up on a particular campus or common barrier across campuses? The alternative certification pathways in Texas are such that they must somehow be included in the TxCETP arena. The consortia members are urged to form alliances with the alternative certification officers on the campus sites.
- **Sustainability and Recruitment:** The NVC would like to point out possible pitfalls and burnout is certainly one of those. If the core group is not expanded and responsibilities shared, it will be difficult for a small group of faculty on each campus to maintain the momentum necessary to bring about reform in the preservice activities. The reward system must be linked to the CETP reform activities. Recruitment of faculty is also extremely essential to the campuses. Buy-in comes from a sense of ownership: the more people who can be involved in formulating the desired reforms, the better. Faculty who fit the model proposed must be identified and brought to the campuses as recruitment activities proceed. At the next meeting, it would be helpful to know more about how responsibilities for different activities of the project will be shared.
- **Synergy and Communication:** The enormous potential for synergistic activities between the Texas USI, TSI, and the other numerous programs that are linked to TxCETP are extremely

valuable. The PI and Program Director are urged to take full advantage of these links that can complement and supplement work on the ten campuses. The presence of interactive television networking within the members is another strong point that can be used to facilitate communication. In addition, it is recommended that the TxCETP use as many existing organizations and their meeting schedules to piggyback regional meetings rather than schedule additional new meetings to an already full academic schedule.

- **Logistics:** The NVC felt that it would be helpful to have written reports available before future meetings, so that most of the time can be spent on discussion of progress and issues rather than on reporting that information. We look forward to hearing more about your work!