Professional Development Schools and Teacher Educators' Beliefs:
Challenges and Change

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The process-product paradigm of teaching and learning has recently been challenged by a more constructivist view that empowers the learner. This democratizing of teaching and learning has found expression in teacher education through increasing collaborative efforts between universities and public schools for preservice teacher education (Zeichner, 1992; Birrell & Tibbitts, in press). University/school partnerships promise much toward improved teacher education, empowerment and renewal of classroom teachers, and greater voice for undergraduate students in their own education (Goodlad, 1994).

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Historically, school reforms and teacher education innovations have often fallen short of expectation because classroom teachers, teacher educators and their undergraduate students do not typically possess a collaborative vision or shared language concerning teaching, learning, and teacher education. Accordingly, the problems that exist for both

teacher educators and classroom teachers too often have been dealt with by blaming the other for their lack of understanding and unwillingness to change their beliefs about practice (Glickman, Lunsford & Szuminski, 1995). This study begins to illuminate these contingencies by exploring how five teacher educators' beliefs about teaching, teacher education, and school renewal were influenced by participation in an experimental school-based teacher preparation program designed by a school/university partnership.

Background

In the summer of 1994, representatives from Rocky Mountain University[1] (RMU) and partner school districts met in retreat to restructure teacher education. Participants in the decade-old RMU/Public School Partnership believed that a collaborative approach to teacher education between the public schools and the university could act as a vehicle for renewal for both entities. From those discussions, the Experimental Cohort Program (ECP) was created, moving traditional preservice methods course instruction from the university campus into the public schools. Labeled experimental, the results from the pilot ECP would ultimately inform the redesign of the entire undergraduate program at RMU.

Beginning fall semester, 1994, a group of university professors would move their practice to the public schools. As others involved in professional development school (PDS) programs have suggested, these professors would be faced with new complexities in their practice resulting from the presence of cooperating classroom teachers, school administrators, and school children (see Osguthorpe, Harris, Harris & Black, 1995). As more and more PDS programs are established, studies are needed to shed light on how altering the context of university teacher educators' practice into the complex world of professional development schools might result in challenges, tensions, and perhaps changes to teacher educators' beliefs about teaching, teacher education, and school renewal.

Literature Review

The emergence of the professional development school (Holmes, 1990) as a vehicle for school reform has coincided with a research emphasis on teacher beliefs as a construct for understanding and interpreting teacher behavior. Accordingly, this study was grounded in literature about restructuring teacher education (Goodlad, 1994) and the ways personal beliefs influence educational practice (Knowles & Cole, 1994; Holt-Reynolds, 1992). The importance of juxtaposing these two bodies of literature in this study is that they shed light on the ways teacher educators' beliefs might hinder or help their ability to promote educational change in collaboration with classroom teachers who may have very different beliefs about the purposes of schooling, learning, and learners.

In 1983, *A Nation at Risk* began a series of "excellence reports" on education

calling for reforms and renewals that have become widespread during the last decade (National Commission on Excellence in Education, 1983; Carnegie Task Force, 1986; Goodlad, 1990; Association of Teacher Educators, 1991). Common to each of these reports is the need for improved preservice preparation of teachers (Holmes Group, 1990; Goodlad, 1990, 1994), predicated "on the assumption that a better-prepared teaching force will make schools better places for America's youth to learn" (Brennan & Simpson, 1993, p. 9). As a result, classroom teachers and teacher educators across America are forming partnerships in professional development schools to promote teacher renewal and improve teacher education (Breck, 1995; Fear, 1995).

Although the literature pays considerable attention to professional development schools, missing are studies which focus on teacher educators' beliefs and how collaborative preservice programs might influence, challenge, or change teacher educators' beliefs. Because educational beliefs are formed early, are relatively inflexible, are resistant to change (Knowles, 1994; Pajeras, 1992), and because educational beliefs guide conversations between classroom teachers and teacher educators, studies are needed that explore how collaborative co-reforming influences teacher educators' beliefs about planning, teaching, and school renewal. The importance of these studies is underscored because not only do teacher educators implement these programs, but they are often held responsible for their success or failure. This investigation begins to shed light upon how an increasingly popular strategy for school renewal, the professional development school, influences the beliefs and practices of university teacher educators.

Research Design

This study sought to explore research questions related to how professional development schools influence teacher educators' beliefs about teaching, teacher education, and school renewal. As part of a larger study on the ECP and to answer the questions posed in this investigation, a classroom teacher and university professor acted as primary data gatherers by collecting data bi-weekly from teacher educators. They accomplished this through monthly on-site observations of each participating professors' teaching (Evertson & Green, 1986; Yin, 1984); through reflection journals (Bolin, 1988), where professors were asked to self-report salient experiences and thoughts during the year; and through multiple open-ended audio taped interviews with researchers (Lancy, 1992). To complete triangulation (Mathison, 1988) of the data in this multiple case study (Lancy, 1992; Stake, 1994), participants were asked to construct concept maps of teacher education (Beyerbach, 1988) at the beginning and ending of their assigned teaching semester during the experimental program. After construction of each map, participants were asked to engage in "think aloud" (Powell, 1992) interviews with the researcher(s). Specifically, participants were asked to talk aloud about the terms they included on their

maps, provide a meaning of those terms, and an explanation of how the terms were related to teacher education.

Throughout data gathering, four university professors joined the researchers in monthly meetings to analyze data using strategies from constant comparative data analysis (Strauss, 1987). The investigators coded and categorized data according to their several qualities and interpreted meanings. New data were compared with emerging categories and meanings in order to refine them. Open and axial coding protocols (Strauss & Corbin, 1990) were most useful in categorizing data according to patterns of similarities.

As data were coded and categorized according to patterns of similar qualities, the researchers' interpretations of their meanings were then verified with the participants (Lincoln & Guba, 1985). Before publication, participants were given the results of this study to verify for accuracy and meaning. Participants' requested specific grammatical changes but suggested no modifications that altered any meanings.

Participants and Setting

The participants in this investigation are Dr. Evans, Dr. Hayes, Dr. Anderson, Dr. Teel, Dr. Brown, and Dr. Miller of Rocky Mountain University (RMU). Each was selected because they implemented the ECP at both Hilltop Elementary School (HES) during the first semester of this program and Mountain Elementary School (MES) during the second semester (see Table 1 for an explanation of participants'

Table 1
Participants in the Experimental Cohort Program

Professor	ECP Responsibility or Methods Course	1st Semester Location	2nd Semester Location
Dr. Evans	Foundations of Learning (Hes Program Coordinator)	HES	HES
Dr. Miller	Teaching Reading in the Primary Grades	HES	MES
Dr. Hays	Teaching Reading in the Intermediate Grades	HES	MES
Dr. Anderson	Teaching Mathematics in Elementary Schools		HES
Dr. Teel	Teaching Science in Elementay Schools		HES
Dr. Brown	Foundations of Learning (MES Program Coordinator)		MES

responsibilities and location during the ECP). Both schools had ten years experience working in partnership with RMU and committed to provide facilities, resources, and collaborative support to preservice teachers in the hopes the ECP could prove beneficial to the children who attend these schools.

Findings

Four themes were generated during data analysis that illuminated how the ECP may have influenced teacher educators' beliefs. They included beliefs about the: (1) nature of course content in methods instruction; (2) value of teaching methods coursework in the public school context; (3) degrees of authority over university classes taught in the public schools; and (4) limitations and possibilities of renewal in university/public school partnerships.

Course Content

Within general departmental course outlines, participants developed their university course content based on their own educational backgrounds, personal experiences, and professional beliefs. As participants planned to move their courses into the public school, they realized that the content they had traditionally presented in their campus-based courses might need rethinking. For example, Dr. Evans believed that his teaching would be complicated by the possibility that during coursework, university students would already be developing a "variety of strategies, organization, materials, and classroom behaviors" based on students' own classroom experiences that were outside the scope of his course content and activities. His primary concern was with the possible dissonance between students' classroom experience and professors' course content. Dr. Brown shed light on this concern by suggesting that "once in the classroom, university students faced problems that drove their thinking about methods coursework and led them to overvalue the practical and undervalue the theoretical aspects of their work."

Dr. Miller also expected that dealing with the practical, "hands on" concerns of students involved in teaching children would be "a challenge." She noted, "They (students) will be assigned to (cooperating) teachers separate and apart from what I do. They will have their own classroom assignments." She expressed that classroom assignments could lead students to be interested "only in practical instructional material for immediate use in teaching, making theoretical and philosophical course content irrelevant and a waste of time." This was in sharp contrast to courses taught on campus where, according to participants, students rarely expressed concerns over the application of course content nor struggled with the tension of mediating coursework with classroom experiences that might conflict with the content presented by teacher educators.

As methods courses began in the schools, each professor had to prioritize and select content to present their students. Presenting content on campus was generally

"tidy and a bit rote," as Dr. Miller noted. In contrast, she found her classes in the schools "full of unexpected interruptions and spontaneous questions (*e.g.*, 'I have to teach about suffixes tomorrow')." Additionally, professors soon learned that students felt under great anxiety, due to the amount of time the program demanded between both methods coursework and classroom responsibilities (*i.e.*, students were in the school from 8:00 am till 4:00 pm). In response, professors reported they "negotiated" their course requirements with students in an effort to relieve some of the pressure students experienced. This process of "negotiating" methods course requirements forced professors to examine the usefulness of many of their course activities and expectations. At the same time, as Dr. Brown noted, "Most of us have come to surrender some of the content we value from our own teaching experience in order to respond to the needs of students in this program." He then added:

> I find myself struggling to rethink my course content and assignments. Here at MES, students seem to want ideas, lots of ideas. Everything is practical driven, and so much of what I think needs to be discussed in this class is being left out because students tell me it is a waste of their time and irrelevant.

Dr. Brown went to suggest that:

> Relevance is defined by how easily and quickly students can use what I am telling them, which means that the more foundational and philosophical aspects of teaching are being ignored in their thinking about teaching. They are so hungry for answers to solve management problems and create interesting lessons that much of what I would lay as a foundation back on campus gets overlooked here in the field.

Soon into the first semester of the ECP, all professors had come to question whether they would be able to deliver the kinds and amount of content in the schools as they normally did on campus, and what that would mean to the professional development of prospective teachers in the ECP. For example, after just two weeks at HES, Dr. Miller noted that, "assignments have been reduced by both content and format," when compared with similar courses at the university.

With regards to course content, Dr. Teel suggested a metaphor that described how he viewed his elementary science course as the semester began. He referred to his science content as "a Christmas tree." Dr. Teel then explained, "Together, we would decide which ornaments [content] would be thrown out, replaced, hung on the tree, or what would happen with them in our efforts to make this program [become] workable and beneficial for [everyone]." Because of the classroom needs of the students and time constraints caused by the fact that he was teaching once a week on a block schedule (*i.e.*, half the semester), Dr. Teel soon found his metaphor lacking. He stated:

> As the days went on, I found myself unable to keep those ornaments in a box... If we leave it too flexible at the beginning, too open-ended, then by the time we get things sewn up and tied together, the course is over.

Furthermore, after the first semester at HES, Dr. Hays reported, "I had to cut some [content] out. I reorganized after the HES experience so I would cover things that I thought were extremely critical. But I still had to cut things out." Dr. Anderson reported presenting "about two thirds of the total" content she usually presented on campus.

In contrast, professors believed that the value of the content students received may have compensated for any reduction in quantity. As Dr. Miller suggested, "It is better to have learned three teaching models from teachers out there in the field who have found out the realistic expectations for teaching reading, [even if they] don't involve as much pizzazz as we might like, but are real."

Course content was also influenced by the cohort students' practical questions and concerns regarding classroom management and discipline. These novice teachers were more concerned with "keeping kids with you" than with effective teaching or the learning of children, noted Dr. Miller. She added that these issues "would never come up on campus...yet [at both HES and MES], classroom management took precedent over any kind of content."

Summary. Participants in this study discovered that they could not simply move their traditional course content from the university campus to the schools. Instead, they found it imperative to "negotiate" the content of their coursework. This negotiation of content often engendered dissonance between what teacher educators believed was essential and what they were actually able to teach. This discord resulted primarily from: (1) the increased burden on students involved not only in coursework but also classroom teaching responsibilities; (2) the students' need for strategies, methodologies, and material for immediate classroom use; and (3) the influence of cooperating teachers and school culture on these novice teachers.

Teaching in the ECP

Another major question for professors, related to course content, was how shifting instruction to the public school would influence their teaching. One advantage professors saw in teaching in the public schools was an opportunity to, as Dr. Evans suggested, "bridge the perceived gap between theory and practice." They believed that students would be able to see application of the teaching philosophies, theories, and strategies professors presented in methods classes. Each professor expressed a desire, before the program began, to teach elementary students in the classroom and to model the best practices they would be teaching during methods instruction. In addition, professors hoped that classroom teachers would bring their practical perspectives to the students' education. Dr. Evans added that the presence of classroom teachers meant that professors could "bring in real live teachers to immediately to respond...and say, 'Well, this will work under these circumstances here' and then also for them (university students)...to try it in a mini-lesson or some aspect of immediate field contact."

The context of the public school provided teaching opportunities for professors that were not possible on campus. During a lesson on the physical arrangement of whole language classrooms, Dr. Hays had just such an experience. While presenting the content material to the class, Ms. Baker, an HES kindergarten teacher who was attending the class, raised her hand. According to Dr. Hays, "She made the comment that in her classroom, she didn't see any place to put the classroom library." Dr. Hays asked Ms. Baker if the students could go to her room to seek possible solutions to her problem. She agreed. Taking advantage of this unexpected teaching opportunity, Dr. Hays asked the students to design a physical layout of Ms. Brown's room aligned to the instruction they had just received. Dr. Hays often taught the same lesson on campus but expressed that the difference between the two settings was that on campus "I give them some theoretical constraints. It's not really a classroom." He generally followed this lesson on campus by asking students to design an imagined classroom layout. At HES, the content was made more "real" by the presence of an actual classroom. "It was interesting as I was walking around, working with the students, I heard somebody make the comment, 'This is a real classroom that we're designing.' That's something they aren't doing on campus. It's not a real classroom."

On another occasion, Dr. Teel presented a science discovery lesson to a third grade class while the cohort students watched. He noted:

> I occasionally have times when in my methods classes on campus, I wish I could just open up a curtain and expose a group of elementary kids and say, "Instead of doing the guided discovery with college students...look at this. Let's try it with some little kids." So that was delightful for me to be able to actually make that a reality today and have them [cohort students] observing.

For Dr. Teel the opportunity to model his content by teaching children was "exciting," confirming his beliefs about how moving to the school can improve his teaching. He noted that during his traditional courses on campus, students "don't have an opportunity with kids during the time that they are taking classes." He categorized the opportunity the ECP provided to teach children as "a real plus."

In contrast, because of a negative experience with HES cohort students (see the following section, "Issues of Classroom Authority"), Dr. Anderson did not model her content by teaching children nor engaged in meaningful collaboration with classroom teachers. As the semester began, Dr. Anderson, a former classroom teacher, believed that being in the public school context would integrate, inform, and improve her methods course instruction. However, following this experience she expressed reservations about the efficacy of teaching in the public schools. She believed that to be successful in teaching mathematics in harmony with the National Council of Teachers of Mathematics Standards, communication between university professors and classroom teachers as well as the placement of students were issues that needed to be addressed:

> I think students should be placed in classrooms where teachers really want to learn how to help their students be [NCTM math standards] change agents. I don't think they should be placed in every classroom. I think there should be a commitment on the part of the teacher to some sort of mesh between theory into practice rather than saying, "RMU professors don't know what they are talking about and forget about it when you come into this room."

Summary. These findings suggest that teacher educator's beliefs about the benefits of a professional development school on their pedagogy are idiosyncratic. Teaching in the public school benefited those professors who capitalized on the opportunities the context offered to their teaching, *e.g.*, modeling their course content by teaching children and taking greater advantage of public school faculty's teaching expertise. Failure to take advantage of these opportunities meant that professors could not demonstrate or test their teaching beliefs on children under the watchful eye of university students and classroom teachers. These lost opportunities might otherwise have promoted children's learning and confirmed professors' own and beliefs about classroom teaching and teacher education.

Issues of Classroom Authority

One goal of the ECP was to place students in cohorts to promote ownership of their own learning. The first installment of this program was coordinated by Dr. Evans at Hillside Elementary. Before the program began he expressed concerns about placing students in cohorts when he said: "I don't know whether cohorts is the best direction to go. It's a different direction.... There are real problems with cohorts, because of the nature of the individuals and what happens in the lives of individuals." Dr. Brown reported similar concerns at MES. He added early in the semester:

> I am not used to dealing with a group identity on campus. The time these students spend together, most especially the time they spend in cars traveling and talking has melded them into a group identity that is a powerful force to cope with. What's more they see themselves as colleagues, equal to teachers, and expect teacher educators to treat them as faculty. This changes the power structure I am used to at the university.

Contrasting the concerns of Dr. Evans and Dr. Brown, Dr. Anderson looked forward to the relationship she envisioned with cohort students. She characterized her anticipation by saying she was "delighted" to be teaching to the cohort: "I approach this experience with joy and anticipation."

In spite of their concerns, both Dr. Evans and Dr. Brown worked to develop a unity and cohesiveness among their cohort students. After one week, Dr. Evans reported that the cohort had "started to pull together" which he viewed as "very positive." He added, "This group developed its identity and the cohesiveness and it appears...they're going to have a stronger group identity and not be as...compliant

as students from the campus setting." The closeness of the group led to Dr. Evans and the cohort conceiving themselves as "family," Dr. Evans as "Papa Evans," and the RMU classroom as "their living room."

Being part of a family and being encouraged to become independent, led the group to become, as Dr. Miller characterized, "outspoken." She added, "And while I think they are a very strong group, in many cases their assertiveness, I think, gave them a strength that was both appropriate and inappropriate," an assertiveness rarely present in students on campus.

After a full semester together, the HES cohort began university courses with professors who were new to the program context. During the first class session, Dr. Anderson found that her mathematics course goals, expectations, and requirements conflicted with the students' expectations. As part of Dr. Anderson's course requirements, students were expected to "delve into the literature of mathematics instruction." This included reviewing mathematics education journals found on campus in the library and also included other outside reading: "You are not an educated person in mathematics unless you have some knowledge of what is available." A confrontation began when cohort students "did not want to go to the library and look at what is in the research," as Dr. Evans suggested. Dr. Anderson described the situation:

> Early in the week I got the message from Dr. Evans that the cohort needed to talk with me about assignments. I went back out to talk with them about assignments and how they should be done, but [I maintained] that the goals would need to remain, somewhat, the same. I couldn't quite get the feel of whether they expected me to negotiate downward on goals.... I just felt totally bombarded by the whole situation.... I got the statement "We read the textbook in preparation for our lesson, that is enough. Why read other stuff?" I think the class saw me as being inflexible and in a sense, I was inflexible on the goal itself.

Dr. Evans characterized the confrontation as a communications problem:

> You could just see the walls go up [between the cohort and Dr. Anderson].... There was a communication [problem]. "Well, you aren't listening to me so I'm not going to listen to you." You could just see a couple of the students...just fuming.

He further suggested that the reason the students did not want to do library research was not to avoid extra work. Instead, he believed the students were so involved in what they viewed as imperative classroom teaching activities that they could not see the value of the assignments.

Dr. Anderson, on the other hand, viewed the confrontation at HES as a personal and professional crisis, characterizing the experience as "personally devastating" and "never having faced [this situation] in my entire academic career of thirty-five years." She felt that "walls had been brought down" between her and the cohort students. She added: "They [the cohort 'family'] circled up their wagons and I was left on the outside."

These professors' experience with the cohort students reflect a fundamental change in their beliefs not only about the efficacy of cohort education but also how to deal with issues of authority over university courses. Dr. Evans gave cohort students great authority over the content of his course by telling them "this is your course" and letting students choose what subjects he presented and when he presented them. As a result, he established a close-knit "family" relationship with the students with himself as "Papa Evans." Not all professors agreed with this concept, yet were unable to reverse its influence on their methods coursework and classroom relationships with university students.

In contrast to his concern before the year began, when asked to pick out the positive elements of the ECP that he believed were essential for future programs, Dr. Evans remarked: "I think we have to have the cohort model. I've seen enough evidence of the importance of a cohort.... I think the cohort aspect of it is essential." He also expressed that a cohort provides "support" to students that he believes is essential when undergraduate students are "immersed in the school." He also came to believe that the empowerment of the cohort was appropriate and added:

> You get a group together, there is a certain power and with power comes responsibility. Personal maturity and the maturity of the group are going to enable them to handle that power with responsibility.... I think a cohort can help a weaker student. It can be a great support and that is a positive aspect.

Contrasting Dr. Evans, Dr. Anderson's experience at HES left her doubting the efficacy of grouping students into cohorts. First, she believed that placing students into cohorts promotes "an apprentice model" of teacher education as cohort students "take on the characteristics of the environment in the school." She believed that because some cooperating teachers did not share her view of NCTM Standard Based Mathematics, she was unable to influence such a strongly empowered cohort. She added:

> I'm not in favor of an apprenticeship model. I am in favor of a change-agent model. I think there are ways that we can change the cohort experience to make it more a change-agent model but we did [not] do that last semester.

In addition, because Dr. Evans had empowered the cohort with some control over course content, when Dr. Anderson's course requirements were viewed as "a waste of time," students were not shy in forcibly expressing their sentiments. Dr. Anderson was not prepared for this reaction and found it difficult to relinquish the goals of her methods course to students. She remarked "I will be flexible on how we accomplish these goals, but I cannot negotiate course goals."

Summary. Collaboration in professional development schools suggests the sharing of not only goals and responsibilities, but also authority. The teacher educators in this study all validated "teacher knowledge" as important in theory but when "teacher knowledge" conflicted with professors' long-held educational

beliefs, tension arose. These unavoidable tensions, while sometimes hurtful, also allowed professors to confront their own educational beliefs in helpful ways. In addition, participants reported that administrators and classroom teachers took the notion of collaboration literally, expecting input regarding all aspects of teacher education conducted in their schools and classrooms.

The Limitations and Possibilities of Renewal

As the ECP was originally envisioned, participants believed the vehicle for school renewal would be the methods courses taught by university professors in the schools. It was assumed that teachers would attend these classes (some for lane change credit) and be renewed by being exposed to "cutting edge" teaching techniques presented by RMU faculty. Because teachers did not attend these classes regularly, professors found that university preservice methods classes attended by classroom teachers did not provide appropriate opportunities for the promise of renewal to be realized. At MES, university classes were held the hour prior to school with the hope that any and all teachers would be able to attend. Understandably, according to Dr. Miller, teachers were not willing to give up "the most precious hour in the whole world" to attend these classes: "That's a terrible time to set [for teachers to attend]." In addition, professors often found that, an undergraduate methods course was not conducive for presenting material pertinent to experienced teachers. Dr. Miller expressed:

> I don't think the delivery system can occur within the classroom cohort setting for classroom teachers. In the cohort classroom you are operating at a foundation level. That's not fair to classroom teachers, to infer that they don't already know this information...classroom teachers need different ideas.

Professors concluded renewal as planned in the ECP was not fully realized. When asked to characterize her effect on renewal during the year, Dr. Miller said, "I would say almost zero." Dr. Anderson added, "I think my results in [achieving and promoting] renewal were rather sporadic and minimal." Yet in spite of the failure of renewal to take place as originally planned, professors report they believed that individuals were renewed, although it was somewhat isolated, informal, and indirect. They report interpersonal relationships between teacher educators and individual teachers and administrators was the greatest influence leading to renewal. In many instances, as relationships of trust developed between classroom teachers and teacher educators, their collaborative efforts led to increased job satisfaction and the sense that they were making a difference in children's learning. Dr. Brown put it this way:

> I am continually amazed at how much classroom teachers can contribute to my methods course. We learn so much from one another, and we validate one another to the cohort as we create this shared culture, and vision of what we can accomplish together. This is renewing all of us, and teachers are telling me that it is having

wonderful effects upon what children are able to learn from our students.

However, professors often struggled to define and to identify renewal when it occurred. For example, Dr. Evans said:

> I guess it depends how you define renewal. I saw a couple of illustrations and I guess it is renewal, in a sense. One of the teachers out there [at HES]...has been critical of this whole thing at the beginning. After he was involved with it, he has become one of the strongest supporters.... Maybe there is some sense of renewal in that.

Each professor reported they believed the examples of renewal they experienced were the result of personal relationships they formed with teachers that proved to be positive and beneficial to both, and would lead to improved learning in children. Even after all her negative experiences during the ECP, Dr. Anderson also found examples of renewal:

> Renewal was not a one-sided thing. I felt that in some ways, I was renewed also. In the case of one particular teacher, I have been searching and searching for and have not [found]...a whole lot of ways to really incorporate the practice of math facts with children without it being rote, without it being boring, without it being threatening, and she developed one. I am not sure hers were all original, she either synthesized and/or developed a whole set of activities that I think are excellent. She is coming to my college classes this summer to share those, which I am delighted with.

Summary. The whole purpose of professional development schools is to engender renewal for both the university and public schools, the results of which should increase learning among school children. Participants originally believed that renewal could be generated in the ECP through methods courses conducted in the school. They soon discovered that renewal was easier to plan for than to obtain. For example, methods courses would be held during school at HES when teachers could not always be released to attend, and before school at MES when teachers chose not to attend. In addition, the content of preservice methods courses were not always appropriate for practicing professionals. Participants reported that renewal was a bi-product of the relationships formed between individuals.

Discussion

Creating a collaborative culture between classroom teachers and teacher educators provided an opportunity to examine how beliefs about classroom teaching and teacher preparation were influenced by the convergence of these two groups. As Donna M. Kagan (1990) has pointed out, because of the personal nature of beliefs, making them explicit can prove difficult, and discovering change in beliefs can prove problematic. Nevertheless, we believe this study provides evidence of the ways working in the context of professional development schools

may influence the beliefs of teacher educators. Specifically, the findings illuminated how professors encountered tensions that challenged their educational beliefs. These tensions resulted from moving their practice from the university campus into the context and culture of the public school, cultures that were sometimes at cross-purposes and a disruption to the other.

This study also provided examples to confirm many of the notions reported in the literature concerning teacher beliefs: (1) the educational beliefs of adults are formed early in life, usually based on their own life experiences (their own K-12 education being paramount); (2) that the personal beliefs of adults are resilient to change and are most strongly influenced by life experiences that challenge those beliefs; and (3) that change in educational beliefs can be self-initiated, over time by individuals or engendered by life experiences (Pajeras, 1992; Powell, 1992; Buchmann, 1987; Zeichner & Gore, 1990). Frank Pajeras (1993) has argued that challenge to beliefs not only leads to change but also to confirming beliefs: "Challenge alters and destroys but also clarifies and strengthens" (p. 47). Because the teacher educators in this investigation moved their practice from the university campus into the public school, they were engaged in teaching experiences and professional relationships in their teaching that were very different than those they encounter on campus. We call these episodes, *pedagogical life experiences*, and define them as teaching experiences that challenge an individual's educational beliefs.

Perhaps the greatest challenge to the beliefs of teacher educators was linked to the sharing of power that is endemic in PDS programs. On campus, university professors were able to control many of the variables that affect their teaching, making campus classes "tidy and a bit rote." In professional development school programs, like the ECP, teacher educators' courses are complicated by the classroom experiences of undergraduate students; the presence and influence of cooperating teachers and school administrators; the school, district and community culture; and perhaps most importantly, the presence of children. As John I. Goodlad (1994) has pointed out, these complicating factors of real partnership between public schools and universities will inevitably lead to many uncertainties for those involved. It is these uncertainties that challenge, change, or solidify the educational beliefs of teacher educators.

Because many professors have had years of unchanging *pedagogical life experiences*, they may not face the complicating factors that challenge their beliefs to the degree that moving their practice into the public school provides. Given this fact, it may be true that the experiences of teacher educators in programs like the ECP may be the only way their beliefs can change.

Implications

Our study of the experience of teacher educators involved in a PDS program

convinces us that moving coursework from the university into the public schools will bring about challenges to long-held educational beliefs of university professors. Accordingly, we believe the success of professional development schools may hinge on whether these challenges lead professors to new perspectives that expand the possibilities of collaboration, or lead teacher educators and classroom teachers to strengthen the notion that they each belong to two different worlds (Maeroff, 1988). In other words, the road to success in professional development schools is paved with challenges to the beliefs held by everyone involved. How these challenges change, alter, or clarify beliefs or how participants deal with the dissonance caused by the contrary beliefs held by others may very well make or break professional development schools. In PDS programs, university teacher educators, who have spent lifetimes in pursuit of educational knowledge, will need to collaborate with partners who may or may not share their beliefs. No longer can teacher educators, school administrators, or classroom teachers afford to view their own educational beliefs as preeminent. We believe when it comes to beliefs, negotiation and collaboration will become synonymous in professional development schools. How far participants are willing to change or at least bend their beliefs will prove critical to genuine collaboration.

Because of the idiosyncratic nature of beliefs, the outcome of the challenges of moving teacher educators' practice into the public school will remain uncertain and subjective to each teacher educator and each professional development school. The belief changes reported in this study will not generalize to other teacher educators. What will transfer is the realization that challenges to long held educational beliefs are an integral part of participation in professional development schools. Therefore, teacher educators should take advantage of the opportunity to self-reflect upon their beliefs before, during, and subsequent to their participation in a PDS.

During this investigation, part of professors' reflection upon their view of themselves as teacher educators was engendered by the self-reporting nature of data gathering. Interviews, personal journals, and observations led professors to consider their practice and to conduct, what Anne M. Phelan and Harold J. McLaughlin (1995) term "educational discourse." They define discourse as:

> The ongoing interactions one has with others and with oneself, whether talking, reading, writing or thinking to oneself while acting. By *educational discourse* we refer to patterns of thought and action related to key ideas in teaching and education. (p. 166)

The research methodologies of this study provided opportunities for professors to engage in meaningful discourse about their practice. Accordingly, professors should be encouraged and provided the resources needed to carry out their own self-studies while engaged in PDS programs. Additionally, studies should also be carried out by colleagues and in collaboration with the public school community

(Cole & Knowles, 1993). These studies could add to the literature on professional development schools and also serve as program evaluation studies for school, district, and university administrations.

An even greater motivation for professors to self-reflect during the ECP were the tensions resulting from involvement in a different and at times, unfamiliar context. The experiences, problems, and successes of moving their practice to the public schools motivated professors to reflect on the meanings they gave to these experiences and to their roles as teacher educators. It would be difficult to imagine experiences in traditional university programs that would motivate professors to engage in self-reflection to the same extent as moving their practice into the public schools. Given this fact, school and university administrators should provide resources, support, and program components that encourage and facilitate inquiry and self-reflection by all participants in professional development schools.

Conclusion

This study reported how the beliefs of six teacher educators were challenged and influenced by their participation in an experimental professional development school. As more and more professional development school programs are implemented, it is important to understand that challenges to teacher educator's beliefs are inevitable; what is uncertain is whether these challenges will engender negative or positive consequences for these programs. This study suggests that engaging in self-reflection can help meliorate the inevitable uncertainties by helping participants change how they view teacher education and themselves as teacher educators. Engaging in self-reflection may not always be easy or pleasant, especially when brought about by challenges, tensions, or problems, but we believe it *will* prove necessary.

Note

1. All names in this paper are pseudonyms.

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