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Interdisciplinary Collaboration: Variations on a Theme

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Twenty years ago, Nicholas Hobbs, in *The Futures of Children,* advocated an interdisciplinary team-based approach to educate handicapped, disadvantaged, and delinquent children and youth (Hobbs, 1975). Hobbs emphasizes the school as a social system and the need for professional collaboration in educating children with special needs. Although the team-based approach was originally proposed as a promising model specifically for educating special needs students, there is a growing recognition that *the education of **all youth** [emphasis added] is the shared responsibility of classroom teachers, special educators, administrators, related professionals*, *and parents* (Welch et al., 1992, p. 1).

Several factors make this shift to an interdisciplinary team-based approach appropriate for all students: the perception that schools are not well serving the increased numbers of at-risk students; the increased emphasis on site-based decision-making and parental involvement in education; and the recognition that schools are social systems set within the context of the larger community, offering a range of social services that if better integrated, could better meet the needs of students and their families (Welch et al., 1992).

Corrigan (in press) argues that the increasing problems of childhood poverty and family dysfunction warrant more integrated action from schools and social service agencies. Childhood poverty rates in the United States are high and increasing; the relationships between poverty, malnutrition, maltreatment of children, poor health care, illness, and school failure are also high. Past efforts to ameliorate these problems were organized one-problem-at-a-time, resulting in multiple, overlapping, uncoordinated services. Vir-

tually all children attend school; organized services belong in the school setting.

Multiple types of expertise are necessary to meet the needs of all students (Lawson, 1995). If students are experiencing troubles with the law, troubles with learning, troubles with hunger, and troubles with health, then social workers, health workers, teachers, and juvenile justice professionals must work together to resolve those problems.

One of the earliest recognized barriers to implementing an interdisciplinary team-based approach is the widespread practice of preparing preservice educators in isolation from each other (Allen-Meares & Pugach, 1982). In the past decade, relatively little has changed; most universities still offer separate and nonintegrated programs to prepare regular educators, special educators, administrators, school counselors, school psychologists, and school social workers. This practice is inconsistent with the growing use of site-based decision making in schools, runs counter to the desire of many educators to collaborate with one another, and perpetuates a fragmented and frequently ineffective educational system.

Changes are becoming apparent. The Holmes Group advocates that preservice educators *should together pursue a coherent, sequenced set of cross-disciplinary studies and learning experiences* (Devaney, 1993, p. 3). The development of programs to prepare educators to collaborate with one another is a prominent feature of AACTE's strategic goals (AACTE, 1994). The DeWitt Wallace-Reader's Digest Fund awarded $2.4 million dollars to Fordham University to establish the National Center for Social Work and Education Collaboration at nine institutions of higher

education (Clinton, 1994). Four colleges of education participating in the AACTE/DeWitt Wallace-Reader's Digest Fund's Comprehensive Teacher Education National Demonstration Project received grants of $250,000 to incorporate health and human services training into their educator preparation programs (Corin, 1994). A symposium at the 1995 American Educational Research Association meeting will feature data-based presentations from institutions developing collaborative preparation programs for educators (Stallings, 1995) .

In this article we describe initiatives in the Graduate School of Education at the University of Utah to develop collaborative preparation programs for educators focused on the needs of children and youth. We present three variations on this theme, each designed to prepare educators to function effectively as members of interdisciplinary teams. We describe each program, discuss successes and obstacles, and present lessons learned from each curricular innovation. Finally, we present conclusions we draw from our efforts to incorporate collaboration into the preparation of educators and suggest future directions.

Context

The University of Utah, located in metropolitan Salt Lake City, is the flagship public university in a sparsely populated state. The majority of students are commuters, and many in the Graduate School of Education are nontraditional. The school's four departments offer programs leading to graduate and undergraduate degrees and certification in regular education, special education, educational administration, school psychology, and school counseling. All four departments have histories of collaboration with their professional counterparts in the public schools, but little experience in collaboration with each other.

Variations on a Theme

Teaming Course

One of our earliest efforts to integrate the education of educators was the development of *Collaborative Educational Problem Solving and Conflict Management,* a graduate course on interdisciplinary teaming. Faculty from the Departments of Educational Administration, Educational Psychology, Educational Stud-

ies, and Special Education developed and co-teach this unique class.

Program description. The course uses an ecological systems perspective as the conceptual framework by which students approach their own roles and the roles and relationships of others in educational communities. An ecological perspective means that we define educational problems in terms of the environmental and contextual variables that influence their occurrence. We use interactions within and between systems (e.g., the home and school systems, the student and teacher systems, the regular and special education systems) to analyze problems from multiple perspectives, leading to a deeper understanding of educational problems. This deeper understanding in turn helps develop more powerful solutions.

Graduate students from each department take the course as part of their professional program. They learn basic competencies and dispositions for collaborative problem solving and decision making. Specific course objectives include

- learning a collaborative model of educational problem solving and decision making;
- understanding the roles and functions of educational personnel within a school system;
- recognizing methods of identifying resources, pooling expertise, and sharing responsibilities;
- developing skills to participate as an active member of an interdisciplinary educational team; and
- applying collaborative decision-making strategies in the context of actual or contrived educational situations (e.g., case studies).

The overall goal is to enable students to provide appropriate educational services for all children and youth.

Educators use a collaborative educational problem-solving model to communicate openly about school- or student-based issues. Through this open communication, students learn to clarify mutual goals, identify and pool available resources, and brainstorm a variety of strategies for tackling educational problems. The students, who may be classroom teachers, special educators, school administrators, school psychologists, or social workers, are placed into teams as soon as they enter the class and work together through the remainder of the course. They engage in team-building exercises requiring open communication and trust and

resolve problems presented in hypothetical role-play situations.

Conflict management is essential to effective teams. Students learn about their personal styles for interpersonal communication and conflict management and effective means of dealing with difficulties within the educational team relationship. For example, course instructors invented the pause button technique to help students resolve conflicts and misunderstandings. Students metaphorically hit the pause button to stop a team's interaction and address confusions, discomfort, or other sources of conflict directly and postpone temporarily the task focus of the group. During this pause from the primary goals of the team, individuals express observations regarding group interactions, such as faulty communication between members, lack of clarity regarding goals, or lack of adherence to the collaborative problem-solving model. Group members also use the pause button to express positive feelings toward other group members about team effectiveness or interpersonal strengths.

Student teams develop a videotape depicting collaborative decision-making and problem-solving processes. They are provided with a hypothetical situation involving various segments of the school community (e.g., parents, teachers, special and regular education students). They use strategies learned in class to analyze and define the major components of the situation and its contributing factors. They then discuss data collection strategies and brainstorm alternatives toward problem resolution. Finally, they develop a specific action plan including practical and logistical considerations of implementation and evaluation. They also explore on videotape various aspects of the team's effectiveness, such as integrity of the collaborative model, conflict management strategies, and communication skills.

Successes and obstacles. The structures and processes developed and used in this course have been tested and modified for several years. Key components contributing to the success of the course include collaboration modeled by instructors, forms guiding structured problem solving, and the capturing of and analysis of problem-solving strategies through videotape assignments. Ironically, these have also been obstacles that required attention and refinement.

One of the most important components of the course is collaboration modeling that permeates all segments of the course including development, implementation, and evaluation. Prior to teaching the course, instructors meet and collaboratively develop goals, objectives, topical outlines, assignments, and responsibilities for the course. Throughout the course, they engage in ongoing dialogue and formative evaluation to determine whether they and the students are meeting course objectives. They make adjustments necessary to ensure students' attainment of knowledge and skills. Instructors model shared responsibility and expertise as they collaboratively present information, lead discussions, and facilitate course activities.

Although instructors' modeling of collaboration is a strength of the course, it is also a challenge. Particularly in the early developmental stages of the course, faculty exerted much time and energy developing a cohesive, trusting relationship. Faculty did not always share ideas and opinions openly and typically avoided conflict rather than trying to manage it constructively. As the course evolved, we did not always acknowledge differences in theoretical and pedagogical orientations. Whenever faculty assigned to teach the course change, similar challenges arise. The development of a trusting, respectful, supportive, truly collaborative relationship among faculty is a prerequisite to successful course implementation

Another important feature is the use of structured problem-solving forms. When the faculty present the ecological decision-making model to students, they provide structured forms to facilitate student attainment of basic competencies and to focus their group work. The forms demonstrate that students can attain basic problem-solving skills when they have specific objectives and a structure through which to attain them. The use of structured forms has streamlined instruction by helping students in their approach to team-based decision making.

The form helps students progress through the problem-solving process (see Welch & Sheridan, 1995). First, students conduct a detailed analysis of the current situation, including an ecological analysis that draws their attention to facets they might otherwise overlook, such as antecedents to the situation, all participants, and details of the setting. They devise multiple possible solutions and project anticipated consequences. Finally, they select one solution and create an action plan for carrying it out, including a means for evaluating success.

Although these structured forms generally expedite learning, they can also be a hindrance, particularly if students adhere too rigidly to the outline provided and fail to conceptualize the broader interpersonal issues involved in collaboration. For example, students often become overly concerned with filling in all the lines and coming up with the right answer, rather than understanding the purpose of each objective and realizing how they can use the information to develop a meaningful action plan. Inexperienced students are often less able to conceptualize broad and complex issues; they tend to remain inflexible and focused on adhering strictly to the forms.

At the culmination of the course, student teams must demonstrate the collaborative problem-solving process on videotape, using a hypothetical case developed by the instructors. The videotaped presentation is an authentic assessment tool, providing a concrete product of the problem-solving process and allowing instructors to assess the degree of skill development and integrity with which student teams demonstrate various components of the ecological problem-solving model. The assignment requires students to express their own observations and perceptions regarding their collective and individual performances at the conclusion of the case study. When we evaluate student performance in the course, we assess not only on the degree and effectiveness with which individuals and teams demonstrate the *collaborative ethic* (Phillips & McCullough, 1990) but also their own analysis of their group's strengths and weaknesses.

The videotape assignment is essential to evaluating students' integration of the primary concepts and strategies in the course. Many students approach the activity with much anxiety and rigidity. Although we stress team dynamics and processes as more important than the right answer, some teams appear stifled in the videotape format and avoid dealing with conflicts. For example, few teams use the pause button technique on the videotape, as if acknowledging the existence of conflict will hurt their grade. Ironically, constructive attention to important interpersonal issues within the team actually strengthens team relationships and members' evaluations. Thus an important challenge in the course is instilling in students the notion that the process is as important as the outcome.

What has been learned. We have learned very basic, essential lessons in the implementation of the interdisciplinary collaboration course. First, the process of collaboration is hard work for everyone, including faculty and students. It can present several potentially threatening practices. It requires professionals to share their expertise, while forfeiting personal agendas. It assumes that everyone is working in the best interests of the whole and requires basic trust and shared ownership of problems and solutions, sometimes a big jump in the individualistic and thorny political world of the academy. It is based on the premise that the collaborative process will enhance teaching and learning outcomes and assumes that all constituencies share that belief. One can learn the structure and format of problem solving, but individuals must internalize and personalize the collaborative ethic. The structure of collaborative problem solving may appear easy, but for many it requires a complete, difficult philosophical and conceptual change.

A second lesson learned concerns the developmental process students go through when learning the concepts and strategies of collaboration. Many students in this course enter with a vague understanding of collaborative problem solving. As we expose them to various readings, activities, and formats, they approach their tasks in a very concrete, rigid manner. As they become more experienced with the ecological model, they recognize its inherent flexibility. Unfortunately, one course that uses hypothetical cases does not always provide sufficient time for all students to develop a conceptual appreciation of and commitment to collaboration.

We still must combine the course with a practical experience allowing students and instructors to fully appreciate the utility of collaboration in actual educational settings. Although the class provides students with a rudimentary base for collaborative practice, it is admittedly contrived. The cultural, systemic, and pragmatic issues facing field-based practitioners greatly affect collaborative processes and outcomes. Modifications and compromises are necessary when implementing such programs in actual educational settings. Students would benefit from

framing, brainstorming, and troubleshooting real-world, school-based problems. Logistical obstacles still limit our ability to move from hypothetical, case-based problem solving to reality-based problems for this course.

The Site-Based Transdisciplinary Educational Partnerships Project

The next collaborative project aimed at integrating the education of educators is STEP (Site-Based Transdisciplinary Educational Partnerships Project). We use the term transdisciplinary interchangeably with interdisciplinary. The objectives of the STEP project are three-fold and almost identical with those of the collaborative course: instill the collaborative ethic in preservice educators, enhance their collaborative skills, and provide them with the knowledge base and skills to understand the process of change in the contexts of site-based school reform and restructuring.

Program development and description. The Department of Special Education initiated STEP, a 3-year, federally funded project, in September 1991, through ongoing interactions between the University of Utah and the public schools. The project directors initially met with district administrators in a working retreat to identify specific issues and needs at the building level that could be addressed during preservice preparation. During the retreat, district personnel emphasized that teachers face the challenge of meeting the needs of diverse student populations in classrooms, including many students considered academically at risk. Given dwindling funds and increased student referrals to special education, administrators voiced the need for greater collaboration between educational disciplines such as special education and educational psychology. All acknowledged that as more schools incorporate site-based management, prospective professionals must be prepared to work with colleagues from other disciplines to meet the needs of at-risk students.

At the same time, faculty in the Department of Educational Studies, which carries responsibility for regular teacher education, were heavily involved with public schools in the creation of Professional Development Schools (PDSs). This activity, the discussions with district administrators, and the experiences with the collaborative course converged in the emergence of STEP. In STEP, preservice students link with experienced teachers in schools to form interdisciplinary teams. The teams explore a specific area of need identified at the site with the aim of improving educational outcomes for children at risk and those with special needs. The goal of the program is to provide a frame of reference for each individual and the site teams to consider how educational partnerships empower educators. This frame of reference is based on a collaborative ethic (Phillips & McCullough, 1990) in which joint ownership of problems and problem solving ultimately benefits not only students but other educators and the school as well. The collaborative ethic is realized through an ecological perspective to identify and utilize a variety of human, technological, informational, physical, and financial resources in problem solving (Maher & Bennett, 1984).

In the STEP program, preservice educators are placed in teams at exemplary practice sites for two academic quarters. Teams include regular and special education candidates, preservice counselors and school psychologists, and experienced teachers and other professional staff. During the first quarter, students learn about the ecological approach to problem solving and, under the supervision of their cooperating counterparts, conduct a systems analysis to identify an area of need for at-risk students. The culminating activity in the first quarter is a team-developed action plan to solve the identified problem. Each action plan includes an evaluation component to assess the impact of the project. Past projects include creating home and school partnership programs, implementing team teaching, developing teacher assistance teams, and establishing peer tutoring programs. During the second quarter of the program, teams carry out their action plans and assess their effectiveness.

STEP activities are grounded in three activities: inquiry, reflection, and outcomes. Each individual and interdisciplinary team first poses specific questions about serving students at risk and those with special needs. These questions, coupled with experiences in collaborative and ecological problem-solving, drive the learning activities of each student and team. They next seek information and experiences to answer those questions. Students then apply these course, individual, and team learnings in setting and analyzing

a problem in the school and in developing and implementing a plan for ameliorating the problem. For example, the team may identify student self-esteem as a critical area of need within one school. Teacher candidates may team with school psychologists to create a self-esteem program incorporating academic components such as whole language, writing-to-read and reading-to-write activities, and affective components.

As students complete their inquiry during field experiences, they reflect upon the needs of at-risk students, their own continuing professional growth, and the ecology of the school (i.e., resources within the school and from other disciplines that could be used collaboratively to enhance the lives of students, educators, and the school). The reflection process involves dialoguing and maintaining journals during seminar discussions.

Finally, through implementing their evaluation plans, individual students and teams quantitatively and qualitatively measure the outcomes of educational partnership projects at three levels: student, educator, and school. The project's outcome component grounds students in reality and provides them with a way to evaluate their inquiry and reflection efforts.

Two other program aspects, site selection and participant selection, are critical to program success, but not always obvious. Site selection is a long and arduous process. Six schools, one elementary and one secondary in each of three districts, were ultimately selected to serve as project sites. Initially, district administrators and practica supervisors from each department in the Graduate School of Education nominated schools as potential sites. The project coordinators reviewed the list of potential sites with program representatives from each of department to identify those best meeting program objectives. After university faculty approved the list, project coordinators contacted each school district for approval. Each district followed its own procedures for reviewing the project's request. Following district level approval, the project coordinators conducted site visits and then met with each school's administration and faculty to describe the project. School faculties then voted on whether they wanted to participate.

Participant selection required much coordination among departments. Project personnel recruited participants from several preservice education programs and presented an overview of the project to candidates during an orientation meeting. The project directors interviewed interested students. Some departments included a written statement in which students had to indicate why they were interested in participating in the STEP project. Project directors also reviewed the written statements.

Successes and obstacles. In addition to promoting partnerships with public education, the project promotes collaboration within the Graduate School of Education. Program coordinators from varying disciplines work together to meet mutually defined objectives for students. The dialogue has promoted a greater understanding and awareness of programs across departments.

The process has inherent challenges. Coordinating the logistics of field experience components from four separate programs is an ongoing and challenging process. Bridging the gap between theoretical and philosophical differences is also an important struggle. The project initially encountered culture conflict in different departments' terminology, values, beliefs, and practices. This clash of cultures also occurred during interactions between higher and public education. Participants from each department and agency believe, however, that the merit of the project lies in the facilitated communication and openness between programs. Program coordinators from each university department believe they have learned as much about collaboration as the students participating in the project.

What has been learned. We have learned several important lessons during the implementation of the STEP project. First, the change process must involve both top-down and bottom-up change. Although administrative support is necessary, administrators cannot mandate the process; constituencies directly affected by change must be completely involved in all decision making. We think in terms of a wheel metaphor, rather than a top-down versus bottom-up dichotomy. All spokes, all participants, are necessary for the wheel, the collaborative project, to move forward (Winitzky, O'Keefe, & Stoddart, 1993). Our experiences support Fullan's (1993) notion that change is a process of reculturing rather than restructuring, that all individuals at all levels in the school or university hierarchy must be their own change agents.

Second, the project activities support the *think big, start small, go slow* concept. The project initially included too many agencies in both public and higher education. The bureaucracy of districts, departments, and programs hampered logistical coordination and communication. An initial effort with one district involving one or two schools is probably more feasible. Similarly, a small cohort of students is manageable whereas an entire program is too cumbersome.

Third, all participants must enter pilot projects such as STEP understanding that the activities are experimental; that status quo is impermanent; and that existing routines, policies, and procedures ill fit innovative activities. Many participants were willing to participate in the project as long they could keep doing things the same way. This contradictory position is futile.

Finally, we realized that schools were identified rather than selected. Site selection implies that higher education *anoints* a school. Site identification, on the other hand, is a collaborative, complex process. Identifying sites required the Graduate School of Education faculty to communicate their needs and criteria for an appropriate site for preprofessional programs. They included each department's history of cooperation with districts, availability of supervision, and alignment of best practices and philosophies. Faculty in many programs had markedly different definitions of what constitutes best practices, a condition requiring dialogue and negotiation. Project personnel visited faculty and staff and, after providing an overview of the project's objectives, invited them to participate. Some schools chose not to participate. Their decision meant that we began the process again with another school. As a result of this experience, we recommend that a task force composed of representatives from public and higher education work with a single school district.

Utah Network Project

Using the STEP program as a framework, the University of Utah Schools of Education and Social Work joined Rose Park Elementary School, the Salt Lake City School District, and the Rose Park community to develop, implement, and evaluate new approaches to collaboration in the education of social workers and educators. With a 3-year grant from the DeWitt Wallace-Reader's Digest Foundation and facilitated through Fordham University, the project focuses on teaching preservice school social workers and educators how to work effectively together at a school site. It is also dedicated to collaborative ventures among the school's experienced professionals in education and social work.

Program description and development. The primary activity of the Utah Network Project is the involvement of all institutional and community participants in jointly designing on-campus classes and community-based field practica, seminars, and projects. As in STEP, the purpose of these collaborations is to facilitate learning for at-risk school children and their families. The 3-year project was organized so that the 1st year would be spent creating a working relationship among the stake-holders, developing a model of collaboration at the school site, recruiting preservice participants from university programs, educating the school staff in a collaborative model of problem solving, and organizing the project's governance structure. The 2nd and 3rd years of the project involve implementation of the community-based problem-solving model and the infusion of the preservice professionals at the school from the University's schools of social work and education.

With a year and a half of project design and implementation complete, we have accomplished several things. First, the year began with the intensive 1-week summer course *Collaborative Educational Problem Solving and Conflict Management* that we described earlier in this article. Six people from the Rose Park Elementary School faculty, administration, and community joined students previously enrolled in the class. School of Education faculty and faculty from the Graduate School of Social Work planned, prepared, and taught the course. Second, two social worker interns began working in the school at the start of the school year. The school social work faculty from the University worked with the interns and elementary school faculty to design and implement community-based projects aimed at teaching families parenting skills and creating a peer leadership group among the school's students. Third, discussions among all participants continued to focus on how best to design curriculum and teach community and school members the collaborative problem-solving model.

This description of our efforts fails to capture the difficulties we have encountered in broadening collaboration. Faculty from different departments within an education college may hold radically different conceptions that engender conflict and take time to resolve. The differences and resulting conflicts beyond the university education community present even greater difficulties.

Successes and obstacles. Because we are still in the midst of the Utah Network Project, our conclusions are necessarily tentative. We believe that the preservice students participating in the project are learning much about interdisciplinary collaboration, gaining knowledge and skill in their own fields, and becoming much stronger professionals. Their seminar instructors report that participating students are gaining a depth of understanding about children at risk, about the skills of other school professionals, and about collaborative problem solving well beyond the norm.

The work is frustrating. During the 6-month period dedicated to designing the grant and its structure, the social work, education, and school faculties grappled with conflicting project goals, differing working models of collaboration, and contrasting teaching schedules and methods. Although discussants were friendly and genuinely interested in success, their meetings were intense, their discussions convoluted, and their resolutions unclear.

From the outset of the project, one of the greatest obstacles has been and continues to be the need for directed leadership among all of the collaborating participants who were either unwilling or too gracious to step forward and assume command of the enterprise. Throughout the process, the participants struggled with the governance structure, committee roles and responsibilities, and organizational communication. These remain concerns. Although the project's overarching goal of creating a workable model of collaboration among education professionals to achieve desired student outcomes has not changed, working together is trying. The committee coordinating the instruction of the collaborative problem-solving model with the other school professionals and preservice students has worked for months, yet it is still discussing the course's conceptual design, timing of instruction, teaching responsibilities, and course format.

What has been learned. The process of collaboration is messy, unpredictable, and uncomfortable for all participants. The Utah Network Project illustrates why people become frustrated and retreat to their isolated cells of work: Communication breaks down, perceptions and conceptions conflict, work is labor intensive, and concrete results seem elusive. Some seem happier and more productive when alone and pursuing individual needs and interests. However, all can become much better educators and people by working together. What keeps this collaborative effort from spinning apart at every juncture? The answer lies within a framework that places the child at the center of discussions, purposes, and strategies.

Issues

Several recurring concerns have emerged through our experiences in these collaborative projects. One of the thorniest is the cultural conflict, the divergent languages, priorities, and theoretical orientations held by various participants. We have learned that everyone does not prioritize the same ideals in the same way. Although we all believe it important to meet all children's needs regardless of their ability, culture, language, or class, our views about how to accomplish this differ. Some of us focus on the emotional needs of children, others on the needs of beginning, regular education teachers. We share important values, but in the world of children, teacher candidates, schedules, schools, publication deadlines, accrediting bodies, and time constraints, we must make choices. For example, scheduling a collaborative course means finding a common time for planning and teaching across different departments in the university and the school. All are within larger organizations with their own schedules, set years in advance, and publicized to students, candidates, teachers, and parents. Meeting the common goal of working together may mean breaking commitments to our organizations and our constituencies. We think this explains our experiences in the STEP project, where we found that, paradoxically, people were for change as long as they did not have to change anything.

Educators have not always resolved conflicts over choices wisely. Perhaps no resolution of these differences is possible; they may simply be a fact of collaborative life. If so, we must develop more effective strategies for coping with conflict.

Each project is enormously time consuming in design and implementation. The teaming course took two academic quarters to become operational, STEP took a year, and the Utah Network Project has been 2 years in design and in laying the groundwork. As we get better with collaboration, and as these projects become institutionalized, will the time needed to carry them out decrease? Or does collaboration necessitate major time commitments? To date, collaboration within our college has taken much institutional time and resources. Is the value added worth it? At what point do diminishing returns begin? Does educating diverse children in today's complex schools require collaboration, regardless of cost? These are important matters to policymakers, educators, and parents.

Another issue is the potential for curriculum overload, already a problem in the public schools. This curriculum overload may become a major problem in the education of educators. Where will the development of a collaborative ethic and the necessary skills fit in the preservice curriculum? Faculty in regular elementary education already have a difficult time helping their candidates learn how to manage a curriculum for 30 children productively. Adding collaboration to the curriculum necessitates either expanding the time available for preservice education or reducing or eliminating other curriculum topics, all unpopular options with different constituencies. Our experience is that these curricular issues surface cultural conflicts most readily.

A solid research base to ground decision making would help resolve some of these problems. Those doing collaboration have been remiss in conducting systematic research and evaluation to answer these questions and improve the practice of collaboration. More systematic study of the forms of interdisciplinary and cross-institutional collaboration and of the various coordinating and leadership structures would be helpful. Such information might alleviate the need for each collaborative venture to start anew. We also must know the benefits for the education of educators. Do preservice educators participating in collaborative activities learn something different from what those not participating learn? If so, what? Is there a corresponding loss of other knowledge, skills, or dispositions, or does learning in one area facilitate learning in another? Do those participating in collaborative projects have a higher stress level than those who do not? These questions illustrate the need for improved assessment; we do not have good measures for many of the desired outcomes of preservice education. To address this problem, we have obtained a grant from the State Office of Education to evaluate our Professional Development Schools.

A problem of communication within and across institutions persists. We have experienced the compartmentalization of collaboration. Those closely involved with a particular project understand the nature of the project and the necessary logistics for carrying it out. Those not as actively involved appear to know nothing about it. Yet there is no lack of communication of the committee's activities; e-mail, memos, announcements, and casual conversations provide information, but (we assume) its lack of salience leads to its lack of retention. This is a significant problem because those not on collaborative committees are affected by the committee's work and decisions; those lacking understanding and ownership of the committees' goals, decisions, and actions are less likely to carry them out.

Conclusions and Next Steps

We remain committed to collaboration as a necessary and viable tool in an educational world whose complexity increases every day. Although we may not presently have enough knowledge, we know some things about efficient and effective interdisciplinary collaboration in the education of educators. Our experiences teach us that collaboration takes time-the more diverse the participants and the more ambitious the goals, the more time required. Like Sarason (1993), we find reform complicated, but we believe that our focus on interprofessional preservice education will prevent more problems than it creates.

We must model for students the capabilities we want them to develop and provide opportunities for them to try out new skills in the field. We have learned how to manage many of the logistical details that can easily overwhelm the uninitiated. We have

developed mechanisms for dealing with the problems of joint site identification and selection, student selection, aligning differing schedules, coordinating meetings, and setting up effective and efficient governance structures. (See Winitzky, Stoddart, & O'Keefe, 1992.)

We have improved our ability to handle differences of opinion and conflict. We see different orientations as strengths rather than barriers. We are more ready to take the stance, *What can* I *learn from you?* rather than, *What you want gets in the way of what I want.* We are more willing to alter past commitments in order to forge new ones.

We also know that the more we attempt, the more we get done. We are exploring the possibilities of creating an Inter-Professional Development School, an interdisciplinary or total service PDS. This experimental project would involve cross-disciplinary teaching teams, collaborative governance, jointly created goals representing core learnings for educators, and a heavy focus on collaborative problem solving. Links would continue with other university units preparing school-based professionals (e.g., social work), and new links would emerge both on campus (e.g., health services) and in the community (e.g., social service agencies, business), while sustaining and deepening connections with students' families. The education of the child will continue to be at the center of everyone's work. A consortium composed of the Graduate School of Education and local school districts is collaboratively supporting project design.

Through these discussions, we have come to believe that we have no choice but to establish interdisciplinary PDSs and collaborative preservice education. As our student population becomes more diverse, the proportion of children in poverty rises, and the demands from society for higher levels of education for more students become louder, any one area of expertise, though necessary, is insufficient to solve educational problems. The need to develop efficient and effective skills and structures in which expertise can be shared compels us to restructure preservice education. We also realize that in order to avoid the pitfalls of *reforming again, and again, and again* (Cuban, 1990, p. 3), we must improve our performance on systematic program evaluation and research.

We know from watching and listening to our students that as a result of participating in the collaboration course, the STEP project, and the Utah Network Project, these prospective educators' conceptions of teaching and schooling have radically expanded. They are much more likely to be able to provide needed services to a wide variety of children and youth. It is this knowledge that sustains our commitment to collaborative preservice education.

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