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*The University of Texas at El Paso has provided leadership and support for several K-16 reform collaborative activities in the El Paso area. A closed-loop K-12 preservice teacher preparation system supported by generous extramural funding has provided the university, the community college, and local schools with opportunities for conversation, a shared vision, and change. Lessons learned and strategies used should prove beneficial in other metropolitan K-16 settings.*

## **Texas K-16 Reform: The El Paso Story**

The University of Texas at El Paso (UTEP) is located in a relatively isolated metropolitan setting. The university draws most of its students from the surrounding county K-12 school districts and also trains many of the teachers in these schools. University faculty in the science and liberal arts colleges expressed open academic disdain for many of the public schools and the apparent lack of preparation of incoming freshman students, especially in mathematics and the sciences, entering the university from these local schools. The challenge of how to best convince the liberal arts and science faculty to assume responsibility for teacher preparation was met through a variety of strategies, extramural funding, and some serendipity.

### **Regional and Institutional Context**

El Paso, Texas, the urban Paso Del Norte region, has a four-century history involving both Mexico and the United States and the rich cultural interaction that a border carries with it. Within the state of Texas, El Paso's location at the far west border next to New Mexico has left and continues to leave the city and the county at the periphery, both politically and fiscally, of the state legislature. El Paso County has nine independent school districts, all which are growing rapidly. The tax base for these school districts is low because of the complex economic situation in the region. The population of the county is 72% Hispanic American, and English is the second language of the majority of the households in the area. The mean income for residents is approximately \$15,000, or about 55% of the national mean. El Paso is the fifth poorest metropolitan area in the United States, with twenty-seven percent of its resi-

dents, including 36% of its children, living below the national poverty level. The total county population is 700,000, with a public school population made up of approximately 81% Hispanic American students.

A cry for educational equity in state funding has been a driving political policy agenda for half a century. Richer school districts in other areas of Texas spend far more per student per year on public education than the El Paso area schools. In addition, adult educational levels within the county are among the lowest in the nation, a common pattern in the Texas-Mexico border areas. Teachers who fill the classrooms in the local K-12 urban public education systems are trained predominately at the University of Texas at El Paso.

### ***The University and the Community College***

Until the 1960s, Texas Western College was known primarily for its teaching programs and conducted little research. During the 1960s after a name change to the University of Texas at El Paso, the university made a decision to decrease teaching loads to three courses per semester and to put much greater emphasis on research. The promotion and tenure guidelines were modified, and merit salary increases were strongly tied to research publications and grant dollars garnered. The institution moved from sixteenth to third in yearly extramural funding within the state of Texas in a very short period of time.

Today UTEP is a comprehensive urban institution with a majority (64%) population of the university enrollment comprised of Hispanic American students. The student population of approximately 15,000 is spread over six colleges and the graduate school. Bachelor's degrees are offered in sixty-four areas and fifty-seven master's degrees are available. Seven Ph.D. programs are also offered, six of them approved only within the last five years.

El Paso Community College, founded in 1969, enrolls over 22,000 students on five campuses. Each year six or seven hundred of these students transfer to UTEP.

### ***Teacher Certification in Texas***

In the late 1980s, the Texas legislature mandated that teacher certification must be tied to degrees within a content area and that no undergraduate degrees in education could be awarded. In addition, a cap of eighteen hours of professional education was put on the initial certification process; this action forced the university to restructure the curriculum for preservice teacher preparation. After considerable discussion in the Colleges of Liberal Arts, Science, and Education, a new bachelors in Interdisciplinary Studies was approved for those seeking elementary certification. The majority of the credit hours leading to the degree are provided by the Colleges of Liberal Arts and Science, with the professional education component provided by the College of Education. Secondary certification is obtained through a degree in one of the academic departments in the Colleges of Liberal Arts and Science. For the first time in the history of the institution, it is now the primary responsibility of the arts and sciences faculty to prepare the next generation of teachers, most of whom would be employed by the local public schools.

### ***The Closed Loop***

The university draws 86% of its students from local school districts. Thus, arts and sciences faculty who often complained about the lack of preparedness of students entering as freshmen needed only to look in the mirror to see who was responsible for the apparent underpreparedness of the students—or perhaps for the lack of appropriate preparation for teachers in the local districts. Thus began an introspective review, which contributed to a K-16 collaborative effort to improve education at all levels (K-16) within the El Paso area.

### **Collaboration: The Beginning**

The first major K-16 reform effort involved the formation of the El Paso Collaborative for Academic Excellence. This collaborative brings together the university, the community college, the business community, the city, and the three major school districts in the El Paso area: Ysleta, El Paso, and Socorro Independent School Districts. (Basinger, 1998, Trombley, 1999).

The El Paso Collaborative, which includes 142 schools in the three districts, was initially funded by the PEW Charitable Trust and later was awarded an Urban Systemic Initiative (USI) Grant from the National Science Foundation (NSF). In addition to PEW and NSF, the Exxon Corporation, the U.S. Department of Education, the Educational Trust, the Hewlett Packard Company Foundation, and the Coca-Cola Foundation have provided funding.

The collaborative has set as one of its goals the academic success for all youngsters in the schools from their very first year of school through the university experience. A second goal is to ensure that students graduate from high schools prepared to enter and succeed in a four year college or university. To this end, the collaborative provides professional development opportunities for inservice teachers, helps teachers expand their content knowledge, particularly in mathematics, science, and literacy, supports teachers' implementation of a standards-based curriculum and provides highly skilled and experienced mentors who work with teachers on site as they endeavor to make instructional changes in the area classrooms. Not only are principals, teachers, and university faculty involved in these activities, but the parents are very much a major component of the collaborative's work. The university faculty in the Colleges of Science, Liberal Arts, and Education are all primary stakeholders in teacher preparation and education within the community and linkages continue to be strengthened between the university and the schools.

### ***Collaborative Achievements***

During the past five years, the group's achievements include the formation of standards by teachers, principals, and university faculty, which are displayed prominently in all K-12 classrooms in the participating districts. In addition, students in the K-12 schools have improved their math and reading skills beyond what many thought possible when the work began. During the past five years, the number of low performing schools has dropped to zero, while the number of recognized or exemplary schools within the three districts has increased from two to over fifty. Nearly five thousand more students were enrolled in Algebra I in 1996 and 1997 than 1992 and 1993, and

the total enrollment rate is now 99.4%. Similar increases have occurred in the enrollment in Geometry and Algebra II courses. Very large increases have also occurred in secondary science course enrollments, the most dramatic being a 66% increase in chemistry. Achievement of all children has increased, with the greatest improvement by Hispanic and African American students, as evidenced by the scores on the reading and mathematics proficiency exams given to public school students in Texas (Haycock, 1998).

### **Improving Teacher Preparation**

Although university faculty, primarily in the Colleges of Liberal of Arts and Science, as well as in the College of Education, participated in establishing the El Paso Standards for Academic Excellence, the conversations between arts and sciences faculty, the collaborative, and the College of Education were primarily driven by a rather small nucleus of dedicated university faculty working with the collaborative. University faculty were very concerned about the attrition rate of freshman and sophomore students and also were concerned with what appeared to be a lack of preparation of incoming freshman, especially in science and mathematics. The Colleges of Science and of Liberal Arts faculty had always pointed their fingers at the College of Education, and blamed them for the lack of preparation of incoming students and the perceived poor training that many of the teachers in the surrounding El Paso area have apparently received. On inquiring as to what institutions were producing the majority of teachers in our three major school districts, those that were part of the El Paso Collaborative, it became apparent that at least 60% of the teachers in the larger districts received their preservice preparation at UTEP, creating a truly closed loop.

Approximately 86% of the university's students come from county public school systems, as do at least 90% of students entering EPCC. It appeared obvious that the closed loop could serve as an exciting model for continued development of the K-16 educational reform effort. In spite of what seemed obvious to the deans of the Colleges of Science and Education, the majority of the faculty in the College of Science, as well as in the College of Liberal Arts, insisted that the burden should rest on the College of Education, and administrative conversations focused on possible solutions to this dilemma continued. At the same time, NSF established a program requiring colleges of education to partner with colleges of science in an effort to revise and strengthen preservice math and science teacher preparation, the NSF Collaborative for Excellence in Teacher Preparation (CETP). The Science and Education deans at UTEP and key educators at EPCC rallied forces and wrote a preliminary proposal that was positively reviewed, and a five-year \$5 million collaborative grant was awarded a year later.

### ***New Faculty as a Tool for Change***

At the same time that the pre-proposal was being drafted, the College of Science received three faculty lines to recruit individuals with expertise not only in their content areas, but also in pedagogy. This, of course, was an entirely new approach and when recruitment was discussed with the chairs in the college, they were somewhat puzzled and actually resistant to the recruiting effort. Why would a College of Science that had been emphasizing research for the past two decades want to hire science or math educators? A series of discussions within the college was initiated that eventually led to

the recruitment of three individuals, a life science educator, a physical science educator, and a math educator. Each came with a strong set of credentials and impressive pedigrees. Efforts to engage all of the departments within the college in recruiting science educators were not completely successful; the chemistry department, in particular, continued to resist the effort, but with the new faculty in place and with support from the president and provost, the College of Science and the College of Education worked together with the community college faculty to reform elementary preservice preparation.

### **Serendipity**

Serendipity played a role in the El Paso story. At the same time preservice preparation programs were being examined, the university was beginning a long series of discussions concerning a mandated core curriculum by the Texas State Coordinating Board of Higher Education, a fortunate happenstance that allowed preservice teacher preparation to be included in the discussions. A reformed curriculum was adopted that greatly strengthened the bachelor's interdisciplinary studies (BIS) degree that is awarded to individuals seeking elementary certification. Prior to the reform efforts, a total of only fifteen hours of science and math were required to gain elementary certification; the new curriculum includes 28 hours of math and science for all candidates whether or not they are specializing in math and science at the elementary level.

### **Two Year/Four Year Linkages**

The vast majority of the BIS lower division courses have also been reformed and are taught at EPCC, thus facilitating a smooth transfer of preservice students between the two-year and the four-year institutions. A formal articulation agreement is in place and a transfer guide is used to assist students with appropriate course selection if they are considering a career in K-12 education. Several bridge activities support the recruitment efforts, including an Eisenhower Tex Prep Math program that targets high ability students in mathematics and two field biology courses that allow community college and university students to work together in research settings, including a large university-owned research ranch and a marine biology station in the Gulf of California.

### ***The Model Institution for Excellence (MIE) Program***

The University of Texas at El Paso is one of a small number of institutions that has received NSF funding to improve the recruitment, retention, and successful graduation of underserved students in science, mathematics, and engineering. To this end, several strategies have been employed, including linked-blocked freshman courses, a focused freshman year experience, the establishment of an Academic Center for Engineering and Sciences, increased utilization of technology in the classroom, and an overall focus on student learning. In addition, a Center for Excellence in Teaching and Learning has been established that conducts numerous workshops on teaching strategies, utilization of technology, the production of teaching portfolios, and the assessment of learning. All of these strategies are designed to assist in changing the higher education culture, which also greatly reinforces the preservice preparation program.

The College of Liberal Arts is the largest college in the university and includes departments in humanities, languages, social and behavioral sciences, and the fine and performing arts. Although a relatively small percentage of faculty were associated with teacher education or educational renewal, they represented a group large in absolute numbers. Historically, the liberal arts faculty who invested their professional energy in teacher preparation or in K-12 reform were not rewarded in terms of tenure, promotion, and merit evaluations. In addition, many faculty in the college who teach large student enrollment core curriculum courses were oblivious to large numbers of future teachers in their classes. Thus, little thought was given to how one would model teaching or design content if facing significant numbers of future K-12 teachers.

However, through a series of conversations at the departmental and college level, change has occurred and, during the annual college professional activities assessment, the section under contributions to instructional programs offers space for recognized educational renewal activities: "activities that contribute to the teacher preparation component of the department." Some liberal arts departments recognize publication of renewal or preservice activities in refereed journals whether they are core journals for the discipline or not. With support from the Kellogg Foundation, the college has now launched a major effort, that recognizes community-based teaching and learning with neighborhood task forces and school partnerships. Several departments have established student faculty collaborations in which the university is part of a school community development or student activity.

### ***The El Paso Institute for Educational Renewal***

In order to establish a focused conversation across the university campus and include colleagues from the community college and the schools, the El Paso Institute for Educational Renewal was established. The institute is patterned after the John Goodlad Institute for Educational Renewal and is designed to establish a continuing conversation between thirty school and university individuals that focuses on the National Networks Educational Reform agenda. Institute participants meet four times a year for three and half days at sites remote from their campuses and engage in a series of stimulating and challenging conversations. Part of the agenda includes reading thought-provoking journal articles and monographs concerning the reform agenda. The Institute has proved enormously successful in convincing arts and science faculty that it is truly a major responsibility of their colleges to work across the campus and across the community to reform the K-16 experience. The agenda has also brought university, community college, and school people together to discuss and share a common vision.

### **Lessons Learned and Unmet Challenges**

The lessons learned and to be learned include:

- In general, there was lack of recognition for involvement in the educational renewal process in the Colleges of Liberal Arts and Science. This can only be overcome by modifying the faculty reward system, which can be difficult and is achieved only with strong leadership from the top. When the president, provost and, very importantly, the deans support modifications of the promotion, tenure, and merit evalu-

ation guidelines, however, it can be done. A synopsis of such efforts on four different university campuses, including UTEP, is contained in *Educational Renewal across College Borders*, (Gips and Stoel, 1999).

- To overcome the inertia and resistance to change in the Colleges of Arts and Sciences, extramural funds as well as university funds were used to supply summer salaries for course development. Reduced teaching loads were provided for faculty to revise courses in light of the universities' preservice mission, and public ceremonies that at one time recognized only excellence in research now also include the awarding of cash prizes for teaching.
- To sensitize faculty in Liberal Arts and Science to the large numbers of preservice individuals in their classes, regular reports are sent to the departments in the two colleges giving them the absolute number and percent of majors who have declared an education minor.
- In addition, all individuals seeking K-12 certification in Texas must take an ExCet Exam that covers content areas. Scores on these tests are sent to the relevant departments, and students' failure to pass the exam at state-established levels could result in loss of authority to train teachers. This puts the onus on the content departments!
- An additional obstacle has involved the lack of communication between education and the liberal arts and science faculty. The El Paso Institute for Educational Renewal has broken down many former barriers. To foster increased dialogue and cooperation across colleges, collaborative research and teaching efforts have also been funded with both state and extramural resources. Faculty from the Colleges of Liberal Arts and Science also team-teach with faculty in the College of Education. In addition, when recruiting science or math educators, education faculty are asked to serve on the science search committees. The respective deans are also very actively engaged in such searches.
- Cultural differences exist between pre and postsecondary education faculty. Although the El Paso Collaborative for Academic Excellence has built bridges into the schools, the participation of both the two-year and four-year college faculty in school efforts is still not at the level it should be. To promote this activity the College of Liberal Arts, as previously mentioned, is placing faculty in the community and the school classrooms. Science faculty who are hired as educational specialists have also worked in the school classrooms and have signed Memoranda of Understanding from their chairs and deans that make it clear that activity is part of their promotion, tenure, and merit criteria.

### **Attracting the Brightest and the Best into Teacher Education**

Major efforts are under way to recruit students from liberal arts, science, and engineering into preservice teacher preparation. Scholarships are now available for entering freshman who declare an interest in teaching, and scholarship and fellowship

support is available for preservice teachers. In addition, a variety of recruitment activities have been initiated, with appropriate brochures and mailings, to be sure that entering students and students within the Colleges of Science and Liberal Arts are aware of the opportunities for a career in teaching.

The El Paso story is not unique, but the relative isolation of the community and the closed loop referred to earlier help convince the university faculty that they have a major role and vested interest in the preparation of the next generation of public school teachers, as well as in stewardship of the schools. Extramural funding has allowed the university, the community college, and the community itself to engage in an ongoing working conversation. The El Paso Institute for Educational Renewal has provided stimulation to both the formal and informal leadership on the campuses of the two-year and four-year institutions and the schools, so that there is a shared vision of what needs to be done within the community. Efforts continue, successes are apparent, but the work is demanding and requires faculty at all levels to focus on the goal and to persist. The persistence will not be maintained without consistent strong administrative leadership.

### ***Suggested Readings***

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