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In Our Own Words

A Companion Piece to the ReCreating Colleges of Teacher Education Report

A BellSouth Foundation Special Initiative

ReCreating
Colleges
of Teacher
Education

*Can one be sanguine about the
future of teacher education?*

*The answer is yes – but only if we
can get “outside of the proverbial box”
and address the very culture of
higher education.*

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for the BellSouth Foundation

Culturally Responsive Teacher Education in the Charter School of Education and Human Sciences at Berry College

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Introduction

The Berry College School of Education in Rome, Georgia, enrolls approximately 514 students and graduates approximately 165 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$200,000.

The professional preparation of preservice teachers must include a knowledge base related to diversity and multicultural contexts that can be incorporated into students' professional education curricula and their clinical field experiences. In an attempt to redesign a teacher education program for the year 2016 and beyond, the faculty of the Berry College Charter School of Education and Human Sciences has made a major commitment to better educate the teaching force for the next decade. This manuscript describes three initiatives initially funded by the BellSouth Foundation in the ReCreating Colleges of Teacher Education initiative which began in 1997.

First, the education of language-minority students has been a key of our curriculum, which includes an *English for Speakers of Other Languages* endorsement required for all students. Secondly, an anthropological field experience in a culture different from the students' own has been designed. In our catalogue, we designate this as *Exploration in Diverse Cultures*, in which students study in an urban, rural or international setting during one May period or "Maymester" during their four years at Berry College. Finally, *Teaching Pathways*, begun in 1995, is a concentrated effort to reach out to minorities and enable them to become educators. The program has been expanded and well supported by the institution and has graduated 15 minority teachers to date.

In this paper, we explain the development of each of these initiatives and follow this with a discussion of lessons learned from each. All three initiatives were undertaken while the teacher education faculty was in the process of renewal and major re-creation to create the Berry Charter College of Education.

Educating Language-Minority Students

Conceptual Framework

Since the passage of the Immigration Act of 1965, which eliminated the national-origin quota, schools have been faced with increasing numbers of students with diverse language, socioeconomic, culture, and experiential backgrounds. Across the nation, most teacher education programs have yet to respond to a new reality – the presence of students in school classrooms who have no or very little knowledge of English. Fix and Passel (1994) report that by 2010, nine million school-age children will be immigrants or children of immigrants, representing 22 percent of the school-age population. Georgia schools have seen a 250 percent growth rate in language-minority students over the last seven years, representing more than 79 different language backgrounds (Georgia Department of Education, 2000). Teachers at all levels must

be prepared to teach increasing numbers of language-minority and culturally diverse students.

National surveys of preservice and practicing teachers point to a need for innovative programs to prepare teachers to work effectively with language-minority students. The National Center for Education Statistics (NCES) indicates that "while 54 percent of teachers taught limited English proficient or culturally diverse students, . . . relatively few teachers who taught these students (about 20 percent) felt very well prepared to meet the needs of these students" (NCES, 1999). NCES quoted a number of research studies as indicating that "unless professional development programs are carefully designed and implemented to provide continuity between what teachers learn and what goes on in their classrooms and schools, these activities are not likely to produce any long-lasting effects on either teacher competence or student outcomes" (NCES, 1999). The relevance of the traditional

menu of linguistics, methods, and cross-cultural issues has been questioned (Freeman & Richards, 1993; Richards & Nunan, 1995). Gonzalez and Darling-Hammond (1997) propose that traditional in-service training must be replaced with "possibilities for knowledge building and sharing focused on team approaches to problems of practice." Teammate (1992) suggests that it is essential for mainstream teachers who work with language-minority students to participate in staff development activities that include "a variety of instructional approaches, materials development, content-based and language-sensitive instruction, cross-cultural communication, understanding of students' cultural backgrounds, and familiarity with second-language acquisition processes."

For preservice teachers, the need for appropriate educational preparation regarding language-minority students is even greater. According to NCES, only 18 percent of new teachers, those having three or fewer years of experience, indicated that they felt confident about their readiness to teach students from diverse cultural backgrounds or students who could speak little English (Basinger, 1999). For those students still enrolled in teacher preparation programs, the research data paints an even grimmer picture. According to Chisholm (1994), only 9 percent of preservice teachers indicate they would prefer to teach in urban or multicultural contexts, and fewer than 3 percent are able to instruct in a language other than English. Given the fact that the majority of limited English proficient students spend most of their school days in mainstream classrooms, "their success or failure depends more and more upon the assistance and quality of instruction that they receive" (Cornell, 1995).

A number of researchers have made specific suggestions regarding the type of preservice programming that teacher education students receive. Chisholm (1994) suggests that quality programs responsible for preparing preservice teachers for increasingly diverse classrooms should include such elements as: (1) a solid foundation via a good liberal arts education; (2) multicultural education that addresses issues of diverse cultural and linguistic populations infused throughout the teacher education program; (3) appropriate field experiences in linguistically and culturally diverse classrooms with effective classroom teachers; and (4) assessment that holistically evaluates the level of preservice teacher competence near the point of program completion. Anstron (1997) supports these arguments, stating that "coursework at all levels should integrate methods for teaching language arts to language-minority students and provide preservice teachers with a repertoire of methods and skills for adapting instruction."

Methodology

Our teacher education program has responded to this need by incorporating specialized preparation for teachers to provide effective instructional and assessment methodologies, strategies and resources specific to limited English proficient and culturally diverse students. As part of its redesign effort, we have recreated our teacher education curriculum to incorporate the English for Speakers of Other Language (ESOL) endorsement as a mandatory part of the undergraduate teacher education program in all certification areas – elementary, middle grades, and secondary education. All faculty will infuse instructional approaches beneficial to English language learners in their curriculum, and all preservice teachers will have experiences working with language-minority students in ESOL settings.

Incorporating the ESOL endorsement into the course of study for all students in the teacher education program has involved all teacher education faculty as well as the local education agencies and language-minority communities. Through a process of study and involvement, a program has been created that includes a required linguistics course as part of general education, specific cultural experiences for students, an ESOL faculty member assigned as a "curriculum broker" to work with all teacher education faculty, experiences in best-practice ESOL school sites, and a capstone ESOL course within a year-long student teaching experience.

Preservice students all begin their study of second-language learners through a linguistics course taken as part of their general education sequence. Developed and taught in conjunction with the English faculty, the linguistics course provides a general overview of English phonology, semantics, and discourse with an emphasis on application. First- and second-language acquisition are specifically emphasized, providing a firm foundation in language theory for education students. This theoretical foundation is reinforced and given meaning through students' own experiences in a linguistically different culture during the "Maymester," the second initiative discussed in this paper. During "Maymester," students spend the month of May living in a diverse culture. Together, these experiences provide the cornerstone for students' construction of what learning and teaching must include in this century.

The usual approach to adding the ESOL endorsement to a preservice or inservice teacher education program is to add three or more courses to the established course of study. We have instead integrated the ESOL competencies and experiences within and throughout the entire program of study for all education students. Building on the foundation established in the linguistics course and "Maymester" experience, every course in the teacher education sequence has aspects of second-language learning concepts incorporated within the course. All instructors are trained in second-language

acquisition theory and specific applications in their content area. An ESOL faculty member serves as a "curriculum broker" for ESOL within the program. Working individually and with groups of faculty, she reviews curricular materials appropriate to education courses, provides resources for faculty use in their courses, and consults on ways to ensure ESOL competencies are fulfilled. She is able to direct faculty to community resources, including cultural informants who can speak to the concerns of language-minority groups represented in the area. Continuing professional development of college faculty will be focused on understanding and appreciating the complexity of teaching within diverse school settings.

Learning about second-language acquisition and ESOL teaching techniques within college classroom settings, while necessary, is not sufficient. Preservice teachers also need experiences in real classrooms with real second-language learners. Within our teacher education program, best-practice ESOL sites are being developed and used to provide multiple and diverse opportunities for preservice teachers to observe limited English proficient students in inclusionary (mainstream) and ESOL pull-out classroom settings. Through college-school partnerships, classroom faculty are being trained to implement best-practice ESOL techniques with their students and share their growing knowledge with preservice teachers. Under the guidance of ESOL-endorsed teachers, preservice teachers have opportunities to be responsible for the instruction of limited English proficient students and to assess the effectiveness of varying ESOL strategies within specific instructional contexts.

The teacher education program concludes with a capstone ESOL course focused on synthesizing and applying previously gained knowledge of second-language acquisition theory, cross-cultural communication, ESOL methodology and issues related to assessment and evaluation of limited English proficient students. This course is scheduled during the last two months of the year-long student teaching experience and allows students to integrate the various understandings of ESOL practice and techniques gained through their content area studies under the tutelage of an ESOL specialist. A specific field experience with limited English proficient students, as part of that course, allows for application of pedagogical implications to school classrooms. As a result, preservice teachers should now be ready to graduate with certification in their teaching area along with the ESOL endorsement, prepared for whatever linguistic and cultural diversity they may face in their teaching career.

Lessons Learned

A redesign of this magnitude is not easily nor quickly accomplished. To be successful, many groups must be involved and led to understand their stake in the process. At Berry, we had to start by changing ourselves first. At the departmental level, all faculty needed to be brought into the process as both learners and as equal voices in determining the direction we were going. Much discussion focused on what aspects of our teacher education practice needed to be modified and how to proceed. The teacher education unit faculty together revised the general program goals to reflect national and state ESOL standards. College faculty participated in an extensive series of workshops focused on second-language acquisition theory, cross-cultural communication, ESOL methodology and issues related to assessment and evaluation of limited English proficient students. Faculty researched and shared content-specific ESOL techniques within their disciplinary expertise. Cultural informants from diverse language and cultural groups in the area presented viewpoints and concerns representative of their particular communities. College faculty visited exemplary ESOL programs throughout the state. As a faculty, we quickly realized how little we knew about the lives of limited English proficient students and, consequently, how best to teach them. We grew to truly appreciate the needs and strengths of our local culturally diverse communities.

In order to fully educate undergraduates for educating all students, we needed to work closely with the arts and sciences faculty in program redesign. We understood the need for this to be a joint effort of education and arts and sciences areas. This was not always easy, as education often is misunderstood by our colleagues in other disciplines. From the beginning of our redesign effort, we involved arts and sciences (A&S) faculty in redesign discussions, retreats, and workshops. We invited arts and sciences faculty to our second-language learning workshops, although few attended. We negotiated and compromised in order to infuse ESOL throughout our curriculum and still allow secondary education undergraduates to major in their field and minor in education. We realized we could not just add courses, and with the help of our A&S colleagues, we looked at new ways to reconceptualize our course sequence to allow for these competencies to be incorporated in the program without adding extra credits toward graduation. One compromise was allowing the linguistics course to be taken as a general education English elective. The English faculty worked with us to develop the course, find instructors, and support its place as a general education elective. Other A&S faculty were working with education faculty to design the "Maymester" experience in diverse cultures. Without the support and collaboration of arts and sciences faculty, our program would not work.

We also needed the involvement of the local community in our efforts. With a growing immigrant population impacting local schools, our efforts were greeted with open arms. We have worked to establish Professional Development Schools focused on a mutual interest in educating second-language learners effectively. With the goal of providing best practice sites for our teacher preparation students to see effective ESOL practices, we have worked with school faculty to improve their skills. One elementary school has committed to having all its teachers attain the ESOL endorsement on their teaching certificates. We have committed to providing the necessary coursework on site and developed grant funding to support this process. A second elementary school is beginning discussions in a similar vein, and a middle school has identified ESOL and cultural awareness as a goal for our joint efforts. Our work with these schools has also focused on understanding the changing local community and increasing the participation of parents from other linguistic communities. Our faculty in family studies have helped us come to a better appreciation of the strengths and challenges faced by immigrant families as they negotiate the school culture. Our college faculty is learning alongside the school faculties as we come to appreciate local immigrant communities' needs and strengths.

Exploration in Diverse Cultures: "Maymester"

Conceptual Framework

"Culture and the cultural context of teaching and learning are often ignored or treated perfunctorily in teacher education programs" (Irvine, 1992). Culture, the sum total of ways of being (Hooper & Pusch, 1979), shared by members of a population (Ogbu, 1988) and including the rituals, artifacts, language, and history (Davis, 1984) has been a major focus of a three-year study conducted by the Charter School of Education and Human Sciences faculty.

Methodology

As discussed in the previous section, Berry College has restructured the preparation of our preservice teachers to effectively teach students from diverse cultures. While the number of youngsters living in poverty and immigrating from non-English speaking cultures is growing dramatically in Northwest Georgia, most of our preservice education majors come from relatively affluent homes (although many of them are first-generation students). Additionally, most of our students have had limited

exposure to other cultures and have attended primarily white middle-class schools.

Consequently, our preservice teachers will be faced with trying to teach students who have not grown up in their culture nor had the kind of economic and familial advantages that our present education majors have had. Since many of our preservice teachers may be ignorant of the effects of poverty and unaware of what it would be like to live in a different culture, a challenge to their effectiveness is imminent. If our teachers-to-be are to be effective with these 21st century youngsters, then our teacher education program must provide an experience or series of experiences such that a new way of thinking can be connected to our present teachers' conceptual framework. In a manner of speaking, the goal of Exploration in Diverse Cultures is to create a new schema in our preservice teachers based on the historical mission of Berry College.

How does one create a relatively new conceptual system when students only have had vicarious or second-hand exposure? The purpose of "Maymester" is to have direct experience in another culture, in keeping with Berry's mission of the Head, Heart, and Hands.

The acquisition of new knowledge about how a culture views elements such as the value of education, approaches to authority, gender sensitivity, and language is information for the Education of the Head. Berry College students will have the experiences analogous to an anthropological field trip. The outcome will be an ability to analyze any culture in which our preservice teachers find themselves. Whether it is a culture in the Housing Authority in Dalton or Atlanta, Georgia, in Belize or Costa Rica, or in Mexico City, they will have the sociological tools to dissect elements of another culture with the goal of understanding that culture.

The Education of the Heart will occur as students are immersed in another culture over the course of one month. As a result, we expect them to have more empathy toward students, their families and the environment of that other culture. That empathy should cause an increase in compassion, combined with an increase in knowledge of that culture.

The Education of the Hands will follow as a result of increased knowledge of the other cultures' dynamics. Increased empathy and compassion toward others should result in a change in our students' behavior in the classroom. We expect them to utilize a more constructivist model of learning, drawing from students' existing knowledge and building on that knowledge. Understanding that the knowledge our education majors possess must be combined with the knowledge that their students possess is the key to the "Maymester" outcome. Other changes will include using a total physical response, peer tutoring, more written instruction, and an awareness of the culturally different students' affective state.

A criticism of the separate-course approach to multicultural teacher education is that the responsibility for addressing the impact of racial, ethnic, gender, religious, and class differences on schooling often is limited to the professor who teaches the course. A better approach is the use of these cultural dynamics as an overlay for the total teacher education curriculum. The goal should be that graduates of teacher education programs are able to transfer this knowledge and these skills to their own classrooms when they begin to teach (Gollick, 1992).

Lessons Learned

Collaboration with the liberal arts faculty was imperative during the planning and implementation of the redesigned teacher education curriculum and its focus on expanding diverse experiences for our students. Initially, the English Department was hesitant in engaging in dialogue regarding the requirements to include linguistics as a prerequisite course to the Exploration in Diverse Cultures semester. Collaboration was expanded significantly when the coordinator of the English Department accompanied the redesign team to Evergreen State College in Washington State and observed firsthand the importance of interdisciplinary study in an undergraduate teacher education program. As a result, the English Department coordinator became a colleague and the strongest supporter of the addition of the linguistics position to serve the teacher education students and of requiring an introduction to linguistics course as a part of the requirements of all teacher education majors.

In order for the students to participate in the Exploration in Diverse Cultures activity, it was necessary to consult with the financial aid officers and devise a plan so they could register for the "Maymester" during either the spring or fall semesters. This allowed the students to plan their financial aid and not be penalized for taking a single summer course as part-time students. Scholarships are being established for students who need assistance with travel costs abroad.

Teaching Pathways

Conceptual Framework

Completing the college preparatory track in a high school curriculum, matriculating to a four-year college, and completing a teaching certificate in a bachelor's degree program or in a fifth-year master of education program is the traditional path taken by the majority of teachers that populate Georgia's schools. Throughout the years, this traditional pathway has resulted in a teaching force that is made up typically of white, middle- to upper-class females. Alternate pathways to teaching careers must be created if we expect our teaching force to reflect the demographics of students attending our schools. The mission of Teaching Pathways is to create multiple opportunities for minority students, beginning as early as the middle school level, first to be attracted to the teaching profession and then be provided with ongoing academic, professional, and financial support to achieve their goals of becoming qualified teachers. This program also partners with the local community college as a recruiting site for individuals from populations that are typically under-represented in the teaching profession and develops culturally responsive curriculum materials to support these efforts.

Minority teachers represent only 15 percent of the 325 teachers in Rome, Georgia, City Schools while minority students represent 38 percent of the schools' 4,500 students. With minorities constituting one-third of the city's population, an increasing number of minority educators are needed in the schools to mirror the diversity of the city's population. Minority teachers are especially important to serve as role models for all students. Because schooling provides the earliest near-daily exposure of children to life outside their homes, a diverse teaching force allows all students to respect people who come from backgrounds different from their own and to see persons of different cultures in leadership positions.

The difficulty of recruiting minority teachers from this community, combined with the obstacle of attracting minority teachers from urban centers to a largely rural community, has led to a consortium consisting of the Rome City Schools, Floyd College, and Berry College to identify, recruit, and cultivate minority educators from the existing minority population in north Georgia.

Methodology

The goals of Teaching Pathways are threefold. The first is to increase substantially the number of minority students to be recruited, prepared, and retained in teaching in rural Georgia through the early identification of middle school and high school students interested in teaching. Secondly, this project also will select, support, and attract community college students seeking transfer to Berry's accredited teacher education program. According to Anglin (1989), "A missing rung in the teacher education ladder is community colleges." Finally, this program will infuse the field-classrooms of the Rome City Schools, the teacher education programs at Floyd College and Berry College with culturally responsive pedagogy, curriculum materials, and field experiences.

The Teaching Pathways Program promotes success on two fronts. It helps minority students achieve their academic goals and increases the number of minority teachers in the community. These teachers serve as positive role models, encouraging the growth and success of all students, especially minorities. To aid retention and ensure a positive college experience for participants, the Pathways Partners mentoring program offers advice, counseling, and support from community volunteers.

The Teaching Pathways Program, which was initiated in 1995, is continuing to grow. Three new students were admitted to Berry College in Teaching Pathways for the fall 2000 semester. These additions bring the total number of participants in the 2000-2001 academic year to 21. This program has produced 15 certified teachers.

Each academic year, approximately \$45,000 in scholarships is awarded to minority students pursuing teaching careers. Corporate and foundation support has come from the following sources: The BellSouth Foundation, The William Randolph Hearst Foundation, Georgia Power, Nordson, The McCune Foundation, United Parcel Service, The John and Catherine Murphy Foundation, The Ruth Simmons Smith Scholarship, The Mildred Knight Family, and Coca-Cola.).

Lessons Learned

Support from the local minority community, a strong institutional commitment on the part of the president's office, assistance from the financial aid officers, collaboration with the admissions office, and a faculty committed to diversity have been key to success for the Pathways Program. It has taken five years to build support from these constituencies and to convince the campus community that the teacher education program takes diversity issues seriously. The most important institutional contribution has been the hiring of a director of multicultural affairs who reports to both the dean of the Charter School of Education and Human Sciences and the dean of students. The director, herself a black female, has brought a wide range of expertise to this position, and now the entire campus sees the importance of diversifying not only the student body, but the faculty and staff of the campus as well.

Overall Lessons Learned

It is imperative that schools, colleges, and departments of education assume greater responsibility for preparing all teachers, regardless of race, to teach in culturally diverse classrooms. The framework of these revisions must be comprehensive and holistic and include much more than a single course on multicultural education or human relations (Garibaldi, 1992).

Three initiatives – an English Speakers of Other Languages endorsement, a required field experience in a diverse culture, and the aggressive attempt to recruit, retain, support, and graduate minority teachers – have given the Charter School of Education and Human Sciences at Berry College new focus and inspiration. Once the faculty identified the importance of including culturally responsive knowledge and clinical experience into the teacher education program, there was no stopping the momentum that has carried us through the past three years. As the Charter School of Education and Human Sciences charter class begins its sophomore year, it is evident that our shift from traditional approaches to language and culture will continue to evolve; the old approaches no longer satisfy the faculty or the students. As we begin to gather data on the learning outcomes of our students and the children they teach, we will continue to create novel, pedagogical techniques to sustain and build on these initiatives over time.

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Across the nation, most teacher education programs have yet to respond to a new reality – the presence of students in school classrooms who have no or very little knowledge of English.

A Collaborative Model of Professional Development and Action Research at East Carolina University

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Introduction

The School of Education at East Carolina University in Greenville, North Carolina, enrolls approximately 1500 students and graduates approximately 630 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$200,000.

One of the focal points of the School of Education reinvention effort at East Carolina University, via a BellSouth Foundation ReCreating Colleges of Teacher Education grant, has been the establishment of a professional development model that addresses the needs of both school and teacher education faculties. The basic tenet of this model is that continuous improvement cannot be accomplished unless there is meaningful collaboration around the professional development of all players in the education continuum. Our goal was to design and implement a model that went beyond the traditional role that higher education typically has performed with respect to the training and continuing education of school personnel.

The concept of schools, colleges, and departments of education (SCDEs) bearing responsibility for the ongoing professional development of inservice teachers has been operational in teacher education for decades. Indeed, a plethora of professional development models espoused by SCDEs can be readily accessed through a search of the literature. With the advent of professional development schools, there appears to have been a key shift in the design of inservice models; yet, the perception continues to exist that higher education is frequently out of touch with the professional development needs of teachers. Teachers continue to report that workshops and graduate courses often do not address the real issues facing them in their daily work in classrooms (Sheerer & Thomson, 1997).

The traditional model supports theory over practice, decontextualized research over contextualized action research, and the advanced knowledge of teacher educators over school-based, applied knowledge. On the other hand, the model designed at East Carolina University via the BellSouth ReCreating Colleges of Teacher Education project postulates that the majority of professional development efforts for inservice teachers should shift to a collaborative design and delivery by the teacher educator or other higher education faculty member and the practitioner. Moreover, the recipients of the professional development need to include teacher educators as well. In this era of partnerships between SCDEs and school systems, we can no longer support the model of the teacher educator from the nearest college or university coming to deliver the expert word to public school faculties.

Conceptual Framework

The model of professional development for inservice teachers and teacher educators herein proposed is based on five guiding principles linked to particular theoretical positions espoused in the educational literature. These guiding principles and theoretical underpinnings are articulated as follows:

- 1. Professional development models need to impact both teacher educators and teachers to ensure needed changes in educational practice.**

As Goodlad (1990) states, educational reforms in one sector of the system must be accompanied by concurrent reforms in the other sector – i.e., renewal in schools is directly linked to renewal in teacher preparation programs. His argument is clear. For schools to act better, they must have better teachers. To prepare better teachers, universities must have access to schools using the best practices. To have the best practices, schools and teachers need access to new ideas and knowledge; at the same time, teacher educators must understand how these ideas and knowledge play out in school contexts.

Watson and Fullan (1996) also present arguments that schools and universities are inextricably related:

Schools are routinely criticized for their inability to alter the learning experiences of students and to improve the working conditions of teachers, while faculties of education are seen as irrelevant to schools. Introducing innovations, revising curricula, changing structures, bringing in new leadership – all seem to reinforce the notion that the more things change, the more they remain the same. In this context, collaboration between school systems and universities has been increasingly advocated as a potentially more powerful strategy for improving education.

A second guiding principle relates to the relationship between teachers and educational research:

2. Practicing teachers should not be viewed only as implementers of reform initiatives, but also as investigators and problem generators.

Educational research is one specific avenue for professional development that impacts both contexts. The gap between educational research and practice has been documented for many decades. As Peterson (1998) suggests, we need to ask the question again about our purpose for conducting educational research, since it does not seem to be held in high esteem by policymakers, the public, or practitioners. We are asked, as researchers in higher education, to "rethink our audiences for our research, and perhaps . . . our relationships with those audiences." One avenue for such rethinking is the "teacher as researcher" movement. Cochran-Smith & Lytle (1999), in their review of the movement over the past 10 years, see teacher research as being aligned with inquiry-based models of teacher education. With respect to the present discussion, they see teacher research as having become prominent in professional development and school reform:

The idea of teachers actively initiating and carrying out research in their own schools and classrooms is connected to programs of professional development and other strategies to professionalize teaching, to school and curricular improvement, and to various school-based and school system-wide restructuring and organizational changes.

A third principle relates to the disparity that exists between professors of education and practitioners in schools:

3. A re-examination and reversal of the traditionally privileged position of the university in relation to schools, and of the asymmetries in the relations between professors and schoolteachers, is needed.

Little (1993) notes that professional development schools are attempting to redefine the roles and relationships among teachers, teacher educators and researchers. Reciprocity is the goal, supported by parity with respect to equal representation, general availability of important information, and provisions

for exercising influence in the distribution of resources. This position necessitates a view of the practitioner as an equal, active participant in research, professional development, and decision-making with respect to curriculum and instruction, available resources, and policy. Equal representation rules out the idea of university professors "owning" curriculum development and revision processes, or being the sole providers of inservice training for personal gain.

A fourth principle addresses the difference between training and professional development:

4. Models of professional development are needed that go beyond training to allow teachers to act as well-informed assessors of reforms.

Historically, according to Lieberman and Miller (1992), teachers have been viewed as needing information from people in authority. These writers state that a collaborative approach must replace this notion, "whereby teachers are viewed as colleagues engaged in inquiry about practice." As Miller notes (1992), too often teachers are still seen as passive recipients of someone else's knowledge, rather than as sources of knowledge themselves.

A final guiding principle focuses on alternatives to the usual way of doing the business of professional development in education:

5. Professional development must be designed in ways that deepen discussion, promote reflection and discourse in communities, and support practical innovations.

Little (1993) calls for "innovations on the margin" that "embody principles consonant with the complexity of the reform task and with the capacities and commitments of a strong teacher workforce." Lieberman and McLaughlin (1992) espouse networks of teacher educators and school personnel designed to encourage more equal exchange around tough and enduring problems of teaching.

Implications of the Guiding Principles

Applying these ideas to professional development, we need to review critically any model that is designed and implemented from only one perspective. For example, each time an education professor delivers a traditional inservice program or training workshop to a group of teachers, the collaborative concept is violated. Practitioners walk away from such sessions with the feeling that their actual needs and problems in classrooms are not addressed. Likewise, teacher educators who are not exposed to professional development opportunities related to school-based issues and problems lose touch with the realities of the challenges facing teachers and are unable to guide teachers on appropriate solutions or approaches.

Conversely, when collaborative, innovative models are designed and implemented, the responses of participants are quite different. Little (1993) discusses some alternative approaches that have gained the admiration of teachers, administrators, school boards, and state policy makers. These include study groups, well-conceived teacher research, and professional development schools with collaborative leadership teams. In these, the key is the extent to which university faculty and public school personnel together design professional development experiences that impact change and renewal in both teacher education programs and public schools. The bottom line for all professional educators is the enhancement of student achievement.

The teacher as researcher model (Principle 2) has permeated the literature over the past 20 years. We suggest, however, that higher education researchers and teacher educators provide little more than lip service to the concept, even though some writers feel the movement has made significant progress (Cochran-Smith & Lytle, 1999). Otherwise we would not see such articles as in *The Chronicle of Higher Education* (1999), "The Black Hole of Educational Research," in which the question of the impact of research on practice in schools is raised. In this poignant article, D.W. Miller questions why educational research on the effectiveness of school reforms is often weak, inconclusive or missing altogether. He writes, "Even in areas illuminated by good scholarship, it often has little influence on what happens in the classroom."

Designing research around real problems and issues in our schools calls for researchers and school personnel to collaborate on research questions, data collection, analysis, and policy implications. Only when school personnel are viewed as totally legitimate players in establishing the research agenda will the gap between research and practice be addressed. Rudduck (1996) states that we need to link "teachers' own insights and concerns with frameworks for thinking that the wider community of educational researchers is always engaged in constructing."

As professional development schools become commonplace and use the newly adopted National Council for Accreditation of Teacher Education (NCATE) guidelines for reviewing their processes and outcomes, we would hope that the relationships between the professoriate and teachers are becoming more equitable. However, as we listen closely and observe the behavior of professionals in both contexts, we realize that true reciprocity is not yet operational. Teachers in professional development schools often wait for university faculty to set the pace, choose the focus, and provide the leadership. And every time a university faculty member sees herself operating as the sole knowledge bearer for teacher inservice sessions, she becomes aware that there is a decided imbalance in the so-called collaboration. University faculty must be

willing to relinquish their privileged status and find ways to set up meaningful, equitable dialogues.

All of us can readily bring to mind a workshop for teachers in which an enthusiastic presenter provided training information about a particular innovation or product for use in the classroom irrespective of the "felt need" or contextual applicability. Teachers continue to report that many staff development sessions are still constructed in this manner (Sheerer & Thomson, 1997). When the professional development involves graduate courses, the approach is often similar, according to Alan Tom (1999) in his critique of masters degree programs for teachers:

Even when based on pertinent content – professional or subject matter – these programs typically rely on didactic instruction that does not invite teachers to be active learners. Pedantic university instruction discourages K-12 teachers from employing the very kind of learner-centered instruction vital to the improvement of public education.

Professional development needs to be consistently conceptualized as collaborative and inquiry-based in which teachers are active, critical learners. Only when such models are operationalized will teachers be able to actively participate in the reform proposals and initiatives that are being advocated. As stated by Little, "we might seek strategies or mechanisms that embody principles consonant with the complexity of the reform task." Training paradigms in no way engage teachers in the pursuit of genuine questions and problems that will equip them to "deepen their subject knowledge and to assume a more assertive role in the reform of curriculum, pedagogy and assessment."

Successful discourse communities are collaborative – representing higher education faculty with their theory and research mindsets and inservice teachers with their more practical, context-embedded perspectives. Within these communities, teachers begin to feel that their own views are valuable and important, as their voices are combined with the more theoretical views of their higher education colleagues to address problems and inquire about practice. In addition, teachers who participate in such discourse gain firsthand experience with the constructivist approach to teaching and learning; that is, addressing the complexities and uncertainties of the classroom requires thoughtful reflection and the generation of new knowledge and approaches. Networks that are committed to address the tough and enduring problems of teaching create a discourse community that encourages exchange among the members.

Methodology

To operationalize the theoretical underpinnings herein presented, we designed two initiatives under the BellSouth ReCreating Project – collaborative action research and jointly-crafted and delivered professional development sessions/workshops. Resources were then allocated to support these two initiatives in line with established criteria.

For the collaborative action research grants, a committee of teacher education faculty and public school partners, working with the associate dean for research, graduate studies and professional development in the School of Education, developed a Request For Proposal (RFP), which set guidelines for the competitive process. First, proposals had to address one or more of the following areas of priority, all of which were components of the ReCreating Project:

- a) diverse learners;
- b) alternative routes to licensure;
- c) educational policy;
- d) professional development collaborations;
- e) interdisciplinary work; or
- f) technology.

Second, the proposal had to be submitted by a team of teacher education faculty and school practitioners. Third, the writers had to identify a tangible product as an outcome and be able to produce a replicable model of their work. Budgetarily, requests could not exceed \$4,000 for one year; expenses could include graduate assistant support, reassigned faculty time, stipends for public school teachers, travel, and equipment. Following submission, grant proposals were reviewed by three individuals who represented public school and higher education faculties, both from East Carolina and sister institutions. RFPs were sent to all participating school districts in the East Carolina Clinical Schools Network and teacher education faculty at ECU. In addition, four information sessions were conducted in different parts of the region by the associate dean to help clarify project development or provide information on potential faculty partners.

With respect to the jointly-crafted professional development workshops, the process was directly orchestrated by the clinical staff of the East Carolina Clinical Schools Network (ECCSN). The staff, who met monthly with liaisons from the 11 participating school systems, solicited topics for professional development sessions, appointed a representative committee for the same purpose from the network members, and designed a model that addressed three particular topics – diversity, performance-based licensure, and thinking skills. Each of the sessions were initiated and implemented differently.

Regarding diversity, one school system in the network partnered with East Carolina to send two faculty and two public school teachers to be trained at the MultiCultural

Institute in Washington, D.C. From this joint venture, the school system and ECU planned and implemented particular diversity programs in the respective school system, at ECU and in the ECCSN. A diversity Symposium was held at which higher education faculty and public school teachers collaboratively presented sessions on gender equity, sexual orientation, exceptionality, culture, race, and ethnicity. Participants at the Symposium included faculty from ECU and clinical teachers from the ECCSN.

A second event, a three-day Diversity Institute, also was organized for ECU faculty and clinical teachers in the network. The School of Education sponsored the Institute, and the presenters were the four jointly-trained faculty representing ECU and the school system. The purpose of this Institute was to train cadres of faculty from the university and the public school systems in the network who would then go back and train others in their systems. Approximately 60 people attended the three-day Institute. Of these 60, 13 were ECU faculty and 47 were public school partners from nine counties.

As a result of the feedback received from the summer Institute in 1999, the School of Education was asked to repeat the Institute in the summer of 2000 and to add a second level. As a result, in June 2000, a two-day Institute and a one-day workshop on diversity were scheduled; again, ECU faculty and public school clinical teachers jointly delivered these sessions, and participation was open to faculties from both contexts.

With respect to performance-based licensure, ECU and the ECCSN sponsored a two-day workshop in the summer of 1999. Presenters were faculty from ECU and public school teachers who had successfully completed the pilot performance-based licensure process. The sessions covered the key topics surrounding PBL in North Carolina – an overview of the process, viewing evidence, reflection, assessment, case studies, timelines and tips for planning, initially licensed teachers' perspectives, and electronic portfolios. Participants numbered 132 and represented ECU, the ECCSN, and other counties from across the state.

A third topic addressed via the jointly-designed professional development model was that of thinking skills. The School of Education sponsored a three-day training in the use of Thinking Maps in March 2000 with a two-day follow-up training held October 2000. Again, ECU faculty and public school teachers from the ECCSN attended the initial session together, which served as a vehicle to train the trainers in each of the school systems in the Network and at ECU. In August 2000, an ECU faculty member, a public school principal, and a public school teacher from one of the School of Education's professional development sites conducted a one-day workshop for interested ECU faculty on using the Thinking Maps with summer school preservice teachers.

Evidence of Impact

Collaborative Action Research

As collaborative action research grants were funded and implemented, a process for evaluating the projects and their impact was put into place. Three guiding questions were used to conduct an analysis of outcomes (Sheerer & Pedersen, 1999):

1. **What evidence exists that collaborative action research influenced the knowledge base of teaching and learning?**
2. **In what ways do the research projects reflect the overall goals of our reinvention plan?**
3. **What evidence exists that the research projects generated individual or institutional renewal or change?**

Overall, qualitative analysis provided evidence of the positive impact of the research projects on the teaching and learning knowledge base. The following examples are included in support of this conclusion:

- Two teacher education faculty and the public school teachers with whom they collaborated looked at planning, integration of subject matter, and teacher growth as variables in their field-based study. Results indicated that for this particular community of practice (university faculty, clinical teachers, and preservice teachers), the members changed planning and teaching strategies in ways that facilitated growth as educators. The authors also concluded that the partnership model itself formed the backdrop for the skills and knowledge gained by the three participant groups.
- A field-based study, focused on academic progress in reading at one particular school, evaluated the effects of direct instruction. Preliminary data suggest that DISTAR teaching strategies and materials, when utilized with a particular population, may promote accelerated academic progress. The action research team consisted of the higher education faculty member, the school principal, a graduate student, and school-based teachers.
- A study in a science department of an area high school had the clearly stated goal of forming a community of practitioners committed to the goal of improved student learning. The project focus resulted in the restructuring of three key science courses to align them with the National Science Education Standards. Outcomes of the study indicated changes in teaching strategies, as well as student gains. This learning community initiated a follow-up collaborative project to continue their research together, thus ensuring a longer-term emphasis on teaching and learning in the area of science.
- A collaborative research project focusing on technology initiatives directly addressed teacher knowledge and attitudes with respect to innovations and computers. In this study, the researchers looked closely at teachers' perceptions and suggested specific strategies to deal with the needed

changes. They concluded that technology can be a powerful tool for promoting inquiry – a main goal of science education programs.

- A project initiated from the Department of Educational Leadership looked at a new model of supervision for administrator interns – mentor training. The results of this study indicated that quality training for mentors of school leaders will strengthen university preparation programs and school district induction programs for new school leaders.
- The primary goals of a project entitled "Supporting and Assisting Alternative Licensure Teachers" were
 1. to assist lateral entry teachers in ways that would address their unique needs and enable them to be more effective in the classroom; and
 2. to increase retention of these teachers in the profession.
 To meet these goals, the grantees surveyed lateral entry teachers and principals to determine needs and areas of concern. They then provided monthly individual counseling for these teachers concerning licensure status and progress, and they assigned a mentor for support. This action research project was co-authored by the director of alternative licensure at ECU and the Clinical Schools liaison from the participating school system.

The second question of the overall analysis that was conducted asked whether the research projects reflected the overall goals of the ReCreating Plan. Because a clear RFP was used to solicit and review the proposals, we concluded that the projects met the criteria of:

1. being a team of university and school-based faculty,
2. focusing on a real problem, and
3. addressing a key emphasis of the ReCreating Plan.

The final question relating to institutional renewal is more challenging. We believe, however, that we have embodied what Robinson (1998) communicates as narrowing the research-practice gap through our efforts in collaborative action research. According to Robinson, this is not just a matter of disseminating research more effectively. Rather, it is a matter of sustaining problem-solving for practices that researchers and practitioners both seek to alter. We have, indeed, used the collaborative action research projects initiated through mini-grant funding as a means for:

- generating mutual dialogue about the nature and need for reform with partners;
- generating action research agendas focusing on the needs of individuals developing proposals, rather than on a response to a mandate or reform initiative;
- generating collaboration among higher education faculty and K-12 faculty by providing resources for the generation of co-developed action research projects;

- generating public means through which the research can be shared and disseminated; and
- generating means for continued change and renewal.

In order to gather additional data regarding institutional change, individual interviews were conducted with a sampling of participants from the total population of grantees. The questions used in each interview focused the participants on the issues of institutional renewal or change. A key two-part question asked of the interviewees was, "What impact did your partnership have, and what is the future of the partnership?" In each case, individuals responded that their partnership had an impact on both the teachers and the students involved in the research project. All of the respondents also indicated that the collaborations had their shortcomings. One respondent put it succinctly when he indicated:

I think [the project] impacts both the classroom teachers as well as . . . our preservice teachers. It has an impact short-term, that I can say . . . but long-term, it would be interesting to track these students who have had that level of involvement to see if they are more competent teachers (Sheerer & Pedersen, 1999).

The key here is the recognition by the interviewee that the value of the project must ultimately lie with the end result – teaching and learning in schools – even if we can only measure the short-term impact now. All grantees had similar insights and reflected in their interviews the fact that systematic change and renewal for the School of Education and for K-12 public schools requires long-term and ongoing commitments.

Overall, both the collaborative action research projects and the professional development programs met a primary goal of our re-creation efforts – that is, to create and sustain partnership activity between higher education and our public school partners to improve both the teacher preparation program and the curriculum and student achievement in schools. The simultaneous renewal needed can occur only if such partnership work is built into the very fabric of our interconnected educational system. We believe that the ongoing feedback we are receiving from the implementation of these two programs supports reinvention efforts in this direction.

Lessons Learned

The challenges of sustained partnership work are very apparent, and we continue to learn better ways to build the model into our work through the East Carolina Clinical Schools Network. Key lessons learned thus far can be summarized as follows:

- The development of collaborative structures and sustained partnerships between higher education and public schools takes time and commitment, from upper level leadership as well as from faculty and public school partners;
- Faculty reward and evaluation processes must acknowledge and elevate partnership work for the model to be valued;
- Both K-12 teachers and university faculty hope to research their questions and improve their practice;
- Collaborative action research and jointly-crafted professional development programs can serve to engage individuals in the development of partnerships if they are funded and consistently advocated;
- The leadership team of a school of education must internalize partnership work as a key goal of reinvention for it to work.

Shifting the perspective of university faculty relative to professional development will take considerable time. But as Fullan (1998) suggests, change-oriented faculty and administrators must be willing to take a stand in the direction of collaboration:

When all is said and done, reform in teacher education must begin simultaneously in schools and in faculties of education, both independently and together through multi-year alliances, which serve to put pressure and support on both institutions to change their ways and realize their relationship to each other.

Rudduck (1996) concludes that the success of partnerships and, thus, the collaborative model of professional development herein presented, will depend on the readiness of the partners to give up their traditional mythologies about each other, to learn to respect each other's strengths and to recognize each other's needs and conditions for professional survival.

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Standards-Based Reform in the School of Education of Fort Valley State University

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Introduction

The Fort Valley State University College of Education in Fort Valley, Georgia, enrolls approximately 1060 students and graduates approximately 125 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$150,000.

At no time in our history has so much attention been paid to the total educational system of this country. As the performance of school-age children continues to fall below that of children of other countries and as our schools have become considered unsafe dwellings open to drug trafficking, assault, and the taking of human life, schools and schooling are topics for everyone. The magnitude of the problem as a national issue is reflected even in politics: A strong education platform is now a catalyst for elected officials in many states as it was in the last national election.

When the problems confronting our schools are discussed, at the heart of all the debate is the quality of our teaching force. The discussion ranges from deficiencies in teacher training, to selection of teachers, the diversity of the teaching force, and breadth and depth of teachers' content knowledge. At the other end of the spectrum, the conversations center around salaries, the respect for or status of teachers, the instructional environment in schools, lack of parental support, and the demands placed on today's teachers.

Clearly, there is room for criticism both from educators who complain of insufficient support and from non-educators who complain of poor results from teachers and, in particular, poor test scores. In reality, the entire educational system, which has not changed dramatically since the concepts of Dewey, is in need of a major overhaul. Efforts to accomplish this have been labeled "reform," "restructuring," and even "re-creating." All of these efforts involve what John Goodlad has called "simultaneous renewal." This concept simply means that we cannot have excellent schools if we do not have excellent teachers graduating from excellent teacher preparation programs. Likewise, we cannot have excellent teachers graduating from excellent teacher preparation programs unless we have excellent schools to serve as training and development laboratories.

Many college and university departments of education are "reforming" their programs in response to policy mandates and criticisms. The needs of public education and the pressures on departments of education are great. The environment at Fort Valley State University in Georgia is no different. In response, Fort Valley State began the Charter Teacher Education program, initially funded through the BellSouth ReCreating Colleges of Education initiative.

The primary focus of this model to re-create teacher preparation is the implementation of standards at the course level, accompanied by varying the structured period of time for delivery. The basic change is to abandon the typical time frame of quarters or semesters to implement a system where time becomes secondary to achieving and meeting established standards. This model is being implemented to break from the traditional acceptance of mediocrity rather than excellence as a performance level for future teachers. There can be no excellent teachers in classrooms unless schools of education are helping them achieve this level of excellence.

Conceptual Framework

Kati Haycock in *Thinking Differently About School Reform* writes that student achievement remains unacceptably low and that "even students who arrive at college with 'A' or 'B' averages frequently cannot write clearly, compute easily or think critically. This is especially true of minorities and students from poor families" (Haycock, 1996). She continues to state that equal opportunity remains a hollow promise in America and that the gap in achievement continues to exist and even widens between majority and minority children. Unless we turn that pattern around, our colleges and universities will look less and less like the country as a whole (Haycock, 1996).

This phenomenon leads to the primary motivation for focusing on standards-based preparation. The historically African American Fort Valley State University has enjoyed a rich tradition of supplying African American educators statewide, nationally and internationally. As we move into the 21st century, Fort Valley's desire to continue to provide our schools with quality teachers remains high. In 1996, African Americans comprised only seven percent of the public school teachers in the United States (Feistritz, 1996). This number is expected to drop as minorities choose not to enter the teaching profession for many reasons: low salaries, other available opportunities, and the perception of unfair treatment and lack of respect. More recently, however, the performance of minorities on licensure examinations, e.g., PRAXIS II, has caused great concern in many states, and public disclosure of the performance of African Americans and other minorities has begun to significantly impact the number of certifiable minority educators.

It is important to keep the value of a diverse teaching force at the forefront of educational dialogue throughout all teacher education reform efforts. It is through these efforts that more can be achieved to eliminate prejudices and forge a common identity. Such is the mission of Fort Valley State University and, from it, the commitment to ensuring that teachers are prepared to achieve improved learning of all students.

In 1990, the average Scholastic Aptitude Test (SAT) verbal and mathematics scores for all students nationally was 424 and 476, respectively, for a total of 900 (College Entrance Examination Board, 1990). During that same year, African Americans expressing an interest in teaching had an average combined SAT score of 686 with an average of 328 on the verbal component and 358 on the math component (College Entrance Examination Board, 1990). It is common and often expected that students with SAT scores at this level will be required to enroll in developmental or learning support courses. Likewise, the performance of African Americans as well as some other minority groups also suggests that college-bound

students, who are African American or of other minority groups and who pursue their interest in teaching, will require significant academic assistance if they are to earn a degree and ultimately become certified.

The low performance on the SAT is only one indicator of the issues motivating our restructuring effort. The long series of challenges is characterized by:

- low SAT scores
- above average learning support enrollment
- difficulties managing and completing the necessary curriculum
- difficulties in integrating content knowledge with appropriate pedagogical skills
- low scores on basic skills and licensure examinations such as PRAXIS I and PRAXIS II.
- doubts and concerns about a teacher's content knowledge; that is, do they have a solid breadth and depth understanding of course content

The issue of poorly prepared students moving into the ranks of America's teaching force is not new. For many years, the fact that education was not attracting its fair share of "the best and the brightest" has been chronicled in the literature. More and more, states are beginning to address this issue and are taking action. In Georgia, for example, public colleges are required to report the comparisons of such data as SAT average scores and average grade point averages of those entering the field of education with those in other fields. Additionally, those with scores below that average for the class in which he/she first enrolled must find other means of becoming a teacher education major.

The United States has become increasingly concerned about improving student achievement in the past decade (Okpala, Smith, Jones and Ellis, 2000). Fueled by the standards movement as a measurement for success in the late 1980s (Galluzzo, 1999), educational reform now is synonymous with accountability, quality, assessment, and student achievement (Burns, 1998). The basic idea of standards-based reform for teacher education is to create clear, consistent, challenging goals for student learning, and then to make educational practices more coherent by using these standards to guide instruction and assessment. The use of state standards that have been formulated from national standards and K-12 student standards serves two vital functions. First, it is a conscious effort to plan and implement teacher education curricula based on a valid assessment of what teachers should know and be able to do. Second, the use of standards enhances the credibility of curricula because of its alignment with content and K-12 standards. Ultimately, standards-based reforms should be judged on how well they affect the educational progress of those matriculating in our program.

Standards-based reform should also encompass the principle of equity. The principle of equity is reflected in

efforts to enforce high standards for all students in educator preparation programs at the university and to ensure that there is a fair opportunity for all students to successfully negotiate the required teacher certification examinations. Equity in standards-based reform also implies attention to the conditions in which students are expected to meet all standards.

The concept of accountability plays a role in the legitimacy of standards-based reforms. Accepting the seriousness of the undertaking to implement a standards-based reform agenda requires a significant mind-shift on the part of faculty. At Fort Valley State University, faculty have decided that student achievement is everyone's business. Overwhelmingly, the decision was made to assess our own value not in how well we teach but in how well our students learn.

Upon making the decision that quality learning was at the forefront of our efforts, another decision about restructuring became necessary. This restructuring dealt with the issue of time. Standards-based reform requires that expectations be based on what students know and are able to do. This means both "learning more" and "learning with a greater depth of understanding." Thus, additional time is required for additional assessments, scaffolding and support services, and for students to gain specific knowledge and skills. Wood has indicated that "to change the pace of school is the clearest, simplest and most straightforward way to improve education." In standards-based education this is applicable and appropriate for all levels.

Despite the rhetoric of standards by the National Council for Accreditation of Teacher Education and the National Board for Professional Teaching Standards, standards in teacher preparation program reform have not extended beyond the superficial level (Desmond et al, 1998). This would make standards-based teacher preparation reform an unlikely choice for some higher education faculty. However, it was the best choice for Fort Valley State University.

Methodology

Fort Valley State has a rich heritage shaped and defined by its education of teachers. The university has produced many fine educators serving in local, national and international assignments. However, today new challenges confront the university and its peer institutions. Among the greatest of these challenges is sustaining teacher preparation programs at historically black colleges and universities. Particular challenges include:

- continuing to prepare large numbers of minority teachers for the workforce
- overcoming historically poor performance of minorities on teacher certification examinations (i.e., PRAXIS II)

- meeting the impending challenges by the federal government, embedded in the Title II legislation (i.e., the designations of low performing schools).

Of greater importance, however, is the grim reality that these institutions are no longer satisfied with the teachers they are producing. Although there is general agreement that we are preparing educators better than we ever have, we acknowledge that the needs and demands of today's schools and students require very different teachers than those previously prepared.

It is customary for educational institutions facing such challenging critical times to focus on "quick fix" approaches that will, at most, "stop the bleeding." Drawing on the institution's commitment to prepare caring, competent and nurturing teachers, the university avoided the "quick fix" approach. Rather, it chose to systematically re-create itself and its teacher preparation program. Through a systemic reform approach and a set of strategies, Fort Valley State committed itself to producing pre-service teachers who are well grounded in discipline content and possess the pedagogical skills necessary to promote student achievement.

In 1999, Fort Valley State University framed its re-creating efforts as a "charter teacher education" concept, because of its multi-level approach addressing, among other things, an extended view of leadership and a sharp focus on specific student outcomes.

Premises on Which the Redesign is Based

While there are many beliefs and theories regarding teacher preparation, core curricula, testing bias, learning styles and learning pace, among other topics, a set of core realities undergird the Fort Valley model:

- The core (general education) curriculum is the foundation to the major
- Minorities typically score lower than whites on standardized tests (College Entrance Examination Board, 1990)
- Bias exists in testing but is difficult to pinpoint in many cases
- A quality education significantly reduces the gap between the test performance of minorities and whites

Other deficiencies relevant to all teacher preparation were considered in the design of this model; these included:

- teacher shortages
- shortages of teachers of color (Kauffman, 1988)
- out-of-field teaching
- deficiencies in teacher content knowledge
- inadequate clinical experiences
- insufficient parental engagement skills
- inappropriate preparation in reading
- inadequate classroom management skills

These issues became rallying points on which Fort Valley's restructured program was built. Simply stated, a strong content background coupled with instruction, modeling and practice of excellent pedagogical skills, combined with the latest advances in technology that enhance a pupil's ability to learn and the teacher's ability to teach, are prerequisites in the development of an effective educator. Preparation that focuses on content, pedagogy, and technology will go far in narrowing the gaps in performance between minorities and whites and will relegate the focus on "tests" and "bias" to a lesser status. Thus, the emphasis of this "re-creation" is not on accountability in terms of test performance but rather on the quality of the preparation received by our students and their ability to maximize the learning of all students they teach.

The Four Pillars of Restructuring

The pillars on which this model rests are:

- **Diversity:** Diversity must be valued in the teaching force. The focus is on opportunity for minorities.
- **Achievement:** The model is one of achievement rather than remediation.
- **Standards:** The achievement model focuses on predetermined standards and mandates high levels of performance. The standards are not to be compromised and are more important than grades.
- **Time:** Time will vary while achievement and holding students accountable to standards will remain constant – **This is key.**

Standards-Based Vehicle for Curricular Changes

Wanting to take advantage of other changes already occurring in the university's culture with regards to accountability and assessment, the "re-creation team" felt that implementing standards at the classroom level was the logical way to proceed.

The university has been engaged at national, state, local and institutional levels in writing and implementing standards since 1996 when faculty and administrators engaged with other universities, colleges, technical institutes and K-12 faculty and administrators to articulate what students in Middle Georgia "should know and be able to do" to successfully negotiate preschool through college curricula (Taylor, The Middle Georgia P-16 Council, 1997). Though the standards were not implemented at the classroom level, the work engendered revitalized conversations on campus about the "scholarship of teaching." The university's general education outcomes were revised and course-embedded assessments were designed to measure the university's success in maximizing every student's attainment of the outcomes (Sharif, Fort Valley State University Institutional Assessment Office, 1997).

Furthermore, the national standards movement sweeping all of K-12 education made standards-based teacher education a sensible approach for the university. The process of

developing and refining standards for the program has proved beneficial in establishing what teacher preparation majors should know and be able to do.

The Standards-Based Model

The Charter Program requires student mastery of an absolute set of high standards to at least the proficient level in order to earn credit for each course. The standards make explicit what teacher candidates must know, be able to do, and accomplish in order to complete course requirements and to be recommended for teacher certification. These standards represent high expectations and serve as the organizing element for teaching, learning, supplemental assistance and assessment. Rubrics will be used extensively to assess all standards.

Organizing a program around standards changes teaching and learning in several fundamental ways.

- Standards are held constant for all students, and students must reach the standards to either the proficient or advanced level to receive course credit.
- The amount of time it takes each student to reach at least the proficient level on the standards will vary among students. Some students will need to re-enroll for the same course to reach the proficient level. Others will need a smaller amount of supplemental instruction in small groups or through short intercessions scheduled throughout the year. Others will achieve proficiency right away.
- Faculty who are teaching in the program must commit to personalizing instruction in each course to help all students reach the standards at either the proficient or advanced level. Faculty also must offer short courses or hold extra sessions as necessary to provide students with every opportunity to move through the program in a reasonable amount of time without compromising standards of achievement.

Other Program Components

In addition to a standards-based curriculum and varying the time needed for each student to achieve the standards, a number of other features characterize the Charter model, consistent with research and best-practice approaches for the preparation of teachers.

Faculty

Wisniewski has stated that "the viability of the charter concept lies in the fact that many colleges have a core of dedicated, strong faculty prepared to take risks. They want to alter curricula, to reorganize their work lives, to link closely with public schools and to conduct scholarship on all of these responsibilities. They usually are not in the majority. They are frustrated by the rigidity of university procedures and their colleagues" (Wisniewski, 1999).

At Fort Valley State, three groups of faculty comprise the teaching force of the charter program.

- Full-time teacher education faculty with work assignments in the instructional and/or management components of the program.
- A second group of faculty have joint appointments. These individuals have traditional appointments in one of the other three colleges of the university and have some percentage of their workload assigned to instruction in the Charter College.
- To a lesser extent are faculty "on loan" to the program. These individuals teach only one class on a less frequent basis.

All faculty teaching courses in the program are required to be part of a "cluster" – a group of teachers from a variety of disciplines who work together to create learning connections between areas such as literature, history or philosophy. These faculty members must participate in cluster meetings to aid in the assessment of individual students and plan ways to assist those students in moving to higher levels of learning. Cluster faculty have reduced teaching assignments.

Admission

Admission to candidacy for teaching takes place at the end of the sophomore year. It requires that all students first exit the newly established Communication Skills Center reading at level 13 or higher on the Nelson–Denney Reading Inventory. Additionally, the student must exit the core curriculum standards and competencies, pass the Regents Test, pass PRAXIS I and have a 3.0 grade point average. Students also must obtain approval from arts and sciences, education and K-12 professionals prior to being admitted.

Core Curriculum & Cluster Development

Since the core curriculum is the foundation of the major, the Charter College proposes to extend the time that is required to exit these courses for students who need it. Exiting courses in the core will no longer depend only on a passing grade, but also will require the demonstration of competencies or outcomes using prescribed assessment techniques. Exit requirements and rubrics are mandated for all courses. Students cannot fail unless no progress has been made. This procedure is designed to raise the bar of achievement for candidates without creating a high "elimination" rate associated with raising the bar. Instructors will not have to inflate grades because there will be no repercussions for having given too many failing grades (Roth, 2000). Every student is expected to and will be helped to achieve the established standard.

Clusters

Along with the new policies listed, clusters have been established for selected core curriculum courses. The Clusters are "tied together" by a unifying theme developed by discipline experts of the Charter faculty. The idea is to integrate a variety of courses into an interdisciplinary curriculum to maximize the potential of the student to learn (Swift, 1985).

Cohort Groups

All Charter College students will be admitted to the program during the fall semester, thus forming a cohort. Each cohort is assigned a preparation team consisting of two public school teachers, two discipline teachers, two pedagogy instructors and an instructional technologist. The preparation teams will provide pertinent support or create scaffolding activities for students struggling in the program. They also serve as mentors to students to help them understand the profession of teaching.

Field Experiences

The Charter College continues the present model of ensuring that students receive extensive field experiences, utilizing the assistance of our partner schools. To enhance this model, we followed the recommendations of Howe (1999), who suggested that teacher preparation programs needed to facilitate transitions between teacher education coursework and K-12 schools. Each student receives a mentor who is required to review the performance levels of candidates assigned to her or him and ensure that these students are exposed to a variety of teaching strategies and skills. In addition to giving teacher candidates a more realistic view of today's schools, classrooms, and students, we hope the mentor approach will enhance their successes and increase the likelihood that candidates will stay in the field for at least three years (Huling, 1998).

Extensive Testing

All students, beginning at the freshman year, receive continued instruction on test-taking strategies including physical preparation for tests. To maximize opportunities for success on standardized tests (Schwartz, 1999), extensive testing will take place throughout the entire program.

It is essential that students are taught in ways that complement testing; therefore, university faculty must receive ongoing professional development in this area (Mertler, 2000) to:

- plan courses at the application level or above;
- instruct at the application level or above; and
- prepare examinations which test for knowledge and skills at the application level or above.

Authentic Assessments

All cohort students will be required to develop portfolios to reflect what they know and are able to do. These performance-based assessments will make use of technology to reflect the candidates' competence.

Assessment

There is a specified assessment for each standard listed in a given course. Extensive use is made of rubrics. In addition to receiving the standards on the first day of class, students also receive a copy of the assessments. The manner in which these assessments are written or implemented varies according to content. To ensure that assessments are consistent with high expectations, each instructor must have these reviewed and accepted by the Charter program faculty.

Grading

At the end of a successful term, students can earn only grades of "A" or "B":

- A = student has met all standards in this course to the advanced level.
- B = student has met all standards in this course to the proficient level.
- IC (Incomplete in Charter Program) = student is partially proficient on the standards but needs additional instruction to become proficient.
- IPC (In Progress in Charter Program) = student is not yet proficient on the standards and must re-enroll in the course.
- F = student has taken the course a second time and has not yet met the standards at the proficient level or student put forth insufficient effort in the course the first time.

Student Support and Advisement

Students enrolled in the program are offered extensive support to meet the exit competencies of courses. An Advisement Center has been established to ensure that students have full access to guidance to aid them in meeting program requirements and test taking. The Advisement Center also reduces faculty advisor responsibilities.

Technology

Students are required to demonstrate competency on technology standards for admission to candidacy and for exiting the program. Teacher candidates are expected to demonstrate Pellegrino and Altman's third design dimensions for teacher education programs:

the third design dimension...represents a gradual and progressive increase in the sophistication and complexity of the technology-based applications that students experience in a course. In part, this dimension captures the fact that over the length of their teacher preparation program, students mature in their own understanding and sophistication with respect to content knowledge, pedagogical content knowledge, and knowledge of technology (Beck & Harriet, 1999).

Board of Review

A review board has been established consisting of classroom teachers, school administrators and unit faculty. This board reviews candidates' work and assesses the readiness of individuals to enter the profession. A number of assessment instruments will be used including portfolios, videos, and teacher recommendations. The review takes place upon a student's completion of the program.

Teacher Induction and Follow-Up

All graduates will be tracked for up to three years in their professional teaching assignments. Follow-up will be conducted via technology. There also will be school visitations to assist the beginning teacher and follow his or her progress.

Lessons Learned

The challenges of implementing such a standards-based model of a teacher education program are enormous. This is even more true when every college at the university is impacted.

The concerns which were voiced as this model was first implemented continue to be heard. Among the concerns are expressions of the need for campus-wide implementation and the elimination of what some call "two-tiers" of preparation for enrollees; others worry about an "unfair" system.

Because this model has involved the entire university, the lessons learned have been made very clear and can be summarized as follows:

- Changing the focus from adult teaching to student learning requires an attitudinal shift on the part of the faculty. Once this shift occurs, it has the potential of uniting that group of faculty who measure good teaching by the level of student learning, but it also polarizes faculty who view good teaching only in terms of self.
- Restructuring efforts do not require large numbers of individuals to get started. More important than the numbers is adequate representation from all relevant stakeholder groups.

- Reform efforts require that faculty be rewarded for their efforts. However, the nature of the reform must dictate the nature of the rewards. Ideally, the sum total of the reform effort should result in changing the reward structure of this institution.
- No reform effort to improve schools and enhance student learning can take place without the committed participation of arts and sciences faculty and K-12 schools.
- All reform efforts must be accompanied by research consistent with the reform strategy. The research must be ongoing and must inform the effort in a formative way.
- Reform efforts must be guided by a leadership team, consisting of a few highly committed, totally dedicated stakeholders, and must have the full and active support of the institution's leadership at every level.
- A reform effort that shows some immediate impact is more likely to be successful and to be systematized.

Overwhelmingly, the decision was made to assess our own value not in how well we teach but in how well our students learn.

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Teacher To Teacher: Furman University's Model For An Integrated Five-Year Program of Teacher Preparation

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Introduction

The Furman University College of Education in Greenville, South Carolina, enrolls approximately 300 students and graduates approximately 50 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$150,000.

Furman University, a private liberal arts college in South Carolina, has been involved since 1987 in several initiatives to spur the redesign of the teacher education program. While earlier analyses of our program and of the literature current to education reforms resulted in improved teacher preparation on campus, these initial efforts resulted in little more than "updating" course offerings and field experiences and providing greater attention to modeling effective teaching practices in the college classroom. Since then, three recent initiatives, occurring almost simultaneously, have gone much further in creating a unique and high-quality teacher education program within the context of a selective liberal arts institution.

The first impetus was an affiliation with the National Network for Educational Renewal (NNER). This resulted in the creation of Furman's Forum for Educational Inquiry, a "virtual" center of pedagogy within which arts/sciences/humanities faculty, education faculty, and public school personnel work together on renewal of P-16 education. The second and third initiatives, while distinct, have become intertwined. One was Furman's initial accreditation by the National Council for Accreditation of Teacher Education (NCATE), and the other was the BellSouth Foundation's ReCreating Colleges of Teacher Education initiative. The previous decade of education "reform" may have offered a number of paths with different names but, ultimately, the paths were similar in character. Our most recent work of re-creating the teacher education program has been consistent with the literature and "best practices" and this has strengthened our institutional, state, regional, and national support for drafting an ambitious program. Major credit, however, goes to the BellSouth Foundation for providing not only funding to urge our efforts along, but strong and insightful leadership to motivate us to be more bold than we might have been otherwise, and to ensure that their investment of resources produced a model worthy of interest and examination.

The specific focus of Furman's renewal has been the creation of an extended program of teacher education that integrates undergraduate liberal studies and preparation in education with a graduate level internship. Best practices and research and inquiry in the classroom are centered around the National Board for Professional Teaching Standards (NBPTS) model. Partnership with a small, rural school district, Anderson School District One, resulted in a collaboratively developed program that has been approved by the South Carolina State Board of Education as a pilot for the state, known as the Teacher to Teacher Program. Due to increased interest in the year-long program by teacher candidates, the program has been expanded into another local district, Spartanburg School District Six.

Multiple factors led to Furman's decision to make significant changes in the content, structure, and delivery of the teacher education program leading to licensure in grades one through eight. These included feedback from teacher candidates exiting the traditional program and from alumni of two and four years, a survey of Furman students in education courses, literature reviews, participation in national teacher education conferences, an internal study to determine whether reflective thinking and writing on teaching would carry over into classroom teaching, and program consultants.

Exit evaluations and alumni evaluations of the teacher education program during the 1996-99 years revealed consistencies in the following recommendations: increased time in field experiences; a teaching internship, particularly in diverse settings; stronger preparation in teaching and managing diverse populations; increased preparation in assessment; and increased preparation in the use of technology in teaching. Limited by the traditional structure of a four-year baccalaureate program, we had to look at new structures and modes of delivery.

Conceptual Framework

Our affiliation with the NNER has provided important leadership development in all aspects of education renewal, undergirded by study in what is referred to as "The Agenda." This bold agenda is grounded in four "moral dimensions": preparing teachers to develop, in their students, a sense of citizenship in a democracy; preparing teachers to ensure access to fertile knowledge for all students; developing teachers' capacity to be caring in and nurturing of student learning (nurturing pedagogy); and inspiring teachers to assume a role of stewardship of schools (Goodlad, Soder & Sirontnik, 1990; Norlander-Case, Reagan, & Case, 1999). After years of study on the education of educators, Goodlad (1990, 1994) espoused three recommendations of a new curriculum for prospective teachers, and these have guided our curriculum re-creation work:

- a solid, coherent academic foundation, prior to preparation in education, that includes a sophisticated understanding of democracy and some exposure to the art and science of teaching as modeled by professors;
- a well-sequenced program of professional education that includes the study of learning, teaching, and schooling; and
- a post-baccalaureate sequence of well-supervised practice in partner schools wherein there is a commitment to preparation of teachers, ongoing renewal, and inquiry.

Also important is the thoughtful sequencing and integration of curriculum and experiences that enables teacher candidates to develop an understanding of the relationships among disciplines and between theory and practice (Goodlad, 1994).

Additional support for our efforts is attributed to the National Commission on Teaching and America's Future (NCTAF) Report, *What Matters Most* (1996), in which the following recommended changes to reinvent teacher preparation and professional development were made:

- Organize teacher education and professional development programs around standards for students and teachers. This recommendation is further defined to include:
 - stronger disciplinary preparation;
 - greater focus on learning and development;
 - more knowledge about curriculum and assessment design;
 - greater understanding of how to help special-needs students;
 - multicultural competence;
 - preparation for collaboration;
 - technological skills; and
 - strong emphasis on reflection and inquiry.
- Develop extended teacher preparation programs that provide a yearlong internship in a professional development school.

- Create and fund mentoring programs for beginning teachers, along with evaluation of teaching skills.

Two additional recommendations for change that guided our re-creating work were included in the subsequent report of the National Commission on Teaching and America's Future, *Doing What Matters Most*, (1997):

- a common clear vision of good teaching that is apparent in all coursework and clinical experience.
- extensive use of case study methods, teacher research, performance assessments, and portfolio evaluation to ensure that learning is applied to real problems of practice

Similarly, Fullan, Galluzzo, Morris, and Watson (1998) worded many of the foregoing recommendations differently, in the form of components of reform:

- stronger knowledge base for teaching and teacher education;
- attracting able, diverse, and committed students to the career of teaching;
- redesigning teacher preparation programs so that the linkages to arts and sciences, and to the field of practice, are strengthened;
- reform in the working conditions of schools;
- development and monitoring of external standards for programs as well as for teacher candidates and teachers on the job; and
- rigorous and dynamic research enterprise focusing on teaching, K-teacher education, and on assessment and monitoring of strategies.

With the exception of reform in the working conditions of schools, the other components of reform are now in evidence or in progress in our teacher education program.

As we struggled with how to extend our teacher education program to fulfill the needs called for in reform agendas and student and alumni evaluations, the BellSouth Foundation consultant provided a possible structure for consideration. This structure would make it possible for teacher candidates to graduate with a baccalaureate degree in four years with the majority of their professional education completed, and provide an internship in the following year for graduate credit (Wisniewski, 1998). A senior English major seeking licensure to teach and having to extend her program into a fifth year offered to develop and conduct a survey of Furman students enrolled in various levels of teacher education to ascertain interest in an extended program that might include an option for earning a master of arts degree. Of the 100 students surveyed (approximately 33 percent of those who had declared an interest in licensing to teach, freshmen through post-baccalaureate level), the following results were obtained:

- 41 percent indicated that they felt Furman's four-year program would prepare them adequately for teaching;

49 percent indicated they were unsure; and 10 percent indicated the program would not adequately prepare them to teach (Most of the "negative" responses were from students who had taken four or more classes in education.)

- 84 percent indicated an interest in an extended teacher education program; 12 percent indicated they were unsure; and 4 percent indicated no interest
- When given a choice between attending an extended program at Furman University or attending a four-year institution, 88 percent indicated they would attend Furman University.

Of particular importance was the indication that the option to earn a master of arts degree within a year of baccalaureate graduation would be an important incentive and was viewed as more marketable than a bachelor of arts degree with licensure alone (Williams, 1998).

Participation in the "Developing Teachers" Best Practice Invitational Conference at Wake Forest University, spring 1998, permitted another opportunity to learn about models of extended teacher education programs in primarily select university settings across the nation. Some evidence of success and, concomitantly, needs for improvement were cited that were helpful in constructing our own model. Energized by the conference, we searched the literature for evidence that extended teacher preparation produced significant results in the competence and confidence of teacher candidates and whether those teacher candidates remain in the profession longer.

Andrew (1997, 1990), and Andrew and Schwab (1995) provided the empirical evidence we needed to make our final decisions. Based on a 10-year comparison of four- and five-year graduates of the teacher education program at the University of New Hampshire, it was determined that five-year graduates exhibit a higher rate of entry into the teaching profession and remain in teaching longer than four-year graduates, as well as demonstrating greater competence in knowledge of a variety of teaching models, teaching strategies, classroom management, adapting curriculum for individual differences, and development of a philosophy of education (Andrew, 1990). Further study conducted with 11 universities and colleges in a consortium of teacher preparation programs, from New England to Nebraska from Michigan to Florida, indicated substantiation of Andrew's results and evidence that extended program graduates report significantly higher rates of engagement in leadership roles within their schools and districts (Andrew & Schwab). Additionally, graduates of extended programs self-reported feelings of greater confidence as a teacher (Andrew & Schwab). In 1997, Andrew added the following results to the previously cited evidence, based on a survey of 1,421 graduates of four-year programs and 1,626 graduates of extended preparation programs:

- 24 percent of graduates of four-year institutions believe they needed longer teaching internships as compared to only 6.7 percent of graduates of five-year programs who indicated need for a longer internship;
- Principals rated more individuals from extended programs in the top two deciles of performance than graduates of four-year programs;
- When rank ordered for instructional performance, graduates of extended programs excelled on 19 of the 22 indicators;
- Graduates of extended programs ranked their preparation for leadership significantly higher than did graduates of four-year programs.

In addition, graduates of extended programs have, as part of their preparation program, opportunities to engage in action research, more extensive practical experience before teaching, more confidence and competence, more opportunity to take additional coursework before and after the full-time internship, and have greater subject area expertise (Andrew, 1997).

One final aspect of "The Agenda" that we studied for potential incorporation into the teacher education curriculum was the development of reflective thinking and practice in teacher candidates. During the 1998-99 academic year, a series of non-credit seminars were offered on van Manen's model of reflective thinking and practice (1986). Students seeking licensure in elementary, secondary, early childhood and special education were randomly assigned to a control or experimental group, by agreement, to determine the efficacy of this intentional model of teaching reflective thinking, writing, and practice. The results indicated that those who participated in the seminars did, indeed, apply critical reflective thinking to a greater extent in their teaching than did the control group.

As a result of our research and the professional information gathered on reform trends in teacher preparation, Furman's teacher education program faculty, in conjunction with the Forum for Educational Inquiry and members of the Upstate Schools Consortium (professional development staff and superintendents in 13 upstate South Carolina school districts), established the following goals for our own program recreation efforts:

1. To revise standards and procedures for admission and continuation in the teacher education program, and develop criteria for admission into the teaching internship.
2. To design a transformed, extended teacher education curriculum and experiences that would integrate the teaching of reflective thinking and practice.
3. To pilot a yearlong paid teaching internship for those seeking licensure in grades one through eight.

Methodology

Revised Standards and Procedures for Admission and Continuation in the Program

Understanding the demands of teaching in the 21st century and the parallel need for recruitment of teachers, we believe it is essential to seek teacher candidates with the greatest potential for entry and retention in the profession. This speaks to the quality of the candidates and their preparation. As a result, we revised the standards and procedures for admission into the program. Following are the criteria:

- cumulative grade point average of 2.5 or higher, and 2.5 or higher in the major
- recommendations on professional dispositions and qualities completed by professors in the first three courses in education, the major department, and liberal studies
- recommendation documenting 50 hours of supervised work with children or youth, independent of courses at Furman University
- satisfactory completion of early field experiences
- satisfactory performance on Praxis I
- grades of "C" or better in all professional education courses
- submission of application packet November 1 or April 1

In addition, an admissions panel was created to review applications and identify documented concerns prior to presenting candidates to the teacher education faculty. Continuation in the program is based on maintaining the grade point average requirements, continuing development of a portfolio, and continued demonstration of positive dispositions related to the profession. Admission into the teaching internship is based upon successful completion of the developmental portfolio, screening by teacher education faculty, and an interview by school district personnel.

Transform and Extend Teacher Education Program

It is Furman's intent to prepare teachers to assume the roles of scholar and leader in the profession. To this end, we offer opportunities for the development of scholarship and leadership throughout the program, both within the context of courses and through professional organizations such as the Association of Supervision and Curriculum Development and the Council for Exceptional Children. While the transformation and extension of the teacher education curriculum is infused across all licensure levels in elementary and secondary education, the focus of this paper is on the particular aspect of the program that affects those who seek licensure to teach in grades one through eight.

Furman University already touts a strong preparation in liberal studies that comprises over half of the undergraduate curriculum. In addition, eight courses in the professional education sequence, 25 credit hours, are taught externally

of the education department by faculty in the respective departments who have experience in public school education (health and exercise science, art, music, theater arts, and mathematics methods courses). All faculty hold terminal degrees in their fields of expertise and participate actively on the Teacher Education Committee and Teaching Internship Committee. Additionally, we require an in-depth study of at least 12-16 credit hours in another discipline or discipline areas that would support subject matter teaching (e.g., English, mathematics, computer science, biology, Asian studies, languages, social studies–history, political science, economics). The content and disciplinary bases provide a solid foundation in our preparation for teaching.

Teacher to Teacher requires the candidate for grades one through eight to complete a minimum of 20 hours of incremental field experiences that are fully integrated into coursework. Methods courses are increasingly taught in field-based sites in the schools, community, or district offices. Prior to the spring term of the senior year, elementary teacher candidates have accrued 220 hours of field-based experience. The spring "senior block" of courses offers a minimum of 30 full days in the schools, with a minimum of 14 days of full-time teaching.

We are in the midst of implementing the pilot program approved by the State Board of Education. The first senior block has been completed and the year-long internship/induction experience began in August 2000. The cohort of 10 students seeking elementary licensure for grades 1-8 who volunteered to be the first to extend their program are representative of the entire group of seniors in elementary education. They have become the co-creators of the senior block, as they were heavily involved in providing feedback to us during every step of the 12-week term.

The following multiple measures were used to assess and evaluate their performance:

- Performance-based course assignments, including the class profile (used to group students for instruction and to adapt instruction to the learning style preferences of students), classroom management plan (used to establish structure and expectations for teaching), and an integrated curriculum unit incorporating technology expectations for classroom students (which was the basis of their full-time teaching in the classroom);
- The South Carolina ADEPT (1999) assessment of their classroom teaching, based on 10 performance dimensions and rubrics developed by the Furman University teacher education faculty.
- Additionally, qualitative data was collected from mentor teachers, principals, the superintendent, the pilot students, and participating faculty.

We used the ADEPT assessment as a mechanism to compare the teaching progress of the pilot candidates with those who remained in the traditional spring teaching internship. Each group was assessed at a three-way conference between the candidate, mentor teacher and university supervisor after 30 days of full-time involvement in the classroom. Ten teacher candidates comprised the pilot cohort and six comprised the comparative traditional group. The rubric spans a continuum from "below expectations" to "meets expectations" to "exceeds expectations," with descriptive indicators at each continuum.

After 30 days of teaching, candidates in the traditional program each had a wide range of ratings on the 10 performance dimensions, with some dimensions rated "below expectations," to most "meeting expectations" to a few "exceeding expectations." The pilot cohort range for each candidate was much closer. None had any dimension rated below expectation. The majority of ratings were in the "meets expectation" range, with all candidates receiving at least one "exceeds expectations." Three pilot candidates received more "exceeds expectations" than "meets expectations."

In a meeting of the mentor teachers, consensus was built around the following needs for improvement in the senior block experience next year:

- Provide a complete six-week block of time the teacher candidates are in the classroom, rather than having it splintered, with only two full weeks of all-day teaching
- Offer an early experience at the beginning of the school year so that teacher candidates can see and internalize the routines and procedures established, as well as allowing them to conduct their data collection in the county and school.

Senior Block

The elementary senior block is comprised of three courses: *Assessment for Planning and Instruction*; *Diverse School Cultures: Teaching, Learning, and Management*; and *Integration of Curriculum and Technology*. For transcript purposes, these courses are distinct. In practice, however, they are team-planned, team-taught, and woven into a fabric of seminars and field experiences. During the spring term of 2000, 10 students and four faculty were assigned to the pilot teaching of the courses/experiences. The faculty consisted of three professors and one practitioner, the Teacher-in-Residence from Anderson School District One. Three additional faculty and two practitioners made guest presentations. Intentional efforts were made to connect theory with practice and to connect to and build upon previous knowledge and experiences in the liberal studies as well as professional education.

Following are highlighted examples of unique experiences that were incorporated into the senior block term:

- Reading the *Tone of Teaching* by van Manen (1986), with follow-up seminars to develop reflective thinking and writing in preparation for practice in the classroom;

- Conducting data collection about the county, communities and schools in which students would be teaching (This included individual interviews with life-long citizens of the county; team interviews of high school students, high school counselors, the district superintendent and other personnel, team interviews of staff at the economic development board, and school-based interviews with elementary/middle principals, counselors, and students);
- Regular reflective journaling with responses by at least two of the faculty;
- Development of a class profile in their elementary/middle setting using interest surveys, learning preference inventories, and a sociogram;
- Participation in the National Professional Development School Conference held in Columbia in March, with PDS observation at the Center for Inquiry (K-5 school based around inquiry teaching and learning);
- Participation in an all-day prejudice reduction workshop;
- Participation in a poverty tour of inner city Greenville;
- Bag lunches/breakfast discussions focused on readings/videos, pertaining to diversity;
- Field trips to three award-winning schools to learn about how they have incorporated service learning into the elementary, middle and high school curricula;
- Participation in a seminar on grant-writing and subsequent development of a grade level team grant concept (two grants were actually submitted);
- Development of an integrated unit of study incorporating technology requirements for the classroom students;
- Creation of an electronic portfolio based on the performance standards for teaching established by the South Carolina Department of Education (ADEPT);
- Coaching and supervisory feedback on teaching from the mentor teacher, a master teacher, principal, and four university professors; and
- Opportunities for regular evaluation of the senior block through open dialogue with professors, leading to modifications and support for concerns.

Senior block was an all-day, every-day investment of time. There were only three half days and four full days off, working days, during the March-May spring term, excluding two one-day holidays.

Pilot Yearlong, Paid Teaching Internship

At the time of this writing, the pilot senior block has been completed and the students have graduated with a bachelor of arts degree in education. They have signed contracts to become induction teachers in classrooms next year in Anderson School District One. After completing 30 additional days of teaching, in order to meet state minimum internship requirements, they will be paid employees, earning a 3/4 salary for beginning teachers in that district, fringe benefits, and tuition

benefits for nine hours of graduate study. During the year they will earn a total of 15 hours of graduate credit – six hours of Teaching Internship, three hours of *Best Practices for Beginning Teachers* (a course required by the district to support induction teachers), and six hours of *Inquiry and Research in the Classroom*. The courses will span the entire year, with no more than one class meeting per week. All coursework will focus on the teacher and classroom students through discussion of, reading about, and demonstration of best practices. The state-adopted ADEPT system of performance-based assessment and evaluation of teaching and the standards promoted by the NBPTS will guide the presentation of best practices and will flow into the inquiry and research in the classroom course through a project based on collecting data and developing a plan that coincides with a portfolio requirement for NBPTS. In this way, the Furman University induction teacher will be focused again on reflection and best practice in the classroom, but at a higher level of accomplishment.

Another distinctive feature of the Teacher to Teacher model is the amount and quality of mentoring being provided to the induction teacher in conjunction with the resources being committed by the district. Anderson School District One has committed the following human resources:

- One teacher released from teaching responsibilities to become the Furman University Teacher-in-Residence for two years (paid by Furman), with responsibilities to teach three courses, teach the best practices induction course with follow-up mentoring, serve as a liaison between Furman and the district, and supervise Furman teachers during the induction year;
- Three master teachers released from teaching responsibilities to serve as on-site coordinators and supervisors of the Furman University induction teachers (paid by the district);
- One district administrator to serve as the liaison to the Teacher to Teacher program.

The induction salaries and benefits are other resources committed by the district to the program. In addition, Anderson School District One is paying \$100 to each teacher who mentored a pilot intern during the senior block.

Site coordinators will be provided laptop computers to facilitate communications with Furman University faculty and the Teacher-in-Residence, as well as the induction teachers at home. The end of the BellSouth Foundation funding serendipitously overlaps with new funding through the Title II Teacher Quality grant that Furman University shares with the University of South Carolina, Winthrop University, and Benedict College. Thus, what was accomplished through BellSouth funding can be implemented fully with the support of Title II funding. It is this funding that is providing the laptop computers and salary for the Teacher-in-Residence. Additionally, the site coordinators will be involved in supporting the teaching of

methods courses to the next "crop" of extended program students as well as the instructional/curriculum needs of teachers in their respective schools. Their dual roles have been clearly delineated. Two university supervisors and the Title II Site Coordinator will serve in supervisory/coaching roles during the fall term of the induction year, as an additional level of support to the first-year teachers. Regular meetings to coordinate the supervision and communicate findings/concerns/needs will be scheduled for all support personnel.

Master of Arts Option

Currently, there are two program options that can lead to a master of arts degree and an additional area of licensure within a year of baccalaureate graduation – early childhood and special education. In the first pilot group of 10 students, half are choosing this option within the year structure and the other half are choosing to begin working toward a master of arts degree in the fall. In South Carolina, the addition of 18 hours of graduate education credit provides a significant salary supplement and the completion of a Master of Arts degree provides another significant supplement. Those who are choosing to enroll in summer courses after baccalaureate graduation, take the 15 hours of credit during the internship/induction year of teaching, and complete the master of arts degree the following summer, are eligible for status as a second-year teacher with a master's degree, which is two salary steps ahead of those completing a traditional four-year program and completing one year of teaching.

Lessons Learned

Revised Standards and Procedures for Admission and Continuation in the Program

Raising the standards and identifying more performance-based procedures for admission and continuation in the teacher education program have been in place only two years. By increasing the minimum grade point average requirement, we have seen a marked increase in the number of teacher candidates who far exceed the 2.5. Education is the only department within Furman University that sets a grade point average standard for admission and continuation in the program and that exceeds the minimum of a 2.0 for graduation. Using assessments of dispositions and qualities related to success in the profession has provided a data-based mechanism for identifying those candidates who may meet the grade point average criterion but who exhibit dispositions or qualities that would impair their ability to perform successfully in the classroom. Professors in the first three courses in education who identify areas of concern meet with the candidate and indicate areas of necessary growth. The Admissions Panel also is able to see when a pattern of concern is evident among the student's professors; then the education faculty as a whole determines how to deal with the concern. The student's advisor and other

faculty who identified the problem area meet with the candidate to emphasize the need for growth and provide possible resources for assistance. If they indicate that the concern is severe enough, admission into the program is denied. We believe this revision is the essential first step in moving us toward preparing a competent, caring, and qualified teacher (NCTAF, 1996), and attracting able and committed students into teacher preparation (Fullan & Galluzzo, 1998).

Transform and Extend Teacher Education Program

After evaluating survey results from the transformed teacher education program, it was agreed that the program, with more concentrated time in the classroom, was superior to the traditional teaching internship.

The meeting with the principals and the superintendent verified the recommendations of the mentor teachers about the pilot teacher candidates, becoming induction teachers in the fall. They expressed full support and asked what else they could do to assure success.

The pilot group offered a number of positive recommendations, many that echo the recommendations made by the mentor teachers for more consistent time in the school. Teacher candidates expressed a sense of being overwhelmed, challenged, stressed, and yet all indicated that given the opportunity, they would do it again. They unanimously agreed with the recommendation for more early experiences in the schools next year.

Other qualitative data were collected via ongoing reflections and end of the term reflections on the entire program. The following is one example of a final reflection on the program:

All activities were valuable to some extent. I appreciate the variety of activities. I am glad we were able to look at the big picture (community, poverty, district) before looking at the specific schools. Then, it was very beneficial to look at details of the classroom and students. Covering the entire spectrum is wonderful. I know it's more challenging to plan, but please don't change this exposure for future students! Often uncertainty or confusion with assignments, expectations, etc., was frustrating. However, this was the first year. I imagine organization and expectations will be more clear next year. It's been great. I am thankful for this opportunity (to participate in pilot program). If I had to do it again – I would! Having your support, as professors, has been amazing. It has made all of the difference. You care, you love, you motivate, you encourage! You truly make the difference! Thank you.

Another said:

I feel like I have grown up overnight – from student to teacher.

The four participating faculty logged more than 325 hours of direct contact with the pilot candidates, and approximately 220 hours of additional time, with planning meetings, individual meetings with the interns, and meetings with teachers, principals, and district personnel. The investment of time far exceeds the typical FTE. However, all are in agreement that the investment of time is necessary and valuable. Reflections indicate that faculty learned how to be in a collegial relationship with students and one expressed that the experience had changed her entire way of teaching. She now has a much better concept of what is necessary to prepare a prospective teacher to be successful in a 21st century classroom – and how to accomplish that. The development of collegiality is essential to the creation of a community of learners, as described by Middleton (2000). We believe in modeling this in the senior block.

In this first phase of the re-created elementary program, we believe we have accomplished the inclusion of more knowledge about curriculum and assessment design, multicultural competence, preparation for collaboration, technological skill, and emphasis on reflection and inquiry recommended by NCTAF (1996). We verified the importance of regular reflections and extended this into the classroom. (Norlander-Case, Reagan, & Case, 1999). The pilot candidates are now ready to take on the challenge of their own classroom, supported by both school and university personnel through a clinical teacher-in-residence and master teachers.

Pilot Yearlong, Paid Teaching Internship

We have learned that having high expectations for teacher candidates has as much impact on what they can do and how well they perform as their own high expectations for student learning. The intensity of the senior block produced more confident and competent teacher candidates eager to be induction teachers in August. Anderson School District One is ready to make this a successful endeavor by providing master teachers on site to mentor the inductees and to include them in the induction course with other first-year teachers. The benefit to Anderson School District One is the relatively effortless recruitment of 10 first-year teachers, with the hope of retaining several of the inductees in the future.

Due to increased interest in the Teacher to Teacher Program, the next phase of implementation includes expansion to another small district, Spartanburg School District Six. Twenty-two teacher candidates have committed to the senior year experiences, which include the early experience internship, use of the same school placement throughout the senior field work in methods courses and senior block, as well as the following year-long internship/induction. Additional next steps include planning a similar program for those seeking secondary licensure.

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We have learned that having high expectations for teacher candidates has as much impact on what they can do and how well they perform as their own high expectations for student learning. The intensity of the senior block produced more confident and competent teacher candidates eager to be induction teachers in August.

Technology: Increasing Capacity in the School of Education at the University of Alabama at Birmingham

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Introduction

The University of Alabama's School of Education in Birmingham, Alabama, enrolls approximately 1,660 students and graduates approximately 550 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$250,000.

Since the early 1990s, the World Wide Web has been gaining both sophisticated users and general popularity within the educational community. The Web has become an inexpensive, easily accessible way to communicate, distribute information, teach courses, and conduct research. Hundreds of thousands of educators, researchers, and students are exchanging ideas and information over distances near and far. Access to research libraries and information databases from home or on the road is only a fingertip away.

The critical need for infusion of technology in the pre-service curriculum has been widely documented in major national reports over many years. Some of the most recent include *Technology Counts '99* and the report of the Commission on the Advancement of Women and Minorities in Science, Engineering and Technology Advancement (September 2000). Other studies have indicated that the level and quality of technology use in pre-service programs is limited. In 1997, the School of Education (SOE) at the University of Alabama at Birmingham (UAB) recognized this need and identified increased technology implementation as a guiding principle that must be addressed when reforming the SOE. The University's SOE was provided funding for restructuring the curriculum, which included infusing technology, by the BellSouth Foundation, as a part of the BellSouth ReCreating Colleges of Teacher Education initiative.

During a three-year grant funding period, UAB focused on building capacity to teach pedagogy using technology, based on research-supported practice. In the University's School of Education, this involved several layers of administrative commitment. First, the necessary computer hardware had to be put in place to accomplish this goal. Second, all faculty needed to be educated in uses of technology to support their own work as well as to support instruction. Third, a sense of urgency about the need to use and infuse technology in their courses among many of the faculty was imperative.

Conceptual Framework

Computer technologies have become a norm in U.S. schools rather than an exception. The Internet has enabled seamless learning activities in home, school, and community settings. Students are gaining content knowledge while zipping at speeds of the fastest Internet connection (Goldman, Cole, & Syer, 1999).

Statistics show that Internet access in public schools has more than doubled in the past five years, from 35 percent of schools having access in 1994 to 89 percent in 1998 (National Center for Education Statistics, 1999). According to Quality Education Data, annual K-12 technology expenditures in public schools more than tripled during the 1990s – from \$2.1 billion in 1991 to \$6.9 billion (Hayes, 1999).

A 1996 survey of nearly 500 educators, administered by the American Association for Colleges of Teacher Education (AACTE) on the use of technology by schools, colleges, and departments of education, found that 98 percent of faculty use computers; 80 percent of reporting institutions have Internet access for schools, colleges, or departments of education faculty and administrators; and 49 percent of faculty have been involved in interactive distance learning at various levels (Persichitte, Tharp, & Caffarella, 1997).

In 1999, the International Society of Technology in Education (ISTE) released findings from its National Survey on Information Technology in Teacher Education. ISTE found that, although technology is available in most K-12 classrooms, the majority of student teachers do not use technology routinely during field experience and do not work under master teachers and supervisors who can advise them on technology use (ISTE, 1999).

While accessing the Internet might be relatively easy, learning to harness its full potential on behalf of student learning is not so simple. To achieve the potential the Internet portends, we must look beyond the simple issue of access. With the mounting interest in Web-based teaching and learning, it is imperative that we consider the requirements of those faculty who are ready to venture into the realm of Web-based instruction and other more sophisticated uses of technology in their teaching. Then we must draw experiences from proven models to move the rest of education faculty toward effective technology infusion (Kent & McNergney, 1999).

The University of Alabama at Birmingham is the only Carnegie I Research Institution in Alabama. The School of Education grants about 500 initial teaching certificates annually in early childhood, elementary, secondary reading, math and science, special education, and urban education. The SOE formalized its commitment to technology in 1995 with the establishment of an Office for Academic Computing and Technology (ACT) and the appointment of a director. The school also formed a Technology Advisory Committee composed of representatives from every academic department within the School. While Educational Technology course offerings have grown from zero prior to spring 1994 to a steady 20-plus sessions every year since 1995, the increase of technology use by faculty and students in our regular teacher education programs is more impressive. On a weekly basis, over a thousand students use ACT's facilities. Reservations by faculty for technology classrooms/labs or equipment and requests for assistance from technology personnel constantly challenge our technology capacity.

UAB's School of Education faculty were surveyed in fall 1999 to determine strengths and weaknesses of technology infusion. In sum, the faculty expressed appreciation for the improving facilities, especially the computer labs and classrooms and the technical support personnel. Content analysis was conducted by pooling each respondent's answers into the following categories: training, individual assistance, resources, and time. The survey data indicated that faculty are ready to move forward from the basic level of computer productivity skill acquisition to more advanced levels of curriculum integration. Their needs point to support for curriculum integration: training in subject area, highly individualized assistance, time commitment, and content-specific technology resources.

Methodology

Based upon the assertion that excellent colleges of education demonstrate the uses of technology to enhance teaching, learning, and assessment, UAB's School of Education first focused on infrastructure by developing a detailed plan for expanding existing technology facilities into all offices and

classrooms. The goal was for every faculty member and most graduate assistants to have fully networked computers at their desks. In addition, a plan was developed to ensure that all classrooms in the Education Building are wired for Internet access. Finally, to complete the infrastructure development, the school's Academic Computing and Technology Center initiated a two-phase renovation and expansion that markedly increased the space dedicated to the instructional use of technology and significantly improved the functionality of the site.

With BellSouth funding, equipment, including a server for the Office of Educational Accountability, was purchased. In addition, SOE funding provided significant resources to accomplish the overall plan for the infrastructure. Equipment not considered appropriate use of the BellSouth moneys, including laptop computers for faculty, upgraded faculty computers, and home Internet connections for faculty, were provided through SOE funding.

Hardware and Equipment

Year One

During the first year of funding, an extensive renovation to facilitate technology use by faculty and students in the Education Building was initiated. This funding was to include the installation of an additional computer lab and the wiring of 10 classrooms for Internet access. The completion of classroom wiring was designed to increase opportunities for use of Web-based and Web-enhanced instruction by faculty. Construction progressed more slowly than expected, and classrooms were not wired by the end of the first year.

By the end of the first year:

- 32 computers were available in labs;
- 2 classrooms were wired for Internet use;
- No classrooms were equipped as electronic classrooms;
- Lab facilities were available to students and faculty for 74 hours per week.

Year Two

The second phase of the renovation and expansion plan of the technology facility was completed during the second year of the BellSouth funding cycle, including additional dedicated space to instructional use of technology and significantly improving the functionality of the system. The amount of additional space dedicated to technology in the new construction was 2,000 square feet, a 50 percent increase, resulting in a total of 6,000 square feet dedicated to technology. In addition, the Education Building was wired for Internet 2 through a National Science Foundation (NSF) grant, making it the first academic unit at UAB to be connected.

By the end of the second year:

- 72 computers were available in labs;
- 11 classrooms were wired for Internet use;
- 3 classrooms were equipped as electronic classrooms;
- Lab facilities were available to students and faculty for 82.5 hours per week.

Year Three

Technology activities for the third year were a natural out-growth and expansion of the activities and questions generated by year two experiences. Although the physical lab did not increase during the third year, the quantity and quality of services did. Faculty use of the facilities continues to expand, with high demand for reservations in the computer labs and the electronic classroom that currently exceeds the availability of these facilities.

By the end of the third year:

- 72 computers were available in labs;
- 11 classrooms were wired for Internet use;
- 5 classrooms were equipped as electronic classrooms;
- Lab facilities were available to students and faculty for 82.5 hours per week.

Improving and Increasing Faculty Technological Skills

Year One

A key element to increasing the capacity for using technology for teaching and learning was providing faculty with opportunities to develop and improve their use of technology resources. At the start of year one, many faculty were minimally computer literate; others were moderately literate. Initially, training focused on building basic skills, such as developing Power Point presentations and using Excel as a grade book.

Several activities led to accomplishing this goal of helping faculty improve their technology skills. These included:

- Including technology use as part of the merit reward system for faculty;
- Providing opportunities to attend local demonstrations and national conferences to observe "state of the art" uses of technology;
- Offering mini-workshops provided by the Academic Computing and Technology Center (ACT);
- Providing grant writing opportunities aimed at obtaining the assistance needed to implement the desired technology.

As a part of the plan for development of faculty skills in use of technology, the SOE began focusing on faculty needs in this area. The dean of the SOE stated that faculty members' merit pay would be directly related to their use of technology. To assist faculty in incorporating technology into their classes, the ACT conducted training opportunities and demonstrations in the use of technology. During the first year, approximately

130 attendees were recorded at workshops. ACT also provided approximately 20–25 hours a week in one-on-one training and assistance with faculty.

Mini-grants for faculty. The primary strategy used to motivate faculty to improve and increase their use of technology in the teaching/learning process was to provide funding. Faculty members submitted proposals describing plans for implementing technology in their professional work. Thirteen proposals representing 18 faculty members were submitted; 12 were funded. Project goals included directly involving technology in P-12 school settings, developing competencies of preservice teachers, developing faculty capacity for using distance learning, and increasing faculty use of technology in their areas of professional expertise.

The following are projects that received funding:

Expert Mentor Teacher Program. The Expert Mentor Teacher program (EMT), continued through the three years of the BellSouth project and included using technology in a P-12 school setting. EMT involves university and school faculties working together to transform education by providing expert teacher modeling and classroom practice. Additionally, it provides support and learning opportunities for professional development and reflective practice for the cohort of learners – the UAB expert mentors, EMT interns, and the EMT liaison. Together, these roles constitute a cohort community of learners (Senge, 1990). Sixteen local elementary inservice teachers, in three school systems and seven different elementary settings, served in the capacity of EMTs. An EMT served as an exemplary role model for preservice teacher interns by demonstrating professionalism, content and pedagogical knowledge, and classroom implementation. Although the EMT program included multiple topics, technology was integrated into the internship experience of both EMTs and EMT interns.

Distance Learning. The development of faculty interest and expertise in using distance learning was another year one goal. Nine faculty members participated in professional development to enhance their skills. Two programs for implementing distance learning were used: Seven faculty used Learning Space, while two faculty used Front Page.

Initially, staff development was conducted by a trainer from the software company that supported Learning Space. Approximately half of the faculty trained in use of Learning Space did not implement this technology to augment their instruction due to time constraints, software complexity, and platform instability. However, two faculty members continued to use the discussion group component of Learning Space, and another faculty member offered a graduate course in distance learning format.

The two faculty members who selected Front Page developed personal Web pages that were used to anchor home pages for the courses they taught. Course home pages contained information such as course syllabi, course outlines, important Web sites related to the course, and course materials. Discussion groups were established for each learning team of students, resulting in students being able to communicate with each other and with the instructor in a secure discussion group. Both faculty continued to use this format for the first two years of the funding period.

Three of the faculty involved in the distance education effort were provided laptop computers to facilitate their use of technology in the distance learning format. They reported that access to a laptop computer greatly impacted the learning curve as well as classroom applications for these faculty. The laptop computers were provided with funding from the SOE and BellSouth.

Development of Technology Modules for Pre-service Students. In conjunction with the development of technology standards for students, modules were to be developed that would allow students to demonstrate the skills necessary to meet the requirements for the technology competencies. These modules were to be housed in the Center for Academic Computing. At the time this paper was written, no modules were developed.

Other Faculty Technology Uses. Opportunities for faculty, other than those who received technology grants, to gain skills in technology were made available through workshops provided by the Office of Academic Computing and Technology. Faculty began to use Power Point and Excel as integral components of their classes. Assistance to faculty has been through workshops targeting specific topics and through individual assistance to faculty members.

Improving and Increasing Faculty Technological Skills

Year Two

One of the recurring themes was the constant struggle to build on-line classes and on-line class support sites in which to integrate quality Web-based learning materials and opportunities. Members of the Technology Advisory Committee collaborated with Academic Computing and Technology in examining new options due to the previous software problems. In year two, it was decided to purchase and support the use of CourseInfo/Blackboard. Three members of the Technology Advisory Committee and one member of the staff of Academic Computing and Technology attended training provided by the software manufacturers. All four offered an initial course using CourseInfo/Blackboard. In January, the number of faculty using CourseInfo/Blackboard increased from three

to 14, and by spring term, 34 faculty were using this instructional software. Continued training was offered in the summer due to the large number of faculty who still desired training. Teaching staff from Academic Computing and Technology and numerous adjunct faculty also began using CourseInfo/Blackboard for Web-based class support and instruction.

External Funding Obtained to Leverage Current Technology Initiatives. During year two, faculty actively sought additional funding sources to support the use of technology through grant writing. In addition to the BellSouth grant, two grants were obtained from Microsoft to provide software and training materials for two years for all of the SOEs' pre- and in-service teacher education programs for two years. Funds also were awarded by the Cancer Research Foundation of America to provide training for health teachers in Alabama to enhance health education through use of technology. Assistance in implementing ISTE standards, integrating information technology into methods courses, developing a statewide technology plan, faculty training, and using technology in student field experiences was provided by the U. S. Department of Education for a three-year period, extending through the 2001-02 academic year. Finally, funding was obtained to implement the use of math modeling and scientific visualization in the curriculum in the secondary math and science pre-service programs. This initiative (EdGrid), a subcontract with the National Center for Supercomputing Applications in conjunction with its PT3 Catalyst grant, included the development of a "stand-alone" module that was incorporated in methods classes, the development of a new course in math modeling offered by the math department and required for pre-service secondary science and math students, and the development of an advanced technology course that includes cutting-edge uses of technology and Web-based tools. The development and implementation of this project is a collaborative effort between the SOE and the UAB Mathematics Department.

Improving and Increasing Faculty Technological Skills

Year Three

Technology activities for year three were a natural outgrowth and expansion of the activities and questions generated by year two experiences. The Expert Mentor Teacher program continued to expand. Students in the EMT group continued to improve their skills. The cross-pollination of their technology skills and the teaching skills of the more experienced teachers can be observed by pre-service teachers.

The use of CourseInfo/Blackboard nearly doubled, with a high level of faculty using the Web-based format as a vehicle for both communication and instruction. There has been a growing critical mass of faculty who had developed confidence

in their ability to integrate and infuse technology in the teaching/learning process throughout the SOE.

Another initiative to build capacity was a "Technology Fair," co-sponsored by the Technology Committee and the Center for Academic Computing, for textbook vendors to display and demonstrate texts with technological enhancements. This fair provided the opportunity for faculty to see textbooks that had ancillary products using technology. The SOE also participated in "Information Technology Days," a campus-wide event. The SOE Technology Days booth featured various demonstrations of the use of technology in the school, including faculty course sites, technology available for statistical analysis, assistive technology for individuals with disabilities, student technology project samples and demonstrations, and technology project sites.

Faculty Activities in Technology Related to NCATE Accreditation. During the fall of the third year of project implementation, the faculty was deeply involved in preparing for our NCATE accreditation visitation. The SOE had previously been cited as weak in technology and found to be "limited." Following the year three visit by the team, this standard was not only marked as corrected, but our corrective actions were commended.

External Funding Obtained to Leverage Current Efforts in Technology. Faculty have continued to seek external funding to support technology in the SOE. In conjunction with the EdGrid grant obtained in year two, two four-member teams, including one teacher educator, one math professor, and six local teachers, were selected to be participants in Supercomputing 2000 in Dallas, where they participated in six days of training in use of math modeling and visualization, and each team member was provided a wireless laptop computer for use in their schools. The teams also will participate in two weeks of training during the summer of 2001. Team members will receive a daily stipend as well as be reimbursed for all expenses. These additional opportunities provided for the EdGrid teams have been sponsored under a grant from the National Science Foundation. The impact of this grant will be to provide seed beds for growth of infusion of math modeling and visualization in local high schools. The availability of laptop computers that have been provided for the teachers should facilitate implementation of the programs. In addition, a grant of \$1.03 million was obtained under the PT3 technology grants funded by the U.S. Department of Education; this grant was in conjunction with the Greater Birmingham Holmes Partnership.

Summary of Improving and Increasing Faculty Technological Skills

As a result of the first year of activity, selected faculty members made significant progress in their use of technology both inside and outside of the classrooms. Faculty awareness of uses of technology increased during the 1997-98 school year. Evidence supporting increased faculty awareness and use include:

- the majority of intra-faculty communication now conducted using e-mail;
- a greater number of faculty requiring students to use e-mail during the course;
- increased number of faculty who developed home pages;
- increased use of Power Point in class presentations;
- increased number of students required to conduct research on the Internet.

During the second year of activity the SOE adopted student competencies for undergraduates. These competencies were infused into the teacher preparation curriculum as a combination of a required educational technology course as well as other competencies threaded throughout other course work. The basic computer course required for all undergraduate students became available as an on-line course.

The significant increase in faculty use of on-line class support is the most important transformation evidenced during year three. There is a definitive feeling of having a "critical mass" of users of CourseInfo/Blackboard that has created a feeling of community among faculty from various departments and programs. Students have thrived in the on-line support environment. Faculty have observed students becoming more involved with interactive class assignments and more familiar with class material as a whole due to their technological experiences.

Lessons Learned

Year One

As faculty attempted to integrate the use of technology in their work, they encountered a number of problems. In the beginning, constraints included the amount of time needed to acquire and implement technology skills, the complexity of some of the software products, the lack of Internet access in classrooms, and the absence of user-friendly classrooms in the SOE. A few faculty objected to having to be responsible for obtaining and maintaining equipment to implement technology; this inhibited the desire of these faculty members to use technology in their classrooms.

Lessons were also learned about faculty training preferences. Many faculty reported that their preference is for learning information either as they need to know it or in a more personal, one-on-one learning situation.

Finally lessons were learned about the needs for clerical support. The technology skills of the clerical staff did not progress as quickly as did those of the faculty, resulting in a lack of support for faculty as they tried to implement technology.

Year Two

The results of the faculty survey conducted during year two indicated that more interest is generated when faculty have information about practical applications of software programs rather than simply asking if they are interested in a particular software program. For example, more faculty will indicate interest in attending a session to learn how to "keep my grades on the computer," as opposed to an invitation to attend a session on Excel.

Experience has continued to provide evidence that technology use is almost totally dependent upon faculty interest and expertise. In addition, implementation of technology was dependent on the faculty members' willingness to invest the time required to learn how to use technology in both administrative and instructional duties.

Online courses provided additional lessons learned. Students expressed a preference for classes that were comprised of distributed learning – a combination of face-to-face and distance education class sessions. Instructions need to be as simple and clear as possible. Clarifying misunderstandings was much more difficult when communicating from a distance, frustrating the instructor and the student. One positive aspect for students was the flexibility that assignments submitted on-line provided, allowing them to work according to their schedule. Barriers faced in on-line courses appeared to be primarily technology-related. The software programs used

frequently crashed, causing late assignments. This further complicated the instructional process, which instructors were finding took approximately 30 percent more time than traditional face-to-face courses.

Many faculty who received incentives for their use of technology tended to have a faster curve for implementation of technology. Informal interviews with selected faculty suggested that being provided a laptop was a strong incentive as it allowed them to work on the computer they would use for class presentation, thus eliminating the likelihood that the equipment they would use for presentation would not work in the classroom. In addition, it has been difficult to attract faculty when the reward system does not build in incentives to make the investment appear worthwhile. Although the dean committed to merit raises being tied, in part, to use of technology, the amount of money available in the raise pool was only 2 percent and did not serve as an effective incentive.

Year Three

The most significant lessons of year three concern collaborative efforts. Collaboration has led to success in changing system software for online courses and class support, establishing effective faculty training for that system and promoting the SOE's "technology image" at campus-wide events. This in turn led to more secure funding. Our collaborative efforts and the successes we have experienced within our intra- and inter-university partnerships have reinforced numerous lessons learned from previous years. The faculty-to-faculty training, nurtured with one-on-one support, has been the most successful venture in expansion of technology use within the faculty during the three years of the project. We have laughed at ourselves and with each other. We know and respect each other's "technology learning curve."

To date, the emphasis has been on technology literacy. We believe this goal has been achieved for the strong majority of faculty. However, as we move toward infusing technology in the curriculum in effective ways, technology fluency is needed. Faculty will need to be able to demonstrate the use of technology in solving real-world problems; unless they can demonstrate and include this in the curriculum, they will be unable to adequately train pre-service teachers. Thus, while much has been accomplished, there is still much to be done. Accomplishing the next goal will require both collaborative and individual strength, curiosity, and perseverance on the part of faculty members.

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Faculty will need to be able to demonstrate the use of technology in solving real-world problems; unless they can demonstrate and include this in the curriculum, they will be unable to adequately train pre-service teachers.

Cross Departmental Teaching Teams at the University of Florida: A Multi-Disciplined Effort to Restructure Teacher Education

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Introduction

The University of Florida's College of Education in Gainesville, Florida, enrolls approximately 1920 students and graduates approximately 728 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$250,000.

Since the summer of 1995, faculty from all departments at the University of Florida College of Education have collaborated to restructure teacher education and develop the Unified Elementary PROTEACH Program, a five-year preservice teacher education program to prepare elementary and special education teachers. This program is an extension and revision of the Elementary and Special Education PROTEACH programs that have provided exemplary preservice teacher education at the University of Florida since 1984. This restructuring effort was designed to accomplish two purposes: 1) to create a unified elementary/special education program, and 2) to address the multiple recommendations about teacher education in the current teacher education literature, national commissions, and reports. The redesigned program prepares teachers to work in elementary school settings; take leadership roles in implementing inclusive education; work toward collaboration between special education, ESOL, and elementary education professionals; and emphasize the goals of inclusion of elementary children with disabilities and language differences.

In designing the program, the faculty were determined to create a coherent program that had academic integrity. They were concerned, however, that the comprehensive nature of the program presented challenges to both coherence and integrity. They were concerned that integrating special education and general education coursework might weaken both areas. Would general education faculty have the special education knowledge necessary for successful integration of content? Would special education faculty have the content knowledge and general education knowledge necessary to teach redesigned courses? Another potential threat to program coherence was that each course would be taught in multiple sections and that many sections would be taught by graduate students. How could the college ensure program coherence when many different people would be responsible for teaching sections of the same course? These problems exist in many large teacher education programs, but they become acute when course content cuts across traditional departmental boundaries.

To address these concerns, we formed course design teams. Typically the teams included faculty from two or more departments, graduate students, adjunct faculty, and in some cases public school faculty. In this paper, we briefly describe the purpose of the program, the process of development, the results of a study of the experiences and attitudes of course team members after the first year of implementation, and lessons learned from the first year of implementation.

Conceptual Framework

A common criticism of teacher education programs is that they are fragmented and directionless, resulting in a lack of coherence (Howey, 1996; NCTAF, 1996; Tom, 1997). A coherent program rests on a conceptual framework that is grounded in theory and research and summarizes faculty consensus about the mission of schools in a democracy, the nature of teaching and learning, and the role of the teacher (Howey, 1996). The conceptual framework is often presented within one or more

themes that provide clear direction for the development of courses within the program and provide a distinctive character to the program (Barnes, 1987). Elementary PROTEACH has been a thematic program since its inception in 1984 (Ross & Bondy, 1996; Ross & Krogh, 1988). The development of the Unified Elementary PROTEACH has involved a major restructuring of the elementary and special education PROTEACH. In the BellSouth re-creation effort, faculty began with a careful articulation of the program's purpose around the themes of equity and inclusion. For the purposes of these paper, we briefly describe the purpose of the program.

The need for educators who can serve the diverse needs of students in the elementary population is well documented in literature (Lilly, 1992; Pugach, 1992; Reynolds, Wang & Walberg, 1987; Stainback & Stainback, 1987). The growth in the numbers of students with special learning needs and/or from linguistically and culturally diverse backgrounds has overtaxed the ability of compensatory education systems and special education to provide for them. This public school reality and the UF faculty's long-standing commitment to diversity created a need to restructure the teacher education programs to enable all teachers to be prepared to work with the growing number of students in their classes who have problems learning and comporting themselves in socially acceptable ways and with the increasing population of limited English proficient (LEP) students.

The Unified Elementary PROTEACH program is designed to prepare teachers with a dual emphasis in elementary education and mild disabilities. All graduates also will be prepared to work with students who are English speakers of other languages. The purpose of this program is to prepare teachers who are capable of: (a) creating and maintaining supportive and productive classrooms for diverse student populations; (b) working collaboratively with school personnel, families, and members of the community to develop alternative ways of educating all children, including those who have traditionally been labeled hard-to-teach and hard-to-manage and students who are linguistically diverse; and (c) develop a cadre of special education teachers prepared with the knowledge and collaboration skills necessary to serve as consultant teachers to elementary teachers.

Over a three year period, faculty worked on various committees to create a unified program. A critical element of the design process was an emphasis on faculty collaboration. Kagan (1990) noted that the hallmarks of change in higher education are the same as those documented in K-12 schools. That is, successful change requires that participants have consensus about purposes and goals, and a culture that promotes collaborative problem solving and growth. For this reason Kagan argues that collaboration must become a norm in teacher education. Additionally, numerous teacher educators argue that reform in teacher education requires that faculty experiment more broadly with innovative pedagogy (Ducharme & Kluender, 1990; Holmes, 1995; Howey, 1989; National Commission on Teaching and America's Future, 1996). Theories of adult learning indicate that teacher educators learn best when their learning opportunities are collaborative and involve others who focus on the same day-to-day work with students (Smylie, 1996). In fact, a consistent finding from research about effective staff development is that it involves significant levels of faculty collaboration and interaction (Sprinthall, et al., 1996). Additionally, Mersmeth (1994) notes that development of innovative pedagogy requires that faculty teach in

environments that "encourage innovation and provide opportunities to share personal experience in the classroom." Cognizant of both the need and challenge of instructional innovation within higher education, several recent reform reports call for restructuring of teacher education to encourage faculty to collaborate in planning, implementing, and evaluating their instructional activities (Goodlad, 1990; Holmes, 1995; NCTAF, 1996).

Methodology

In developing the program, collaboration was stressed in all phases of the process. Some work was done by small committees and brought to the faculty at large for feedback and modification. Other work, particularly important design work, was shared broadly by the faculty. During the design process, over half the faculty in the college worked on collaborative program design teams to develop the program.

Once faculty had adopted a program framework that was consistent with the program's purpose and themes, faculty began the more focused course development work. When creating the program, faculty were committed to the development of a cohesive program which would merge content from elementary and special education. That is, faculty did not want to create a program in which students took "side by side" courses from faculty with disparate perspectives, leaving students to integrate the knowledge into a cohesive whole. Instead, the faculty created a program that placed related content from different departments within one course, requiring the faculty to integrate content and perspectives to create a coherent whole. Thus, the program's design requires that faculty from two or more departments collaborate in the design and delivery of most courses. Each course was developed by a team which generally included faculty from two or more departments, adjunct faculty, graduate students and in some cases public school teachers.

It is important to note that we are talking about teaching teams and not about team teaching. In team teaching two or more faculty members plan for and teach one group of students together (Cruz & Zaragoza, 1998; McDaniel & Colarulli, 1997). Unless one doubles class size, team teaching is a very costly endeavor and was not an approach we could afford within a large teacher education program. Instead faculty, graduate students, and adjunct faculty were organized into teaching teams. Each team of five people was responsible for the instruction of 150 students. Teams were given a variety of possible models for collaboration in teaching but most teams selected a model in which one faculty member from each of two departments teamed in the coordination of the course. Together they worked with three doctoral students and/or adjunct faculty from across the two departments. Each team

member taught one section of the course. In two cases, the team involved only one faculty member who worked with a team of graduate students.

Although our model involved teaching teams rather than team teaching, faculty hoped to reap similar benefits. The literature documents a number of potential benefits from team teaching. These include: allowing instructors to draw on the individual strengths that each member brings to the course (McDaniel & Colarulli, 1997; Parson, 1994), encouraging team members to innovate and take risks (Parson, 1994; Robinson & Schaible, 1995), mutually reinforcing new styles of teaching, and helping to "check our ingrained tendency to slip back onto the banking mode of teaching with the student as receptacle" (Robinson & Schaible, 1995). In addition to these benefits drawn from the literature, faculty also believed that teaching teams would help to ensure more consistency in course content across sections of the same course, an issue particularly important in a large teacher education program where several sections of each course are taught by part-time faculty or graduate teaching assistants.

At this point, all courses in the junior year of the restructured program have been taught one or two times. Several kinds of data were collected to document the experiences and attitudes of the faculty, defined broadly to include all course instructors, who taught these courses.

Program Design Minutes and Field Notes

During the program design process, we kept official minutes and unofficial field notes. After meetings we circulated revised plans and sometimes open-ended questionnaires. Faculty wrote memos and made presentations at planning meetings. For this paper, we analyzed these written documents to identify faculty perceptions about the potential benefits and disadvantages of team teaching as part of the structure of the new program.

Teaching Team Feedback Meeting Field Notes

At the conclusion of the first year of instruction, all course instructors were invited to a collective meeting to describe the positive and negative aspects of their experiences on teaching teams during the first year of implementation. Webb led a focus group discussion while Ross typed participants' comments into a laptop computer. Prior to the focus group meeting, we had reviewed the faculty's early concerns list.

Although the focus group discussion was freewheeling, Webb steered participants' attention to the three early-concern topics. The research team later analyzed focus-group data looking for old worries, new concerns, attitudes about collaboration, and assessment of the collaborative experience.

Team Member Survey

Drawing on data collected during the design process and at the team teaching feedback meeting, we designed a 20-item questionnaire and distributed it to the 32 faculty and graduate students who taught program courses in its first year. Twelve faculty and nine graduate assistants returned the surveys. Below we report findings. We begin with faculty's early concerns and then report findings from the questionnaire and focus-group discussion.

Early Concerns of Faculty

In the planning stages of the program, when we first introduced the idea of collaborative course planning and teaching, many faculty members were apprehensive. At formal meetings and in private conversations professors expressed their worries, not as declarative sentences, but rather as questions. Over time we sorted faculty concerns into three general categories: Instructional Autonomy, Instructional Improvement, and Cost/Benefit Calculations.

In early discussions of collaboration, faculty asked, "Will collaborative teaching limit my instructional autonomy? Will others tell me what to teach, how to teach, and what to assign?" As discussions progressed, some professors worried that they might have to teach with colleagues whose philosophies, disciplines, and teaching styles differed from their own. McDaniel and Colarulli (1997) note that concern about limiting faculty autonomy is a major issue related to collaboration and team teaching. They note, "Real collaboration cannot help but create conflict; and it requires compromise, sharing of power and responsibility, exposure to ideas and teaching styles of colleagues, and loss of autonomy for faculty. Collaboration requires faculty to be responsible to each other for planning and teaching whereas previously they planned on their own time and taught in their own way."

An additional worry of faculty was that collaboration might not lead to instructional improvement as its advocates claimed. Individual instructors, they claimed, were best able to develop courses that were coherent and rigorous. Committees, on the other hand, would develop incoherent courses because all decisions would be the result of wrangling and compromise.

As a final concern, some critics contended that teaming, no matter how successful, would be too costly. Almost every author who writes about team teaching notes that it is labor intensive and requires a major investment of time from participants (e.g., Parson, 1994; Bakken, Clark & Thompson, 1998). UF faculty argued that time is an inelastic commodity. Time devoted to undergraduate teaching could not be expended on writing and research. Those latter activities, the critics contended, were essential to the life of a university and to faculty advancement. No one, they argued, was ever promoted on the basis of excellent teaching. New faculty reminded program designers that college administrators seldom mentioned

teaching when discussing tenure requirements. Instead, they emphasized grant writing, publications, and service to public schools.

Instructional Autonomy

In the planning stages of the program, when faculty first contemplated changing how they designed and delivered their courses, many worried that the collaboration would diminish professors' "instructional autonomy." When we asked our colleagues what they meant by "instructional autonomy," they explained that they were used to defining their own course goals, developing their own syllabi, creating their own assignments, and selecting their own texts. Collaboration, they said, would make communal and public, decision-making that hitherto had been individual and private.

Year-end data indicate that collaboration has dramatically changed course-related decision-making. Most questionnaire respondents and focus-group participants said team members met regularly to discuss course content, syllabi, goals and objectives, field assignments, lesson plans, tests, and texts. What interested us, however, was that – at least among first-year course instructors – collaboration was more praised than criticized. As we discovered, faculty and graduate students no longer dreaded collaboration but, instead, listed its myriad benefits. When they had criticisms, they did not direct them at collaboration, but rather at team members who had not fully participated in team activities.

Instructional Improvements

Even in the program-planning process, when resistance to collaboration was highest, few professors argued that collaboration would weaken their teaching, course content, or the teacher preparation program. Nevertheless, at the end of the implementation year, we wanted to know if team members thought collaboration had improved or weakened their teaching and course content. Everyone we surveyed and talked with reported positive collaboration outcomes. Fifty-eight percent of responding professors said, "working with others enriched the content of courses" and 50 percent said that collaboration "stimulated instructional innovation." Seventy-five percent said collaboration improved course quality and the consistency of content across course sections. Only one professor said that collaboration "seriously constrained" instructional autonomy and that was because a teammate had very different and very strong views about the structure and process of the course.

Sixty-eight percent said "collaboration provided helpful structures that they 'modified when necessary.'" The same percent said collaboration "was a great experience" for them, and 58 percent said teaming had been "a great experience for graduate students." Two-thirds agreed that the courses they delivered to students were improved by collaboration, and that the "content we cover in the course is about right." Most of

those responding to our questionnaire worried that the new program perhaps was inflicting unreasonable workloads on students. Some worried, too, that students were complaining more than in the past and seemed less committed to learning.

We asked faculty and teaching assistants to comment on the collaboration experience. These comments are typical of others we recorded:

Faculty: "I enjoyed working with my team and felt confident that our graduate students are capable instructors, although I did not observe their teaching. I would liked to have spent more time communicating with my team members, but our schedules did not mesh well this semester. We met last week to debrief. We agreed to study the tutoring requirement and revise some of the course assignments. Otherwise, we agreed that we had a good first experience."

Faculty: "This is wonderful model."

Graduate Teaching Assistant: "We could no longer teach [this course] any other way. This is been a really good experience and continues to be."

Graduate Teaching Assistant: "Team discussions help clarify content areas, objectives, and coarse goals. I enjoyed being a teaching assistant and developing the course Web site. Thank you for this opportunity."

Graduate Teaching Assistant: "Because of the collaborative effort of five people, the students in the course received better instruction."

Faculty: "I felt very fortunate to work with a colleague who is such an outstanding teacher. It was hard to keep up given the complicated course plans we made. I wonder how easy it is for more novice faculty and doctoral students to come in and teach like this. There are so many challenges in this new program that it is difficult to figure out how to reasonably meet them."

Collaboration Strategies

Although all professors thought collaboration had positive effects, not all teams collaborated in the same way. Many met during the summer to plan their courses, but some did not. Faculty described their summer work in the year-end survey.

These comments were typical:

"The team leader drafted the syllabus, selected the texts, outlined assignments and field experience, then asked for feedback from graduate assistants to teaching sections of the course."

"We met to plan the syllabus together. We established course objectives, assignments, and [field-experience] sites. We located and trained graduate students to teach sections of the course."

"We met to develop course activities, lectures, and the syllabus. We basically developed most of these and refined our work during the semester."

"We spent hours designing the course assignments, choosing a text, and setting up [field experiences]. We'd been sharing what we had done with graduate students. For the most part, all five sections had the same or similar texts, videos, assignments, and field experiences."

"Two faculty members met several times to talk about the course framework, structure, and materials. One ordered materials and drafted a syllabus and assignment descriptions. She provided syllabi and other course material to all instructors who then further developed their own materials. A special education professor provided supplementary material for the course packet. We all used any material we wanted from the course packet."

"We met to develop course framework. We drew heavily on the course design team's work. [One faculty member] ran three orientation sessions for three doctoral students and provided materials so doctoral students could begin their reading during the summer. We met during the week before classes to discuss the course. [The same faculty member] provided lesson plans for the first two weeks."

"We met with school administrators to design field experiences, taught three workshops for participating teachers, piloted several teaching strategies in a graduate course., designed course materials, selected texts, etc."

"We determined topics we would cover and strategies for addressing these topics. We agreed on readings for students and types of assignments they would complete. The faculty did most of this work (with graduate student suggestions)."

During the year, some teams met regularly and discussed every aspect of course content and delivery. Other teams met less frequently and deferred to the leadership of one or two team members who shouldered much of the team's work. Two teams met only occasionally and reported less collaboration and more autonomy among team members. They also listed fewer benefits for teaming than professors on more collaborative teams. One or two professors felt they carried a greater load than their fellow team members and worked to balance their sense of responsibility with their sense of fair play. "I'm struggling with my sense of responsibility," one explained. "That is, for whom and for what am I responsible? My own students? The program's reputation and quality?"

A few professors worried that they had not contributed as much as other faculty on their team. They struggled to balance their sense of fair play with their commitments to

grant work and research agendas. They worried that they might be criticized for not pulling their full team load, but pointed out that they had volunteered to teach in the Unified elementary program when many of their colleagues had refused.

Some faculty acknowledged that they were not as committed to teaching and collaboration as others on their team and that they did not carry as much of the load as their more-committed colleagues. They tended to think that their colleagues' commitment to teaching was unusually and perhaps inappropriately high.

Most graduate students reported that collaboration had helped them learn skills, such as defining goals, planning lessons, develop a syllabus and assignments, choosing a text, and overall becoming better college teachers. One said that she had been left alone and wished she had received more help. Another worried that graduate students might have too much autonomy.

"I was completely on my own for all teaching aspects of this course. There was no collaboration, although the instructor with whom I had previously worked offered to help. Luckily, my students did not suffer because I had [a lot of] teaching experience. But I could have been better with collaboration."

Cost Benefit Calculations

In the beginning, many professors worried the new program would be so labor-intensive that it would tax faculty resources and divert faculty efforts away from research and service activities. At the end of the first program year we asked participating faculty about time and workload concern. We asked both faculty and teaching assistants how many hours a week they devoted to course preparation. Thirty percent indicated that they worked fewer than eight hours a week preparing for their course. Sixty percent devoted eight or more hours to these tasks.

All professors said that collaboration was more time consuming than working alone. Two-thirds said planning and teaching a new course took more time than they expected and the rest said it took more time than developing a course on their own. Three professors said supervising graduate students took more time than they had expected. Four of 12 (33 percent) professors said the collaboration "took too much time and my writing and research suffered." Teaching assistants, on the other hand, said teaming had saved them time and that they learned from team discussions.

Half of the professors said the course preparation time had been "extensive" but that they were teaching a new course. They expected that when they were more familiar with the course, it would take less time and they would be better able to balance the demands of teaching with those of research and writing. Forty-two percent of professors said they were conducting or planning research on the new program. Such studies included students' perceptions of

the new program, student work and workloads, school/university partnerships, and internships.

Three of nine graduate students said they were overwhelmed by course preparation work and the same number said that their studies suffered because of their teaching obligations. Six of nine said that teaming "was a great learning experience."

Lessons Learned

Perhaps one swallow does not make a summer, but the arrival of the first swallow is usually a harbinger of warmer days to come. We say the same from our first year-end evaluation. One set of positive data does not indicate that our goals have been met or that our work is done, but positive findings suggest that we making progress.

The data clearly show that faculty shifted their concerns during the implementation year. The general worries professors expressed in the planning stages of the program diminished, disappeared, or reversed themselves as they experienced collaboration. The skepticism that accompanied early renewal debates was replaced by pragmatic, program-delivery conversations. Faculty who initially had worried about instructional autonomy issues now were concerned with student workloads, course content, and the quality of their collaboration experience.

Additionally, there are indications that collaboration has diminished instructor isolation and opened valuable conversations about teaching and learning. The teaming process has proven to be a powerful professional-development tool in the college. Collaboration has opened conversations about course content, teaching, learning, rigor, program continuity, and the possibility of continuous improvement. Indeed, we cannot imagine a more powerful, structurally integrated, inexpensive, professional development mechanism for higher education.

The work at the University of Florida with teaching teams has just begun. Although we are reluctant to suggest that collaborative course delivery is an innovation, it is nevertheless true that within higher education, collaborative course delivery is not standard practice. As we have worked through the first year of implementation, we have learned several lessons which may help others experimenting with similar strategies to improve teacher education pedagogy.

- As is so often true in life, and certainly in any change effort, the anticipation is worse than the reality. Faculty anxiety about the move to teaching teams was very high during the planning process. It is important to note that one cannot plan away anxiety about change. Planning is important. It gives voice to faculty concerns and highlights issues which must be attended to in the change process; however, our experience suggests that anxiety continues until faculty

have the opportunity to work their way through it. It is in the process of working through the details of implementation that faculty anxiety gave way to concerns about the quality of the resultant courses, and the experiences and learning of students.

- A related lesson was that concerns about faculty autonomy became a less significant issue as faculty began to engage in collaborative decision-making. In the abstract, faculty expressed concern about threats to instructional autonomy. However, during implementation, most faculty reported that the collaborative dialogue about instructional content and strategies enhanced rather than constrained their instructional effectiveness.
- Volunteerism is not as important as the skills, knowledge and commitment that team members bring to the group. The literature suggests that team teaching works best when participants volunteer to participate. (Bakken, Clark & Thompson, 1998; Cruz & Zaragoza, 1998). Although it certainly makes sense to use volunteers, in our context this was not possible. Because the entire program was restructured, everyone who teaches in the program was required to become a member of a teaching team. And membership on a team was determined by one's expertise and course teaching background. Faculty were justifiably concerned about whether this kind of "forced" collaboration could succeed. However, our first year of implementation suggests that this kind of collaboration can in fact work quite well. However, not all teams work equally well. Faculty experience suggests that teams work best when each team member contributes a fair share of knowledge, expertise, commitment, time, and demonstrates a willingness to learn from others. A significant discrepancy in any of these areas throws a team into disequilibrium and diminishes the long-term effectiveness of the group.
- Faculty concerns suggest structural issues that the college has not yet dealt with. The faculty involved in this first year of implementation clearly reported that teaching as a part of a team within this teacher education program is time-consuming work. They acknowledge the importance of this work but are expressing concerns about the time commitment involved. Every faculty member in a large research university has to make decisions about the appropriate balance between teaching and research. Faculty teaching on teams are expressing concerns about equity and rewards. Will faculty who work on teaching teams, especially those who take leadership roles, be rewarded for this work? Will faculty who opt for teaching assignments where collaboration is not necessary achieve greater success in research and grant productivity, and therefore, greater access to the "fast track"

to success? These questions have not been resolved, but faculty working in this program do find benefits to collaboration and several are working to invent ways to combine teaching and research productivity. Faculty are designing research projects around their work in teacher education, often projects that include their graduate students. This approach will work for some faculty. For others whose research agenda is not a clear match with teacher education, the tension between teaching and research may become more intense over time.

At the end of this first year of implementation, faculty and graduate students on this first set of teams say that the effort was time-consuming but they also have found it rewarding. Many faculty report that their courses and their teaching

improved. Graduate students seem more confident in the content and pedagogy provided in their courses and faculty are more confident that courses within the program, including courses taught by graduate assistants and part-time faculty, are coherent and consistent with program purposes.

As noted, we make no claim that collaborative course delivery is an innovation. On the contrary, we would argue that that collaboration is fundamental to academic work and an essential part of academic freedom. If it appears to some that collaboration is a radical departure from current practice, that is only because we have strayed too far from our first and most essential obligation: namely to deliver coherent, integrated, sequential, and rigorous academic programs to our students.

Although we are reluctant to suggest that collaborative course delivery is an innovation, it is nevertheless true that within higher education, collaborative course delivery is not standard practice. . . concerns about faculty autonomy became a less significant issue as faculty began to engage in collaborative decision-making.

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Using "Temporary Structures" to Guide Innovation at the University of Louisville: Preparing Classroom Leaders to Support School Renewal

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Introduction

The School of Education at the University of Louisville in Louisville, Kentucky, enrolls approximately 2100 students and graduates approximately 640 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$200,000.

The University of Louisville was one of eight colleges and universities chosen to participate in the BellSouth Foundation's ReCreating Colleges of Teacher Education Initiative. In addition, the school receives funding as part of the National Foundation for the Improvement of Education's A Change of Course reform effort. Through these initiatives, the university is making the concept of "Teachers as Learners and Leaders" a pervasive theme in its graduate-level teacher education programs, a theme already embraced in its basic teacher preparation programs.

Building on the work of the 1996 Task Force to Revise the M.Ed. and Rank Programs, a steering committee was formed in 1997 to develop a framework for the new graduate programs. Using the task force report as a guide, the committee prepared a handbook to help faculty in inventing new program offerings. The report included these recommendations:

- Link graduate work to specific school change initiatives
- Focus intentionally on the development of teacher leadership
- Arrange students in cohort groups

In June 1999, three cohorts piloted the new M.Ed. or Master's +30 (Rank 1) program students*. As envisioned, these cohorts would be drawn from a group of teachers inside one school working together on a specific school change agenda, from a mix of teachers across schools/districts working on related school change issues, or from a network of teachers across schools/districts working on content specific curriculum projects. The first three programs were in the areas of educational technology, literacy and social studies education. Formal plans are underway for cohorts to start in the areas of school administration, interdisciplinary early childhood education, mathematics education, science education and National Board Certification. (Since this paper was written, those cohorts have begun.)

This paper shares the results of four studies that describe the process of change as we have revised graduate programs to reflect our conceptual theme of "Teachers as Learners and Leaders." By means of "temporary structures," we have been able to involve various stakeholders in the process of program restructuring, including staff and faculty from all eight departments in the School of Education, colleagues in Arts and Sciences, K-12 colleagues, graduates, current students, and members of the business community. These "structures," or ad hoc working committees, stay in place only as long as necessary to complete a number of authentic tasks to facilitate change. The structures take different forms according to their purposes: e.g., a task force, a work team, an advisory committee, a leadership team, and/or directors of pilot cohort groups.

* The Rank Program is a pay increase program provided by the state of Kentucky. Rank 3 is the initial rank a teacher achieves upon being certified. After completing a master's degree, a teacher is moved to Rank 2. After completing 30 hours of professional development after earning a graduate degree, a teacher reaches Rank 1.

The first section of this paper, "Changing Experienced Teacher Education from the Inside-Out: Classroom Teachers as Program Designers," discusses how current teachers assisted the School of Education in redesigning the experienced teacher education programs. Participants studied alternative models for graduate education, conducted needs assessments and developed program guidelines. In the process, these teachers also increased their professional knowledge, leadership capacity and vision of change.

The second section, "Making a Difference in the Lives of All Students: Assessing Portfolio Evidence for Experienced Teachers," details how initial cohort directors in part of the revised programs are assessing the leadership skills, curriculum design skills, P-12 student work and academic work for evidence that these meet our state's experienced teacher standards and our goal of making a difference in the lives of all students.

"Developing a Research Methods Course to Support School Renewal" shares the results of a redesigned research class that is aligned with cohort action research goals. The class meets for one year to guide and assist in gathering data about student achievement, curricular impact, program impact, and change assessment.

The final section, "Connecting Classrooms to the Literature on Leadership and Learning," reports the results of an effort to ensure that all emerging cohorts in our new programs study agreed-upon literature and research in the area of leadership to support successful change and improved learning opportunities for all students.

Conceptual Framework

It has become a cliché to say that change is difficult. By extension, systemic change or the restructuring of rules, roles, and relationships (Schlechty, 1990), is very difficult. Yet, a growing body of literature from business management, organizational theory, and leadership studies questions these assumptions and calls for new ways to view organizations and the changes they undertake. For example, profiles of successful high-tech companies' CEOs reveal that rather than seeing change as equivalent to pain, they see change as equivalent to growth. "Change is a wonderful thing because it's part of the process of adapting to new market conditions and growing into new levels of success" (James, 1996).

To continue this metaphor, institutions of higher education face daunting changes in response to market conditions for their graduate degree programs for teachers. At one time universities enjoyed a protected monopoly on further degree work because many teachers were required to continue their graduate studies to maintain certification and to advance on salary schedules. As a result, courses did not have to relate directly to teachers' work to gain an audience, and choices of courses often were related more to convenience of schedule or their connection to further specializations than to necessarily improving teachers' and students' learning.

Policy changes in states and in districts, the greater availability of district and school-level professional development, and teachers' growing need for support that relates directly to their work put pressure on institutions of higher education to provide courses and degrees that meet real needs. At the University of Louisville, the creation of an M.A.T. as the initial certification degree has affected the market conditions for other master's degrees. The M.A.T. consists of a field-based, professional year supplemented by content-focused courses with a theme of "teachers as learners and leaders." The success

of this program not only potentially obviates the need for another master's degree but also builds expectations that any further coursework will link course requirements with teachers' work in schools and classrooms.

As we undertook the process of re-creating our master's and non-degree programs, we hoped to avoid the "difficult and painful" interpretation of change in favor of the growth metaphor — simultaneously growing new programs and growing ourselves. To view organizations as communities of learners, or learning organizations, helps to build leadership capacity. If one agrees with Lambert (1998), "leadership is about learning together, and constructing meaning and knowledge collectively and collaboratively." However, she reflects that "not all learning processes constitute leadership"; rather, to be leadership, "these processes must enable participants to learn toward a shared sense of purpose — a purpose made real by the collaboration of committed adults."

In Schlechty's words, "The way that leaders conceptualize the purpose of their enterprise will, in the long run, shape the way their organizations are envisioned and structured. Out of these visions, structures (rules, roles, and relationships) emerge, meanings evolve, and values are realized and made manifest" (1990).

At the University of Louisville, our shared mission has focused on "real work for real purposes." This mission not only shaped our pilots of the new M.Ed. and Rank programs but also what we attempted to model in the temporary work structures that provided leadership for the project. These temporary structures consisted of multiple, short-term arrangements of individuals representing the appropriate stakeholders. Each had a charge to do authentic work that would result in a concrete product that moved us forward in our overall purposes. Our initial purposes in revising the graduate degree programs included establishing links to specific school change initiatives, focusing on development of teacher leadership, and arranging

students in cohort groups. The temporary work structures have reflected those purposes while refining, piloting, and evaluating them.

Lambert advises that, "to organize for leadership work means to establish structures, groups, and roles that serve as the infrastructure for the self-renewing processes of a culture of inquiry" (1998). Each of our temporary structures did just that and allowed incremental moves toward our goal of re-created graduate studies. Leithwood (1999) advocates an incremental orientation to change. He writes, "I take the problem of imagining the design of future schools to include the problem of how they will get to be future schools. Future schools, however much we may wish it, will not spring into existence full blown on, say, January 1, 2000." He acknowledges that the notion of incremental change through a series of marginal improvements seems inconsistent with calls for systemic change and radical restructuring, but he believes it is more justified given the nature of organizations and the institutional environments they inhabit. He also argues that incremental change is real change:

Given the improbability of non-incremental or revolutionary change, future school designs must be ones that we 'can get to from here'; they must be images of organizations whose main features are capable of growing out of the seeds of today's school designs. Acknowledging the authenticity and robustness of practices and organizational features potentially resulting from incremental change processes makes it imperative that we respect the durability of today's schools (Leithwood, 1999).

The same could be said for the durability of today's institutions of higher education. Our temporary work structures at the University of Louisville have been designed to serve as incremental structures bringing about incremental change in this graduate education programs.

In function, the temporary structures have served as the activity settings (Tharp & Gallimore, 1988) for the real work our school needed to accomplish. Tharp and Gallimore define activity settings as "contexts in which collaborative interaction, intersubjectivity, and assisted performance occur – in which teaching occurs". Their analysis of activity-setting dimensions includes the who, what, when, where, and why, noting that these dimensions interact to influence the success of the activity-setting to accomplish its goals. "The tendency of activity-settings, and their accompanying semiotically mediated interactions, is to develop a mutual meaning structure, an evolving, developing, and converging common understanding" (Tharp & Gallimore).

Their analysis reveals that in schools there is too little "joint productive activity" and "too seldom a product at all. . . This removes another basic condition needed for good functioning of any human group. . . the activity of a group, the helpfulness of members to one another, and the motivation

to participate in the activity are all indispensable conditions that are, in ordinary life, *driven by the product itself*" (Tharp & Gallimore). Further, they assert:

Activity settings for adult members of the school community are themselves neither joint nor driven by valued products. When principals create teacher committees, they are likely to produce some report or bureaucratic requirement that has no value whatsoever to the participants. Indeed, the products of bureaucratically organized school activity settings are products that enable other bureaucrats to assess their supervisors. This is organically related to the directing-and-assessing functions of supervision, just as the paucity of classroom products is organically related to the recitation script (Tharp & Gallimore).

Our challenge, then, was to create activity-settings that modeled real work for real purposes in their own structure, motivation, and products to further the goal that the activity settings of the new graduate programs would similarly function as joint, product-driven contexts for the adult learners who would enroll in them.

Overall Lessons Learned

This study contributes to the literature in experienced teacher education and learning communities in the following ways:

- Incorporating temporary structures for nurturing change
- Including teachers in the process of university program design
- Building leadership capacity in teachers and education faculty to support school renewal.

Results of our study are still emerging as the new folios are being developed for NCATE review. We have learned a number of important lessons about incorporating temporary structures. In addition, we have emerging evidence in several other areas related to reform both at the K-12 and higher education levels. The data emerge from our archival analysis, surveys of participants, interviews, focus groups, and reflective discussions that affirm and challenge the use of temporary structures. As we continue the work of redesign we expect to refine these categories even further:

- Supporting innovation of busy faculty and school colleagues
- Helping faculty and participants merge teaching and research interests
- Developing evidence of leadership to support school renewal
- Defining niches in the market
- Revising "core" courses to meet the needs of multiple audiences
- Identifying the advantages and disadvantages of cohorts

- Addressing issues of equity and diversity in the new program offerings
- Linking professional development "inservice hours" and graduate credit
- Bridging department structures inside the School of Education and across the university
- Fostering learning communities

For this paper, discussion of lessons learned is limited to the three main foci of our paper: incorporating temporary structures as a process for nurturing change, including teachers in the process of program design, and building leadership capacity in teachers and education faculty to support school renewal.

Incorporating Temporary Structures as a Process for Nurturing Change

Temporary structures were a kind of discovery we gained from "riding the rapids" of our change effort. We have learned that temporary structures can be an effective tool for thinking through program redesign issues and for allowing people in key decision-making roles the opportunity to lead a faculty toward changes in permanent structures. Several of the temporary structures were critical in timing, importance, membership and product. Four of the temporary structures that have demonstrated great success are the Project Work Team, the Literacy Planning Cohort, the Mathematics Planning Cohort and the Leadership Team. In the life of a change process, there are critical junctures where people in key decision-making roles must assist their colleagues in moving the agenda forward. We have deliberately followed one temporary structure with the advent of the next, rolling over the product of one structure and several of the key people who served. Because these four structures reflected the purpose of the project in their function, their products have been influential. In particular, each used the two major emphases of the initiative: real work for real purposes and including teachers' voices in all aspects of the redesign effort.

One especially important result of using temporary structures is that they have allowed us to withstand major leadership changes. At the University of Louisville, between 1997-2000, there have been three project directors of the initiative, a change in dean and provost, an approximate 30 percent turnover in faculty and an impending teacher shortage that has emerged during the last five years. Without the nimbleness and flexibility afforded by temporary structures, we would have lost momentum at best, or would have had to re-begin with each leadership change at worst.

Including Teachers in the Process of University Program Design

In our effort to design programs with "real work for real purposes" one key tenet of each temporary structure was to involve practicing teachers in all aspects of the work. Our data support that we have been successful in this effort. Classroom teachers have been deeply involved since the original redesign committee was formed. The feedback of those participants has been extremely positive about their roles and the power they had to shape both the overarching nature of the programs and the specifics in terms of courses and experiences. Including teachers has also made it more complicated to move quickly in the use of temporary structures because feedback from teachers has challenged several key components of the new design and forced us to reconsider how flexible we really were/are about meeting the needs of classroom teachers. Teachers hoped we would have made more progress in overlapping professional development credit with graduate credit; they have demanded practical uses of the required program portfolio; they have rallied against assignments they saw as decontextualized from their needs; and they have tended to use evaluation opportunities to discuss matters most relevant to them at that moment rather than focusing on the overarching goal or direction of the program they were part of.

Building Leadership Capacity to Support School Renewal

In our project workteam and in the pilot cohorts, we have created opportunities for teachers to play critical roles in program redesign and school change. Focus group and interview data suggest that these same teachers now are embedding their cohort experiences into their work in their schools. As a result, we know that the opportunity to assist in developing a cohort was a leadership and capacity-building activity itself. We know that the curriculum and leadership projects of the technology and literacy cohorts in particular have challenged teachers to take key roles in their schools to advance the change agenda.

As data emerge, we are particularly interested in our findings related to two questions: 1) If we build it, will they come? and 2) What are the advantages and disadvantages of cohorts? Our current professional development environment requires school-based professional development to be directly tied to improving school test scores, enhancing student literacy skills and increasing mathematics competency. Some theme areas for cohorts less tied to these priorities and to high-stakes testing have had difficulty attracting applicants. In addition, many teachers and administrators are unable to adjust their busy professional and personal lives to be part of a cohort for an entire program. We have rethought requirements for cohort participation and revamped our folio requirements so that all revised programs are now asked to embed the beliefs of the initiative in their design. Smaller "mini-cohorts" or blocks

inside larger programs fit some teachers' lives better than a straight two-year program. On the other hand, cohorts in the technology and literacy programs have had excellent success recruiting and maintaining enrollment. These cohorts have become "families" and reflect personalities that can have both positive and negative attributes. The emerging literature on cohorts suggests that issues of power, roles, relationships, and norms can help and/or impede a cohort's progress toward intended goals.

As we submit final folios and continue the redesign process through its next phase, the use of temporary structures to guide the work will be an important learning outcome. In an era of continued reform, putting in place processes that evolve as needed and dissolve where they are no longer needed is a key component of real change.

Given the improbability of non-incremental or revolutionary change, future school designs must be ones that we 'can get to from here'; they must be images of organizations whose main features are capable of growing out of the seeds of today's school designs.

INDIVIDUAL EDUCATION REFORM INITIATIVES

Changing Experienced Teacher Education from the Inside-Out: Classroom Teachers as Program Designers

Introduction

University change initiatives are obligated to respond to the multiple agendas of policymakers, accreditation agencies, funders, administrator emphases, and faculty governance processes. Programmatic changes are informed by faculty experience, research, trends, technology, competition, and student experiences. Less often are those who will be directly affected by the change initiative part of the process of invention of new programs.

Throughout the process of using temporary structures to redesign our experienced-teacher program at the University of Louisville, graduates, current students and prospective students have had an active and influential role. The temporary structures have spanned almost five years, from the time we sought external funding to the present, as we now are implementing the new program in the form of program folios required by our continuing accreditation process. The temporary structures have been characterized by:

- Varied constituent members representing not only current permanent structures inside the School of Education and across campus, but also intended teacher audiences, school district personnel, and professional association representatives.
- Charges for finite time periods.
- Culminating products used by subsequent temporary structures.
- Approximations that moved us incrementally toward the desired change.

Methodology

Because the original three-fold purpose of this initiative was to link graduate work to specific school change initiatives, to focus on development of teacher leadership, and to arrange students in cohort groups, it has been important for the temporary structures to reflect these purposes in their rules, roles, and relationships. As teachers have undertaken "real work for real purposes," they have forced us to determine which of our former structures are obsolete and which continue to be relevant. The temporary work structures have shifted in charge and membership because the incremental nature of the work required one structure to fade away as another was created.

Also, evolving key decisions by those in formal leadership roles necessitated a new charge to new groups which had the formal and informal authority to enact the charge. What has not changed throughout the process, however, has been the focus on classroom teachers as program designers.

Temporary structures have been used deliberately by people in leadership positions to help rethink, redefine, and restructure the graduate programs for experienced teachers. The first key decision was that of our Center Director – to seek outside funding as a way to generate incentive for change. The result of that decision was the creating of the Nystrand Center of Excellence in Education as a state-funded entity housed in the School of Education. The major goal of the Center is to coordinate and support collaboration between the university and area school districts in support of the teaching profession. The second key decision was made by our then associate dean, who also served as the BellSouth/NFIE project director, to use a series of temporary structures to enable piloting of the new programs.

The third key decision was made by our dean and project director to encourage faculty to submit only revised programs to the National Council for Accreditation of Teacher Education (NCATE) for review. These three key decisions created a link from the redesigned programs to the permanent structures through the curriculum design and approval processes.

Making a Difference in the Lives of All Students: Assessing Portfolio Evidence for Experienced Teachers

Introduction

For almost a decade, contributors to the teacher education literature have advocated professional portfolios as a way to demonstrate and assess what preservice and practicing teachers know and are able to do (Adams, 1995; Barton & Collins, 1993; Ryan & Kuhs, 1993; Wolf, 1992). In her 1997 report, *Doing What Matters Most: Investing in Quality Teaching*, Linda Darling-Hammond describes the characteristics of successful teacher education programs. Among those characteristics is the "extensive use of case study methods, teacher research, performance assessments, and portfolio evaluation to ensure that learning is applied to real problems of practice" (1977).

Since the early 1990s, the Kentucky Teacher Standards, established by the state's Educational Professional Standards Board, have provided a framework for portfolios developed by students in the initial certification program. The 1996 redesign Task Force recognized the appropriateness of integrating the

use of portfolios as assessment in our programs designed for experienced teachers as well. As a result, they recommended portfolios as a way of presenting "evidence documenting cohort and individual work toward meeting the relevant professional standards" (Pilot Cohort Handbook, 1998). Since then, the pilot cohort groups have required portfolios of each participant.

At this stage in the development of the cohorts, we have more information about the intent and expectations for portfolios, the kinds of entries students are in the process of producing, and issues that have emerged about portfolios than we do about the assessment of the portfolios themselves. That data will become available as students begin to reach the end of their programs.

Methodology

Intent and expectations. The proposals for three of the pilot cohort groups offer insights about what the portfolio evidence should demonstrate. These three are the Technology Leadership Institute (TLI), the Louisville Writing Project Literacy Cohort (LWP), and the Mathematics Rank I Cohort. The cohorts are at varied stages of development and involve different constituencies, yet illustrate similarity in portfolio use.

A. The Technology Leadership Institute cohorts include school technology coordinators (STCs) from area schools. Although the participants vary in levels of technology expertise, the program enables them to enhance their technical and instructional skills to provide leadership to other teachers in their buildings. Course content in the program links to the International Society for Technology in Education (ISTE) Standards as well as to Kentucky's Experienced Teacher Technology Standards, and students are expected to provide evidence that they meet all standards.

At the time of this writing, the participants in the Technology Leadership Institute (TLI) cohort had completed portfolio entries that were accessible for others to view on the TLI Web site. These entries demonstrated competencies expected as course requirements, linked to state and professional organization standards.

For example, students in the cohort developed WebQuests during their WebUse and Publishing course. At the Web site, each student posted a project such as: Butterfly Quest, Earth Quest, Animal Safari, Nutrition Safari, or Geography Journey. Each entry provides a detailed project for classroom use, complete with Internet connections related to the specific topic. These posted projects enable the cohort leader to assess individual students' development in light of the expected standards.

Students in the Technology Cohort presented their portfolios in the Capstone Seminar that concludes the program. The seminar revolved around a demonstration of portfolio projects on the Web site and the contribution of cohort members. The cohort leader, with the cohort members, developed the rubric for assessing the portfolio jointly in the first offering of the Capstone Seminar.

B. Participants in the Louisville Writing Project's Literacy Cohort also must demonstrate their learning by presenting a professional portfolio. According to the cohort proposal:

Candidates will develop a portfolio that reflects that they have met the cohort standards that include the Kentucky Experienced Teacher Standards and the assumptions of the National Writing Project. This portfolio will include documentation of:

- An initial guiding question with supporting reasons for this focus,
- Reading seminar work,
- Curriculum and leadership projects,
- Professional development requirements,
- Elective course work, and
- Reflection on experiences throughout the cohort.

The proposal also includes a draft of a rubric for evaluating the portfolio. Participants in the cohort will continue to work on and develop the rubric. In the draft stage, the rubric included the following statements:

- **SUPERIOR:** Polished collection of entries that demonstrate competence in meeting the expectations of the Cohort Program Standards. Introductory letter shows depth in reflection and analysis of your growth as a teacher and careful consideration of the implications of your work during the cohort for your classroom teaching.
- **ACCEPTABLE:** Collection of entries that demonstrate competence in meeting the expectations of the Cohort Program Standards; shows solid reflection and analysis of your growth and implications for your teaching.
- **UNACCEPTABLE:** Professional quality of the collection is unacceptable for a graduate level course.

Members of the first Louisville Writing Project Literacy Cohort completed the program in the spring of 2000 and presented their portfolio entries at that time.

C. The proposal for the Mathematics Rank I Cohort includes similar expectations of its participants. Not only must they meet the state standards, but they also must demonstrate that they have more mathematics content knowledge; use best method practices in their teaching; provide leadership in varied professional communities; make appropriate curricular

decisions; evaluate their own learning as well as the cohort program; collaborate with other professionals; and know about and conduct research.

Across all cohorts, the emphasis on standards-based assessments is clear. Further, depending on the specific focus of a cohort, participants must demonstrate that they meet relevant standards from professional organizations as well as the more general state standards.

Portfolios of students in the Louisville Writing Project Literacy Cohort were examined as a part of the cohort's spring retreat. Although all of the completed portfolios were not available for analysis at the time this paper was written, examples from one student illustrate the types of entries in process. In his working portfolio, he includes short stories, a personal narrative, poems, and an article, as well as explanations on how each entry represented the expected standards.

Lessons Learned

In examining the experiences of students in our pilot cohorts, we have identified three issues to consider as we refine our use of portfolio assessment. These issues relate to the support needed by students, the explicit integration of the portfolio throughout the program, and the role of an authentic audience.

We have found that students enter the programs with varied experience with portfolio development, and thus need different assistance. For example, the students in the TLI were not familiar with the use of portfolios for assessment and requested help. With the availability of funds from the BellSouth grant, we were able to provide a faculty resource from the English Department.

The students in the Louisville Writing Project (LWP) entered with more experience with portfolio development, since they have used portfolios in their language arts and English classes with K-12 students. The cohort leader reported: *No one seems concerned about being able to document that they have indeed met these standards through their work in the cohort; they are all so active in LWP leadership activities that it seems pretty much a matter of "keeping copies" instead of generating specific entries.*

However, while they may not have needed the same kind of assistance as students in the TLI cohort, they wanted time built into the program to share entries with one another. Our redesigned program, then, must be flexible enough to support students in varied ways. Some may need explicit demonstrations and guidance, while others may need time allocated for peer review and assistance.

Another emergent issue has been the role of the portfolio in the program. In the pilot cohorts, students have generated potential portfolio entries within each of the program's

courses. This explicit integration of portfolio expectations aligned with course outcomes has enabled the portfolio to be more than an "add on" at a program's completion. As we continue to develop our programs, we will continue to focus on the role of the portfolio throughout all of a student's learning experiences.

Finally, we recognize that a necessary aspect of portfolio assessment is an authentic audience. In one way, the cohort members have served as an authentic audience for each other as they develop, discuss, and refine their portfolio pieces. The importance of providing a way for students to serve as "critical friends" for one another in the development of their portfolios seems clear. Furthermore, we need to explore how we can provide an authentic audience for students' completed portfolios at the end of the program as well.

Based on our review of portfolio use with experienced teachers in our pilot cohorts, we feel more confident about including this approach to assessment in our redesigned graduate programs. The development of portfolio entries as an integrated part of courses and other learning experiences throughout the program focuses everyone's attention on the standards expected as program outcomes. And, given the nature of those standards, the work that forms the basis for meeting them enhances the likelihood of making a difference in the lives of all students.

Developing a Research Methods Course to Support School Renewal

Introduction

Reading course feedback comments from teachers who have taken a required graduate course in research methods can be a humbling experience:

"I really can't see how to apply any of this to my teaching."

"I don't intend ever to read this kind of material again."

"Boring, boring, boring."

Some teachers, to be sure, find research methodology intellectually stimulating and may subsequently enroll in doctoral programs for more rigorous research training. However, most practicing teachers remain unconvinced of the usefulness of research methodology, and consequently untouched by this component of their graduate education.

In its new Rank I program initiated with BellSouth Foundation funding, the University of Louisville has attempted to change the way teachers experience research and their perception of its usefulness. The research component in the program is an action research course. In this paper, we report our rationale in developing this course and the lessons learned after offering the course for the first time during the 1999-2000 academic year.

Conceptual Framework

Research courses go back to Lortie's *Schoolteacher* (1975). Lortie observed that teaching lacked the codified technical knowledge base expected of a profession. An assumption that teaching needs such a scientifically verified, generally applicable knowledge base has informed the traditional survey course in research methods, which aimed to enable teachers to read and apply the published findings of professional researchers. Lortie, however, doubted the possibility that scientific research could "ground" teaching in such a way. He saw teaching as a craft rather than a science, because decisions about teaching have to be made without certain knowledge of cause and effect. His doubts have become widely shared, and Schon's (1987) model of the reflective practitioner has appealed to many in education as a better model for rational development of teaching practices under specific conditions.

In the past 15 years, "action research" has emerged as one name for the use of research methods applied as practical, adaptable tools for teachers who aspire to become reflective practitioners. Gall, Gall, & Borg (1999) define action research as:

a type of systematic investigation conducted by practitioners involving the use of scientific techniques to improve their performance... the quality of an action research project depends on how well the project serves a practitioner's immediate local needs rather than on how well the project fulfills the criteria of sound research design and interpretation that preoccupy professional researchers.

Similarly, Wisniewski (1999) has argued that "far more research needs to be generated and applied locally" if educators are to value and use the methods of research.

"Local" is not to be equated with individual, however. Research remains a social activity and its value derives from being shared and disseminated. Gall et al. (1999) observe that *practitioners . . . have developed many insights from their personal inquiries. However, they lack concepts and procedures for making their ideas for effective practice publicly accessible. Hence, their knowledge cannot be publicly debated, and it generally disappears when they retire.*

Communicating the conceptual framework of a problem and the methods of studying it requires a teacher to articulate tacit knowledge about curriculum, instruction, and learning and subject it to the criterion of comprehensibility to other teachers. The resulting discourse about teaching can generate and sustain the shared rational culture Lortie sought in teaching as a profession.

Methodology

The development of the action research course at the University of Louisville was facilitated by the creation of cohorts of teachers focused on common interests such as literacy development and technology leadership. The cohort format made it possible to create a year-long, three-credit-hour course in which teachers could experience the whole process of designing and conducting action research, which is not possible in the traditional one-semester course.

The course begins with teachers articulating their concerns about practice and formulating research questions. Brookfield's (1990) critical incident method is used to help them analyze the assumptions behind their concerns and identify gaps in knowledge. A teacher-oriented action research text (Hubbard & Power, 1999) is used to help them design methods of data collection and analysis to answer their research questions. Qualitative research methods are emphasized. Research proposals are completed by the end of the fall semester. During the winter months, teachers actually carry out their studies. In the spring, they write reports of their findings, present them to the class, and write a reflective essay on the action research experience. To support and guide them in these efforts, the class meets periodically throughout the year, and the instructor visits and confers with individual teachers in the schools in which they work and conduct the projects.

The cohort format created potential communities of action researchers who could develop a shared culture of rational inquiry based on in-depth knowledge of particular problems. In the action research course, teachers are encouraged to collaborate both in homework practice exercises — e.g., on methods of observation, document analysis, and interviews — and in designing and conducting the main research projects.

In developing our action and research course, we posed:

- Do teachers respond more positively to a year-long course in the design and conduct of action research than to the traditional one-semester course in research methods?
- What is the potential contribution of teachers' action research projects to the craft of teaching?
- Do the action research projects contribute to a shared culture of inquiry into a problem? To answer these questions, the course instructor observed and analyzed teacher participation in class exercises, completion of written assignments, and response to an anonymous feedback questionnaire. In particular, the instructor analyzed the purpose and degree of collaboration in the teachers' action research proposals. At the end of the course (June 2000), the instructor analyzed the students' final research reports and reflective essays on their action research experience.

Class Process. At first, prior course experience within the cohorts created a convivial atmosphere, but few class members had conducted research before, and many soon revealed considerable uncertainty and anxiety about the instructor's expectations for the course research project. Of the 29 teachers initially enrolling in the course, a few dropped out in the first month. Gradually, however, the instructor and learners identified and corrected misconceptions and negotiated a consensual set of expectations. Nearly all teachers completed their research proposal satisfactorily before the end of the fall semester, as scheduled.

The development of collegial interaction both fulfilled and confounded instructor hopes. The cohort experience had generated conviviality and common intellectual interests, and class meetings were lively with high levels of participation in group tasks. There was little enthusiasm, however, for collaborative action research. Teachers preferred to focus on individual action research topics. Furthermore, several teachers indicated on a feedback form that they would have preferred to focus all the practice exercises on their individual projects. One even requested an independent study to pursue an individual interest further without having to meet with the rest of the class again. There were exceptions to this pattern, however. Two teachers with similar topics decided to compare findings as their research progressed.

Action Research Projects. Analysis of completed action research proposals showed that teachers in the class are pursuing inquiries with high potential for improving teaching. The literacy cohort teachers proposed studies of student motivation to read, student motivation to write, and helping at-risk students overcome a history of failure. Several teachers were concerned about the decline in student motivation to read and proposed research on ways to reverse that decline. For example, one teacher is conducting a study of the effect of the Accelerated Reader program on "reluctant" readers, and another teacher is implementing a student survey to increase students' awareness of their self-concepts as readers and to improve their meta-cognitive strategies in reading. A second group of teachers is interested in motivating students to write. Among them are two teachers who, independently, are creating opportunities for students to publish their work as incentives for students to write. This group also includes a teacher studying the effect of student learning styles (e.g., kinesthetic vs. visual) on student response to a writers' workshop program. A third group of the literacy cohort teachers are specifically concerned about the academic survival of students who are far behind their classmates. An example is a teacher who is comparing the effectiveness of three literature-based models in teaching reading strategies to low-achieving students. Another example is a teacher who is studying the effect of continuous progress self-assessment on high school English repeaters.

The technology cohort teachers, in contrast, are concerned about the impact of computers on teaching and learning. One teacher is studying the effect of computer-assisted instruction in mathematics. Another is conducting a survey of teachers on the effect of in-service workshops on the integration of technology into the curriculum. A third is looking to see if training in Internet search methods is leading teachers to ignore traditional library-based sources of information.

Lessons Learned

Despite the initial miscommunications, the class seems to be succeeding in its goal of motivating teachers to study research methodology. Furthermore, the teachers are conducting action research with genuine promise for helping them fulfill their own teaching goals. The main challenge at the time of writing is helping teachers keep the project within the bounds of feasibility so that they do not burn out from trying to do too much or experience too much anxiety about completing a research report. They need the traditional guidance given to qualitative researchers with regard to the normal and even beneficial nature of a stage of bewilderment, the acceptability and even desirability of refocusing inquiry as insights emerge from data collection and analysis, and the value of research reports that document less than 100 percent success.

Whether the course is helping the teachers generate a culture of collaborative action research, however, is doubtful, and that raises the question of how much they will learn from each other's results. In a previous review, Sheerer and Pedersen (1999) noted a similar limitation:

The majority of the collaborative research projects would seem to provide some evidence of impact upon the teaching and learning knowledge base. However, the degree to which this impact actually provoked reform is debatable in that the focus remained on the individual projects as opposed to any integrated set of strategies.

Perhaps the end-of-course presentations of study findings will stimulate more cross-fertilization of ideas. A more proactive strategy is likely to be necessary, however, to develop a collegial culture of defining and solving problems. This will require reconsideration of the place of the research project in the overall cohort program and the degree to which cohorts will really be expeditionary teams rather than fellow wayfarers. It will likely also require more support for the collective culture in the school, which remains largely a domain of individual teaching even after decades of innovation in team teaching and mainstreaming.

While we do not doubt the value of action research as the way to present research methodology to practicing teachers, because of its relevance and practical benefits, nevertheless, a persistent question remains: Will action research be valued primarily for its power to structure individual inquiry, or will it

generate ideas for change in the larger structure of school programs and policies that necessitate a collective initiative and therefore a collective culture.

Connecting Classrooms: The Literature on Leadership and Learning

Methodology

In addition to a research methods course in the cohort programs of study, a readings course is also required for each pilot cohort group. This course was conceived to be both practical, with a focus on the real work of practitioners in classrooms and schools, and philosophical, with a focus on educational theory and on the major educational and social issues of our time. Additionally, the course was designed to embody the University of Louisville's conceptual framework "Teachers as Learners and Leaders" and the set of core beliefs articulated by the 1996 program redesign Task Force (Pilot Cohort Handbook,

- Teachers are leaders and inventors of quality work for students.
- Learning occurs when students construct knowledge and make meaning based on their experiences, beliefs, and values.
- Teachers must be committed to principles of equity and social justice and provide evidence of these principles in their practice.
- The work of teachers is to ensure learning for all students by designing instruction that is engaging, of high quality, encourages students to persist, and honors diversity in learning styles.
- Schools are places where both the students and adults are engaged in continuous learning and where they acquire the skills to become lifelong learners.
- Technology will facilitate student and adult learning in new directions, which we have not even imagined.

The readings course is predicated on assumptions that education and teaching are inseparably linked to a set of larger issues, which are cultural, moral, political, economic, ecological, and spiritual (Shapiro & Purpel, 1998). We also were aware that we needed to create a model for the readings course that acknowledges four aspects of the current context in which we are operating: 1) the Kentucky Education Reform Act, emphasizing reforms in curriculum, pedagogy, and assessment; 2) the University of Louisville's 15-year history of a collaborative model working with local schools; 3) the urban mission of the university; and 4) the various recognized sets of standards or principles disseminated by agencies, professional organizations, and content area associations such as NCATE, INTASC, NBPTS, NCTE, NCTM, and NCSS.

We identified early on several design challenges in creating a readings course for the pilot cohort programs:

- 1) How does the design of a readings course support the goals articulated by a particular cohort?
- 2) What are the necessary components of a readings course that would establish links for dialogue, inquiry, and reflection across multiple cohort programs?
- 3) How might the use of "temporary structures" to develop the readings course promote cross-fertilization of knowledge, expertise, perspectives, and ways of knowing across multiple cohort programs?
- 4) How does a readings course honor the focused study of specific content in a cohort program (e.g., literacy, technology, mathematics), while also reflecting in the program redesign's overall core beliefs and conceptual framework, and in broader educational and social issues of our time?

For example, in early meetings to design the readings course, professors and teachers in the social studies cohort group, "Understanding and Building Democratic Communities," worked with us to determine what readings would support their goals: "How do we as teachers help students make sense of their world? How do we nurture the development of students as responsible citizens in a democracy? How do we, as professional educators, work to learn and lead in our schools, communities, state, and nation?" (Longwell-Grice & Morgan, 1999). In our discussions about planned readings for this and other cohorts, we generated ideas that focused on philosophy, purpose, local and professional commitments, dispositions, knowledge bases, theories, research, practical wisdom, and educational policies aligned with professional and state standards for cohort participants' outcomes. We also read extensively from educational literature and created an annotated bibliography of texts and articles for possible inclusion in a readings course syllabus. We shared and disseminated this bibliography to pilot cohort instructors.

Concurrently with these discussions that we facilitated across cohort programs and through our reading of texts and articles from seminal historical and contemporary educational literature, a methodology emerged that allowed us to propose a thematically meaningful structure to create the readings course we envisioned. We proposed that this course be organized with the following four themes as organizers, and under each of these themes we conceived broad categories from which representative literature could be selected to support the theme.

1. Current Educational Theories

This theme includes readings on pedagogy and "best" or promising teaching practices for quality teaching, in general, and in the content areas of respective cohort programs. Additionally, selected readings under this theme would be chosen from the literature in such areas as assessment, theories of cognition, learning theories, curriculum and curriculum theory,

special education, reflective and systematic inquiry into practice, technology in educational settings, standards as public theories of teaching, and research on powerful teaching.

2. The Role of Leadership in Sustaining School Reform

Readings selected to support this theme include those on leadership; change theory; collaboration; community; autonomy; ideology in teachers' work; school culture and the process of change; leadership linked to school change initiatives; and inquiry through action research, professional development, and teacher communities. The Kentucky Education Reform Act has served as a strong impetus for cohort program participants in their work as local educators about the processes of school change and the relationship of leadership to educational reform.

3. Diversity and Critical Social Issues in American Education

These readings provide opportunities for cohort participants to delve into theoretical, philosophical and historical research that links current educational practice with democratic values of equality and social justice. Culturally and linguistically responsive teaching; multicultural education; democratic teaching models; tracking and inequality; education as a political enterprise; race, class, gender and power in education; special education; applications and implications of new technologies in educational settings; and education as transformation are examples of categories from which readings could be selected.

4. Infusing New Technologies in Educational Settings

Although we acknowledged in our early efforts that inquiry on new technologies in educational settings be ideally nested in the other three areas of our heuristic or thematic structure, we came to the conclusion that a stand-alone theme for this topic was needed. Although new technologies are playing an increasingly important role in understanding on the part of students, teachers and administrators using this technology – and on the values and assumptions underlying its use – deeper curricular and cultural meanings need to be explored. For example, the educational theorist Bowers argued that to assume that the computer is a neutral technology is naive. Instead, Bowers maintains that it is essential to understand that computers, like all technologies, "mediate human experience through its selection/ and reduction characteristics" (Bowers, 1988). Thus, readings in this theme might explore how the technology of the computer transforms cultural experiences and directs us to experience the world and our educational experiences in specific ways. Areas for inquiry might also include technological literacy; central roles technology plays in curriculum; visions of technological applications and uses; the paradox of increasing access and infrequent

teacher use; rapidity of technological change versus educational change; use of technology for scholarship and research; Web resources; critical perspectives on using technology; and preparing students and teachers for 21st century technology competencies.

5. Readings to Support Inquiry and to Enhance Knowledge Bases and Professional Practice in Respective Cohort Programs.

For this theme, readings are selected to support the focus of respective cohort programs (e.g., early childhood education, literacy, social studies, mathematics, technology, and educational administration). In the LWP proposal for a literacy cohort (1998), the cohort advisory team of school and university-based educators states "we must provide teachers with the very best professional development in curriculum, instruction, and assessment related to literacy...We don't need top-down reforms or outside experts, just teachers who are learners and leaders... [We need] relevant learning experiences that will create learning communities where individual teachers can link together." In the readings course for the literacy pilot cohort program, readings under the content focus theme are chosen to support this vision, as well as to honor the five themes described above.

Lessons Learned

We want to be clear that we are aware that the organization or structure of the themes for the readings course must be viewed as a kind of heuristic. In the real world, educational and social issues are not neatly and conveniently compartmentalized. It has been important for us and for instructors and participants in the pilot cohort programs to recognize that the themes we propose for the readings course are contextually sensitive and flow out of and into each other. These connections occur in symbiotic ways, in the real work for real purposes, ownership, and experiences of cohort participants.

With this said, key learning for us as we designed a readings course emerged in a number of ways. First, we were aware that the cohort programs would take on identities and that each would evolve perceived needs based on their respective inquiries, professional development experiences, and the interpersonal dynamics within the learning communities. However, we were reminded very quickly about the importance of "power in the personalization" to design and help facilitate a course that would strike a balance to honor both the vision of the 1996 Program Redesign Task Force and the perceived needs of the individual cohort programs.

Throughout the year in which we worked to design the readings course, we came to a realization that a "one size fits all" approach was overly simplistic when it was met with resistance by pilot cohort instructors and participants. Rather, the course would need to be organized more flexibly and be

responsive to context and to multiple audiences. Through negotiation, dialogue, and work with the pilot cohort instructors and teacher participants, we were satisfied that the themes and strands of inquiry as a structure for the readings course could cut across the settings of the cohorts and that these important, yet flexible "non-negotiables" would contribute to the academic integrity of the course.

Another example of our learning relates to an original vision we had that cohort participants would overlap and connect on curriculum products, performance events, and assessment methods and processes across programs. We found that facilitating conversations and collaborative experiences across the cohorts was a much more complex and logistically difficult process than we had anticipated. Pilot cohorts met at different times, in different settings (e.g., universities, schools, and homes) and participants were at different places in the continuum of their work. At times, facilitating the processes to connect participants across cohorts seemed "forced" or inauthentic and did not fully honor the work and inquiry participants were immersed in.

For example, the technology and literacy pilot cohort programs collaborated in the summer of 1999 in an on-line work group, TAPPED-IN, for Web-based discussions "used to facilitate collaboration of the cohort members in on-line work groups to build bodies of knowledge around specific topics" (Rude-Parkins, 1999). TAPPED-IN is a growing community of more than 4,000 K-16 teachers, staff, and researchers engaged in professional development programs and informal collaborative activities with colleagues. Cohort participants in literacy and technology programs participated in real-time discussions in the TAPPED-IN forum, browsed Web sites together, learned about professional development options in their respective areas, and interacted via mailing lists and discussion boards. Overall feedback from instructors and participants in the two cohorts was that the electronic forum was novel and engaging, but that the connections to collaborate in this manner were difficult to manage, in terms of time, sequence of study in the respective cohorts, and assessment.

We continue to explore ways to link participants across cohorts and to answer such questions as, "What will be contributed in connecting cohort programs with each other? What are the necessary mechanisms and structures for overlaps and interaction? What might be possible common products and methods? How can we have both common purpose and tolerance for major professional dissent? Is community compatible with rigorous professional judgment or does it lead to acquiescence in the name of getting along?"

The eventual outcome of our learning experiences in designing a readings course has allowed us to reflect on "big issues and barriers" and to decide what to keep and what to let go. The initial readings course, now implemented in three cohort programs, represents pilot efforts to successfully include the "must haves" that support the integrity of the program redesign and the "realities" of different cohorts with their respective foci on content and on teaching and learning in those content contexts. We anticipate that we will continue to revise the readings course based on these experiences as more cohorts participate and as we continue to solicit feedback from instructors and participants.

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The Use of Technology in Portfolio Assessment of Teacher Education Candidates at Western Kentucky University

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Introduction

The School of Education at Western Kentucky University in Bowling Green, Kentucky, enrolls approximately 2200 students and graduates approximately 1080 annually. The School received a BellSouth ReCreating Colleges of Teacher Education grant of \$110,000.

With the focus placed on educational reform during the 1990s came an increased interest in the area of assessment. Up to this time, assessment was largely pencil and paper in nature with objective formats being prominent. While the information from objective assessment techniques was and still is valuable, it is only a snapshot of a period in time and does not provide insights into how students can use the knowledge they have acquired to make decisions, solve problems, and address real-world issues. In understanding the need for deeper, richer, and more diverse assessment instruments, and also wishing to align their own assessments with Kentucky's New Teacher Standards (Educational Professional Standards Board, 1994), Western Kentucky University chose this area as a primary goal for its BellSouth ReCreating Colleges of Teacher Education initiative. In particular, the School chose to design and implement technology centers that facilitate both instruction of production and development, and implementation of a comprehensive data management system to include an electronic portfolio. The following is an overview of alternative assessments with a description of how this institution has used the Internet as a tool for integrating portfolios into its continuous assessment plan.

Conceptual Framework

An interest in identifying different types of assessments was driven in part by educational reform issues that included greater demands for accountability, implementation of high-stakes testing and the subsequent negative consequences, and increased criticism of standardized tests (Worthen, 1993). In general, the interest in assessment alternatives to standardized tests can take numerous forms. These alternatives are referred to as performance assessment or authentic assessment and include direct assessment of student performance on tasks that are real world in nature or simulations. Feuer and Fulton (1993) have identified seven common forms that are often associated with K-12 schools: (a) constructed-response items, (b) writing, (c) essays, (d) oral discourse, (e) exhibitions, (f) experiments, and (g) portfolios. While these forms of performance assessment are only gradually being used in schools, it was the Coalition for Essential Schools (Sizer, 1984, 1992) and its use of student exhibitions to share application of knowledge that gave credibility to efforts to go beyond traditional methods of assessment.

Issues Related to Performance Assessment

With the implementation of performance assessment have come critics asking to ensure that the new forms of assessment are reliable measures of student learning, and valid applications of knowledge, and acceptable to users and others. Several issues identified by Worthen (1993) include: (a) technical quality and truthfulness, (b) standardization of assessment judgments, (c) ability to assess complex thinking skills, (d) appropriateness for high-stakes assessment, (e) feasibility, and (f) use of technology. This need to provide valid and reliable measures of student learning has been further documented by the Coalition for Effective Schools (1990), Marzano (1994), and Wiggins (1991, 1993).

The same concerns apply to the use of portfolios. Barton and Collins (1993) and Shulman (1988) have specified such concerns as: the need for reliable agreement among graders; clarity of purpose or what is desired from the students; and expense associated with development, administration, and evaluation. Although concerns are still raised, educators continue to refine the processes associated with the use of portfolios to ensure that both process and product are valid and reliable measures of student learning over time.

Research on Portfolio Use in Teacher Education

While there is a range of purposes for which a portfolio is used in teacher education, one of the central purposes has been to develop reflective skills on the part of the teacher candidate. Such use provides an avenue for both the teacher candidate and faculty members to reflect upon the growth and change that have occurred in the candidate over time (Barton and Collins, 1993). In a study reported by Wood (2000), teacher candidates who developed teaching portfolios reported the value of reflection in their own professional growth, increased their use of different teaching strategies, and developed a greater awareness of student diversity and sensitivity to student needs. Participants in the study included 17 first-year teachers from diverse ethnic and experiential backgrounds. In another study, Wade and Yarbrough (1996) found evidence that the use of reflective portfolios enhanced teacher candidate understanding of their community service-learning experience; linked their community service-learning experience with their future teaching; and made connections among previously unconnected interests, activities, and experiences.

Findings also indicated that the use of portfolios does not fit neatly into a teacher candidate's belief system regarding the purpose of a portfolio and how to create one. If not well guided, students can become frustrated while creating their portfolio, which lessens the value and enjoyment of the process. The quality of instructor feedback has also been found to be associated with the perceived usefulness of the portfolio. Based upon the findings of their study* Wade and Yarbrough (1996) have recommended the following if teacher candidates are to develop their reflective skills through the use of a portfolio:

- Focus attention on students' initial understanding of the portfolio process, its purpose in the course, and its role in enhancing reflection.
- Encourage student ownership, individual expression, and making connections between assignments and outside-of-class interests.
- Provide structure in the form of some required portfolio assignments, due dates, specific times for in-class sharing, and constructive feedback from both other students and the instructor.
- Evaluate the portfolio process and the use of portfolios by students.

A study reported by Loughran and Corrigan (1995) reinforces the importance of teacher candidates understanding the purpose of using the portfolio. Of the 22 student teachers completing a survey, 35 percent did not have a clear idea of the purpose of the portfolio task. Likewise, 30 percent of the respondents merely saw the portfolio as an assignment to be completed at the end of the year, and 35 percent viewed the usefulness of the portfolio as related to getting a job. Only 20 percent saw the task as useful and took the task seriously. The starting time for the task varied among the student teachers, and it was not until its completion that a majority of the individuals viewed the process as valuable and worth doing. This perception of value was linked to a practical use for the portfolio, either for the purpose of getting a job or encouraging reflection. These findings point to an obvious disconnect between process and product and further support the need for making sure that students understand the purpose at the very beginning of the process (Wade & Yarbrough, 1996). This is important if teaching portfolios are to meet one of their primary purposes, which is to help teacher candidates better understand and articulate their professional growth and development (Loughran & Corrigan, 1995).

The value of using portfolios during the student teaching experience to promote reflective practice is also documented by Borko and Michalec (1997). Through written reflections by all 21 student teachers participating in their study and semi-structured interviews with eight students, the authors reported that 11 students viewed the portfolio as a tool to assist them in connecting theory with practice while 15 students portrayed the portfolio as facilitating reflection. The researchers assert that the positive perspectives shared by these student teachers resulted from the following actions that facilitated the portfolio development:

- (a) guidance from the university program,
- (b) shared ideas with peers, and
- (c) support from the cooperating teacher.

However, several students viewed the portfolio as taking time and energy away from their student teaching experience and from the students which whom they worked.

Digital Portfolios

The increasing use of portfolios for assessment is creating large volumes of data that must be stored and also a need to help students develop high-level technology skills as a part of their instructional experiences. Both trends are coming together in

*Study participants included 212 undergraduate elementary teacher education students in the junior or senior year of their program. A majority of the teacher education students were female; non-traditional students and minorities each constituted 10 percent or fewer of the participants. Data for the study were collected through the use of student essays, surveys, and standardized, open-ended interviews.

the form of electronic portfolios, for which students use varying media for the entries into their portfolios. Electronic portfolios reduce the quantity of paper used and lessen the need to find storage space. Electronic formats also enable students to document their performance in a medium that will permit them to hear and see growth over time. This format requires greater personal involvement in the selection and design processes (Wiedmer, 1998).

If the use of electronic portfolios is to significantly impact student learning, several decisions must be addressed explicitly during the design and implementation phases. These decisions include:

- (a) what the individual should know and be able to do,
- (b) how the teacher candidate can demonstrate that knowledge,
- (c) what types of software and hardware are needed,
- (d) what artifacts should be included and the medium used for them, and
- (e) what the culture is in which the portfolio will be used (Niguidula, 1997).

While the first two decisions are equally relevant to hard copy and electronic portfolios, the last three are particularly relevant to the electronic format. The availability of appropriate software and hardware is critical, as limitations in this area can reduce the ability of teacher candidates to capture critical experiences documenting what they know and are able to do. Equipment to facilitate appropriate documentation could include a digital camera, a scanner, a laser printer, a CD-ROM burner, a VCR, a video camera, and an external storage device. However, available equipment also can present unique problems; for instance, teacher candidates may choose a format such as video that requires a tremendous amount of storage space. Likewise, compatibility of hardware is critical. Documentation entered in a Mac format may not be accessible to someone using the DOS format. Additionally, reviewers may not be comfortable with or be able to view the materials in electronic format (Mills, 1997; Wiedmer, 1998). The issue of culture could be the most critical among these issues as schools are increasingly called upon to discuss their standards and expectations with the larger community (Niguidula, 1997).

The availability of appropriate software is a critical issue. Some institutions may choose to develop their own programs, while others use commercially produced software packages. The selection of the software should be based upon decisions related to the design of the product. The uses of specific software and accompanying projects are discussed by Milone (1995), Moersch and Fisher (1995), Richards (1998), and Herman and Morrell (1999).

Methodology

During the 1997-98 school year, the faculty at Western Kentucky University decided to establish an Electronic Portfolio system (EPS). The goal was to provide a system to track student performance, document student growth over time, allow students to experience state-of-the-art technology, and provide students with a convenient format for a portable portfolio at the completion of their teacher education program. Faculty members defined the critical student performances that should be required in each class in the Teacher Education Program and then met with members of Educational Technology to discuss the development of an EPS. They wanted a system that would be user-friendly and easily accessible. They decided that there were no existing software systems and no packaged programs that met their criteria; therefore, Western Kentucky University's Educational Technology group designed and wrote the necessary software.

After the software was developed, the Educational Technology group demonstrated and discussed the software with the teacher education faculty. The resulting EPS is Web-based and may be found at <http://edtech.tph.wku.edu/~eps/>. The system is designed so that students may add portfolio items from any computer with Internet access. Students and faculty members can easily communicate with one another since all are listed in the system, and a click of the mouse will activate e-mail to the desired person. Courses in the Teacher Education program require that specific "critical performances" be included in a student's portfolio and the performances are associated with one of four levels within the program. The EPS allows students to add video, audio, still pictures, graphics, text files, spreadsheet files, and database files to their portfolio to document these critical performances. Members of the faculty are notified when a student uploads an exhibit to the EPS for a specific course. Faculty members then review and grade the exhibits on-line. The EPS also allows tracking of performances and evaluation of various components in each student's program as well as aggregate data within and across program areas. This allows for continual quality improvement in the program areas. For example, if several students fail to master a particular critical behavior, a comparison of portfolios shows this and then instruction in that area can be altered so that students are better able to achieve the necessary competence.

Particular care has been taken to protect the security and integrity of all files on the system. Anyone accessing the EPS must have an access ID and password, and all of these transactions are encrypted. Routine backups of every database are rigorously maintained, and redundancy of the critical system components is provided. Special equipment has been purchased to provide storage capacity for the large volume of data that will be generated. This equipment also provides

reliability through a RAID (Redundant Array of Inexpensive Disk) system for the storage device and redundancy of all other systems, i.e., the central processing unit (CPU), certain dual processors, dual power supplies, and an auto-feed backup system.

Performance Assessment

While teachers serve in a variety of roles, the central role for which teachers are prepared at Western Kentucky University is that of facilitating the learning of all children at high levels and being accountable for results. This focal role shapes the design and operation of basic and advanced programs in the School of Teacher Education. Western Kentucky University prepares and continues to develop teachers whose primary role is to facilitate the learning of all students at high levels through direct interaction and/or collaboration with colleagues, the family, the community, or support agencies. As a result, Western Kentucky University has changed its focus from teaching to learning. A focus on learning includes an acceptance of accountability for the progress of all students, and it forces teachers to consider all factors that affect learning. These factors include student ability, background, and prior knowledge; the context of schooling; the complexity of the learning task; and the resources available. In order to assist teacher candidates to develop and acquire the requisite knowledge and skills to focus on learning instead of teaching, the teacher education unit at Western has committed to the implementation of the Renaissance Teacher Work Sample Methodology as an integral component of all initial teacher preparation programs.

Renaissance Teacher Work Sample Methodology is aligned with Western's current assessment model; however, appropriate modifications have been made as new structures and strategies for preparing teachers develop to carry out the following objectives:

- Develop an accountability system that regularly collects and reports on the impact of teacher candidates and graduates on student learning;
- Develop and establish a process within all teacher preparation programs whereby teacher candidates demonstrate they can design and implement instruction that facilitates the learning of all children and are able to provide credible evidence of student progress;
- Develop and establish mentoring systems whereby arts and sciences faculty teach with teacher educators, school practitioners, and business professionals in field settings to assist teacher candidates in designing and implementing highly effective units of instruction in specific content areas and then assess the learning progress of all students; and
- Develop and operate
 - a) partnerships with private businesses that utilize their expertise about what graduates should know and be able to do,

- b) professional development,
- c) mentoring of learners,
- d) communications with the public/private sector, and
- e) support for continuous improvement of education.

Institutional Continuous Assessment Model

Within Western Kentucky University's institutional performance model, four levels of performance have been defined to assess and monitor teacher candidates' progress. These levels are related to Blooms's Taxonomy of cognitive functioning and assume that complexity and integration of knowledge, skills, and processes increase as teacher candidates move through the program. As these increase, the context in which the candidate demonstrates performances moves from the college classroom, to the school setting, and then to the real-world teachers' workplace.

The four levels – relating to the teacher education curriculum, candidate development, and assessment of performance – are:

- Level I** Knowledge/Comprehension (demonstrated in college classroom settings),
- Level II** Application (in controlled/limited real-life settings),
- Level III** Analysis/Synthesis (in blocked courses/school emersion), and
- Level IV** Synthesis/Evaluation (in student teaching).

Western Kentucky University's teacher education program is structured to meet the developmental needs of preservice teachers through a series of courses, experiences, and related field involvement which culminate with student teaching. Ability to address Kentucky's New Teacher Standards (Education Professional Standards Board, 1994) is sequentially developed and continuously assessed within the program to determine the developmental growth of the preservice teacher. Initial courses within the program provide the knowledge and awareness to foster skill development, and courses and experiences later in the sequence further refine student ability to apply relevant skills; they also provide structured and/or controlled settings to foster contextual self analysis of ability. Student teaching provides controlled experiences that gradually expand to supervised full-time classroom teaching, promoting the preservice teacher's capacity to synthesize elements of the New Teacher Standards and the capacity of the teacher candidate to facilitate learning for all students. As students progress through the program, they experience continuous assessment at progressively higher levels. If students are unsuccessful with course content or performance events, they must remediate before they continue course work at the next level.

Assessments of performance are continuous and related to the four levels. Thus, at Level I, cognitive paper and pencil assessments are common. At Level II, authentic teaching tasks are introduced and focus on specific teaching functions that

are conducted in tutoring, school, agency, or community settings. In Level III, authentic teaching tasks that become portfolio entries are continued; they are more complex and conducted in courses in which the content is blocked and the students are in the school setting 10–15 hours per week. Level IV is the real-life setting of student teaching; here teaching tasks are related to all teaching functions addressed in the New Teacher Standards (Education Professional Standards Board, 1994). Teaching exhibits provide examples of professional performance that integrate knowledge, skills, and processes.

Program faculty have identified critical performances that students must successfully complete in each course. All critical performances are related to the Teacher Performance Standards, support the implementation of Renaissance Teacher Work Sample Methodology, are performance based, and are scored by a four-point course scoring guide. All critical student performances will be entered into the student's Internet-based electronic portfolio. A score of three or four will be considered passing. Students who score a one or a two will be required to remediate and successfully complete the performance to move to the next level within their program of study. In some cases, this may mean that a student could earn a passing grade but still be required to remediate the performance in order to move to the next level.

Feedback provided to students consists of the assessment of their critical performances within the courses and is in the form of a scoring guide with professor feedback. If the performance is scored unsatisfactorily, the student has the option of redoing the performance or not continuing in their teacher education career to the next level of courses. Feedback also involves review of the students' critical performance scores within the courses in each level. Performances can be scored electronically, with information accessible to the student and the faculty member. Other individuals will be able to access the information on a need-to-know basis. Student scores are checked at each new entry level to ensure that students have successfully completed the prior level. This information is used to evaluate the program curriculum and make appropriate modifications.

Integration of Conceptual Framework

The following principles and characteristics that support the central role of the teacher are the backbone of Western Kentucky's teacher preparation program:

- Becoming a teacher should be a continuous life-long process.
- A strong content background should be a priority of all teacher candidates.
- The design of professional preparation programs should be a collaborative process with representation and input from key role groups.

- Teacher candidates should become life-long learners and demonstrate a commitment to be responsible for their own professional development.
- Becoming a teacher requires progressive learning to reach high and complex levels. Program designs should be geared to the development of knowledge and enhancement of skills that use knowledge, and the functional use of skills, coupled with the development of professional distributions.
- The ultimate indicators of success related to teacher standards should be performance based and authentic.
- Preparation programs should be teacher candidate centered.
- Faculty should assist and guide rather than direct candidates in their development.
- Candidates' progress toward meeting New Teacher Standards should be based on a program of continuous assessment.
- Clinical and field experiences should provide the context for the acquisition and performance demonstration of New Teacher Standards.

In addition to the design principles and characteristics that support the key role of the teacher, themes have been identified by members of the faculty that serve as major program threads to be addressed throughout all aspects of program design, implementation, and assessment. These themes are diversity; use of technology; collaboration; communication; problem solving and inquiry; and integration of knowledge, skills, and processes.

While all initial teacher preparation programs are guided by the above design principles, characteristics, and themes, each program has a unique focus and purpose related to a particular level of student or to a unique function. Thus, each program has its own program focus, program outcomes, assessment strategies, and knowledge document to support informed decisions of the teacher candidates prepared within the program.

Lessons Learned

We have completed the first full semester of students loading their exhibits in an electronic format. All current entries are for critical performances associated with Level I courses, and approximately 450 students have completed the process. At the completion of the semester a focus group session was held with members of the faculty who were responsible for the Level I courses involved in entering the exhibits. From the feedback provided by the faculty members, students were successful in being able to enter the data; however, there appeared to be some uncertainty and numerous inquiries from students when they began the process. Once the entry process began, the level of comfort increased.

Another issue that has surfaced relates to the scoring process. Some faculty members feel more comfortable scoring from hard copies than electronically. Some faculty members also provide more feedback than others, with some exhibits revised several times prior to electronically recording the scores. The goal at Western Kentucky University is for all students to be successful on their critical performances; however, the current variation in feedback has raised questions related to the score assigned to the individual critical performances. Specifically, should the score be a reflection of student ability to demonstrate understanding of knowledge and skills related to the New Teacher Standards alone, or should the performance be impacted by professor feedback? Currently, the scores appear to be very positive; however, as students progress through the program and the level of understanding and skill use increases, we anticipate greater variability. While these issues are not specific to electronic portfolios, they become more urgent as data are readily available for analysis electronically.

In the process of moving from hard copy to electronic portfolios, students are using many of the technology skills being taught in technology-focused courses. As we move through the first complete cycle of electronic portfolios, we anticipate phasing out some of these courses; students are gaining and demonstrating skills in a more integrated and purposeful manner, by using them to develop exhibits and enter data, making a course for this unnecessary.

Once electronic portfolios have been fully implemented at all levels of teacher preparation, we expect to have data on more than 2,000 students during the 2001–2002 academic year. This will require additional refinements of our data management system in order to provide appropriate feedback data both for individuals as well as for programs. Greater communication among faculty members involved will become more critical, and there will be a need to monitor the ease of accessibility. While the hardware currently is in place to accommodate these numbers, the demands on managing the system will grow as the numbers increase.

In summary, the advantages and benefits of electronic portfolios are many. Moving to electronic portfolios for purposes of assessment and data management provides greater access to data and increased accountability. With this, technology is being integrated seamlessly into instruction, as teacher candidates are required to use technology in performances that are more closely aligned with the demands of the P-12 classroom. With their electronic portfolios, teacher candidates have a powerful marketing tool that they can use to sell their knowledge and skills to a school district. Finally, Western Kentucky University's ultimate goal is to electronically document that the teacher candidates will be able to impact positively P-12 student learning, and we believe that electronic portfolios are the best means to do this.

Findings also indicated that the use of portfolios does not fit neatly into a teacher candidate's belief system regarding the purpose of a portfolio and how to create one. If not well guided, students can become frustrated while creating their portfolio, which lessens the value and enjoyment of the process.

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