Professional Development School Trade-Offs in Teacher Preparation and Renewal

By Judith Haymore Sandholtz & Shannon Husted Dadlez

Introduction

As a major component of the reform and restructuring movement in education, professional development schools (PDSs) aim to provide new models of teacher education and development (Darling-Hammond, 1994). One of the most common collaborative arrangements for preparing prospective teachers (Yinger & Hendricks, 1990), professional development schools have four main goals: to maximize student learning, to support professional teaching practice, to enhance the professional education of novice and veteran teachers, and to encourage research and inquiry related to educational practice (Holmes Group, 1990; Levine, 1988, 1992).

Extending beyond other school reform efforts, professional development schools offer promising possibilities in creating new frames for teacher learn-

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ing, building new ways of knowing, and providing new opportunities for mutual restructuring of schools and universities (Darling-Hammond, 1994). Those directly involved in these ventures report benefits for experienced teachers such as increased knowledge, greater efficacy, enhanced collegial interaction, and leadership skills (Grossman, 1994; Sandholtz & Merseth, 1992; Snyder, 1994; Teitel, 1997). A primary benefit of the professional development school model for preservice teachers is that it narrows the "gulf between the worlds of the school and university" and strengthens the link between theory and practice (Grossman, 1994). Professional development schools are viewed as "a vehicle for providing prospective teachers with intensive clinical experiences grounded in state-of-the-art practice, thereby increasing the effectiveness of teacher preparation programs" (Task Force on Professional Development Schools, 1995, p. 61).

Hundreds of school-university collaborations across the United States identify themselves as professional development schools (Darling-Hammond, 1994), but comparative research examining the effectiveness of the model remains limited. Studies comparing student teachers' perceptions of PDS and traditional programs within the same university suggest that PDS programs provide important advantages for preservice teachers (Skillings & Robbins, 1997; Yerian & Grossman, 1997). If professional development schools are to be vehicles for changing and improving teacher preparation programs, we need more research examining the experiences of preservice teachers in PDS and other types of programs and comparing how the programs affect preparation for and transition into full-time teaching.

This paper presents the results of a longitudinal evaluation of a professional development school program at the secondary level. The evaluation focused on the preparation of student teachers at four professional development schools over a four-year period, and compared the PDS student teachers' experiences with graduates from a variety of other programs in the region. The evaluation tracked student teachers beyond graduation from the program and into their first year of teaching. Although not the central focus of the evaluation, the study also provides information about the professional development opportunities for experienced teachers involved in the PDS program. In this paper, we provide a brief overview of the PDS program and its objectives, describe the evaluation design, discuss the results of the research, and examine trade-offs related to the PDS model.

Program Overview and Objectives

The Comprehensive Teacher Education Institute (CTEI) at the University of California, Riverside (UC-Riverside), represents a collaborative partnership involving the School of Education, the academic departments, and local schools. The central goal of the institute is the creation of professional development schools aimed at preparing prospective teachers in the real context of schools, providing professional development opportunities for experienced teachers, and encouraging

research related to educational practice. Table 1 delineates the specific program objectives within each central goal.

At UC-Riverside, all teaching credentials are offered in "fifth-year" graduate programs. Although fifth-year programs promote subject-matter mastery and education breadth of prospective teachers, they can obscure the connections among subject-matter preparation, pedagogical preparation, and field experience. Collaboration increases the links among these components.

After a year of planning, the first professional development school associated with CTEI was established in the fall of 1990 as a pilot program. The success of the pilot led to the restructuring of the full secondary credential program to the professional development school model. CTEI currently operates four professional development schools in three districts. The partner schools range from suburban to semi-rural to inner-city settings. At each school site, the majority of the student population consists of minority youth with growing numbers of limited and non-English-proficient students.

The heart of the program is creating a professional environment that promotes teacher learning in its various forms. Since the initial planning stages, a project management team (made up of school administrators, teachers, and university personnel) has conceived, developed, evaluated, and refined the specific activities related to the central goals. As one teacher put it, "It is a program primarily operated by teachers for teachers."

For prospective teachers, CTEI focuses on preparing them in school contexts that typify the challenges and the full scope of responsibilities that teachers encounter in their profession. The program undertakes strategies including: full-year field experience, a university supervisor at each school, multicultural place-

Table 1
PDS Program Objectives

Prepare Prospective Teachers in the Real Context of Schools:
Provide a supportive and collegial environment for teacher preparation.
Foster successful completion of the credential program.
Produce candidates who successfully locate employment.
Prepare prospective teachers for realities of teaching and ease entry into the profession.
Enhance candidates' teaching efficacy.

Enhance the Professional Development of Experienced Teachers:
Provide professional development opportunities not typically available.
Decrease teacher isolation while increasing support.
Foster revitalization of teaching.

Encourage Research Related to Educational Practice:
Encourage teachers to engage in classroom research.
Provide sites for ongoing university research.

ments and training, guided field observations, staged entry into teaching responsibilities, training for cooperating teachers, daily seminars during the regular school day, team teaching opportunities, a preservice/inservice link, priority for substitute teaching opportunities, university courses taught by teams, and assessment strategies such as reflective journals, videotapes of teaching, and portfolios.

For experienced teachers, the program focuses on providing activities not typically available to teachers and strives to complement the schools' ongoing staff development programs. Participation in these activities is voluntary. Activities include: university course development and co-teaching, design of materials and student teacher seminars, conference presentations, seminars led by university faculty, grant writing, project management, and technology training.

To encourage research related to educational practice, the project sponsors teacher research. Teachers design and conduct classroom research projects with consultation from university faculty. The professional development schools also provide sites for research by university professors.

Methodology

The evaluation covered a four-year period (1992-96) and compared the experiences of student teachers in the UC-Riverside professional development school program with graduates from a variety of other programs in southern California. Table 2 identifies the cohorts and outlines the data collection measures.

The data collection process included the following components. First, meetings with the program director and on-site supervisors, site visits, and document analysis provided general information about the PDS program and sites. Second, evaluators collected basic quantitative data about completion rates and professional status following graduation from the PDS program for Cohorts 1, 2, 3, and 4.Third, all PDS students in Cohorts 1, 2, 3 and 4 completed interviews and year-end surveys. Evaluators also conducted year-end interviews with cooperating teachers, school administrators, and university supervisors. Fourth, Cohorts 3 and 4 completed four scales at the beginning and again at the end of the PDS program. These instruments measured self-perceptions of teaching efficacy, personal efficacy, teacher commitment, and ability to complete basic teaching tasks. Alpha reliabilities ranged from .67 to .91. Fifth, a general student teaching survey was developed and administered to first- and second- year teachers in 18 local school districts (labeled Traditional Program Graduates in Table 2) and to Cohorts 1, 2, and 3.

The survey collected information about structural features of teacher education programs in general as well as ratings of the quality of those program features. The purpose of administering the survey to local first- and second-year teachers was to provide normative data on student teaching experiences in non-PDS programs and to compare the PDS participants' responses against these "norms." The survey contained five Likert scales with each scale measured by five items. Alpha

Table 2
Data Collection

Cohort	1992-93	1993-94	1994-95	1995-96
Traditional Program Graduates n=153	*Teacher Education*	*1st/2nd Year Teaching* Student Teaching Survey		
Cohort 1 (1992-93) n=12	*PDS Program* Interviews Year-end Survey	*1st Year Teaching* Student Teaching Survey		
Cohort 2 (1993-94) n=11		*PDS Program* Interviews Year-end Survey	*1st Year Teaching* Student Teaching Survey	
Cohort 3 (1994-95) n=36			*PDS Program* Interviews Year-end Survey Teaching Tasks Commitment Ratings Efficacy Ratings	*1st Year Teaching* Student Teaching Survey
Cohort 4 (1995-96) n=37				*PDS Program* Interviews Year-end Survey Teaching Tasks Commitment Ratings Efficacy Ratings

reliabilities ranged from .60 to .86.

Survey data included a combination of open-ended questions and Likert scale ratings. Questions examined student teaching experiences, first-year teaching experiences, and background information. Basic descriptive statistics were compiled using SPSS to characterize participants, program features, graduation rates, and employment status. In analyzing the Student Teaching Survey, we compared the traditional program graduates with a pooled PDS group completing their first year of teaching in 1993-94, 1994-95, and 1995-96. Data from scaled responses were coded and analyzed using analysis of variance. Responses to open-ended questions were used to corroborate and expand on statistical results. We analyzed teaching task, efficacy, and commitment ratings to determine changes over the course of the PDS program. After calculating means, standard deviations, and change scores from the beginning to the end of the program, we computed effect size by dividing the change score by the fall standard deviation. Year-end surveys, developed and conducted as part of ongoing formative evaluation activities, were examined primarily to provide corroborating or disconfirming evidence.

Over 200 interviews were conducted over the evaluation period. Interviews were recorded and transcribed for the first two years of the evaluation; then interview notes and summaries replaced verbatim transcriptions. Interview data were categorized according to themes identified by the quantitative data (e.g., support, camaraderie, collegial environment, program features, preparation for teaching, entry into profession, teaching efficacy) and analyzed according to grounded theory (Glaser & Strauss, 1967). Interviews provided more in-depth information on participants' perceptions of and experiences in the PDS program. Information from university supervisors and school administrators provided an additional source for triangulating findings.

There are three main limitations to the study. First, the comparison group does not constitute a matched sample; there could be differences between students who enroll in traditional programs versus the PDS program. Second, the comparison pool does not represent a single teacher preparation program, which limits specific comparisons. The advantage is that the data are more representative of teacher training experiences than had we focused on one or two particular programs. Third, because principals distributed the surveys to beginning teachers, we could not use common follow-up procedures to increase the 25 percent return rate. This response rate is typical of a single distribution without individual follow-up, and nothing in the comments provided, the teachers' backgrounds, or the locations of their teacher preparation programs indicated that survey responses were atypical.

Results

In this section, we first describe the differences between the features of the professional development school program and the programs completed by the

graduates in our comparison pool. Then we discuss the evaluation results with respect to the specific objectives of the professional development school program listed earlier in Table 1.

Programmatic Differences

Table 3 delineates the differences between the PDS program and the combined group of other teacher preparation programs. Three key differences between the PDS program and the others are the formation of cohorts, the length of the student teaching component, and the daily seminars. The PDS program grouped students in cohorts of six to twelve at a site; a permanent room at each school facilitated course sessions, group meetings, informal discussions, individual work, and a library of resource materials. Most of the other programs lacked purposefully created cohorts for student teaching placements.

The PDS program included a year-long student teaching component which followed the school calendar. Student teachers took part in teacher work days before instruction began by attending faculty and department meetings, assisting teachers as they set up their classrooms, and touring the school and the district. In the beginning weeks, they observed in classrooms throughout the school and discussed their observations in group seminars under the guidance of the university supervisor. Over the year, they followed a staged entry plan which gradually increased responsibilities. In contrast, the majority of graduates from other programs completed a student teaching experience of one quarter or one semester. The placement followed the university calendar and usually started after the beginning of the public school year. Due to the shorter time frame, student teachers moved quickly into full teaching responsibility for their assigned classes.

In addition to offering some university coursework on site, the PDS program included daily seminars during the school day. The administrators arranged the master schedules to provide a common planning period for cooperating teachers; during second semester, this became the joint seminar time for student teachers and cooperating teachers. The seminars, planned and led by the cooperating teachers and university supervisors, included multiple groupings such as whole-group sessions, content-area meetings, interdisciplinary consortiums, one-to-one conferences, and separate group meetings of cooperating teachers and student teachers. None of the other teacher preparation programs included a similar feature.

Assuming that the graduates' responses represent a generalized approach to teacher preparation, we use the term "traditional programs" in this paper to refer to the combined group of teacher preparation programs used for comparison.

Prepare Prospective Teachers

In this section, we first examine the program objectives for which we have comparative data: supportive environment, realities of teaching, and eased entry into the profession. Then we discuss the areas based only on PDS program data:

Table 3
Comparison of Program Features

PDS Program	*Traditional Programs*
Cohort of Student Teachers Six to twelve student teachers at one site.	One to three student teachers at a school.
University Supervision University supervisor assigned to each school. Supervisor follows high school calendar. Increased contact over entire course of year. Permanent room at school site.	University supervisor assigned to student teachers at many different schools. Supervisor follows university calendar. Periodic visits to school sites. No room/space at school sites.
Induction Student teaching experience over full academic year. Participation in school orientations. Participation in teacher work days, faculty & department meetings before instruction begins.	Eight to sixteen weeks of student teaching. No participation in school orientations. No participation in activities before instruction begins.
Cooperating Teacher Assignments Experienced teachers apply for positions. Cooperating teacher/student teacher input into assignments. Option of assignment with more than one teacher. Option of interdisciplinary assignment.	Cooperating teachers selected by personal acquaintance or school administrators. University supervisor determines placements. Usually assigned to one teacher. Limited option of interdisciplinary assignment.
Staged Entry Gradual transition to full teaching responsibilities. Transition over the school year.	Little or no staged entry. Assume full responsibility within days or a week.
Daily Seminars Seminars during the school day. Planned & led by cooperating teachers & university supervisors. Seminars take multiple forms & groupings.	No scheduled meeting times during school day. Limited or no interaction with larger faculty.
Team Teaching Team teaching pairs or triads. Student teachers and experienced teachers. Option of interdisciplinary teams.	Limited opportunities for team teaching. Limited or no option for interdisciplinary team.
Assessment Student teachers included in assessment. Reflective journals. Videotapes of classroom teaching/analyzed with supervisor. Student teacher portfolios.	Range of student teacher involvement in assessment.

program completion, employment, and efficacy.

Supportive and Collegial Environment—Camaraderie and support were two of the major strengths cited by student teachers and reasons they gave for the PDS program's success. Student teachers who participated in the PDS program reported significantly more opportunities to collaborate with fellow student teachers, and viewed this collaboration as very beneficial. While all of the PDS student teachers completed their program with a cohort (4 or more), only 35 percent of the traditional program student teachers reported having such a cohort. As one PDS student teacher described, ". . . having all of us here together—that was the biggest benefit because we leaned on each other all the time for emotional support or help." Another reported,

> They've (fellow student teachers) been great this year. There were times when we'd get on each other's nerves, but there were also times where we were stressing out a lot and you could vent frustrations. But that's the best asset of this program.... Other student teachers that I've known...just can't believe the camaraderie we have established because we were put in a similar situation.

In rating their opportunities to interact and collaborate with fellow student teachers (1-low, 5-high), the PDS student teachers' mean was 4.8 compared to 3.2 ($t=7.53$, $p=.00$) for student teachers in traditional programs. Significant differences were also found in student teachers' perception of the benefit of placing a cohort at a site; PDS student teachers rated the benefit at 4.9, while traditional program teachers rated the benefit at 3.6 ($t=7.76$, $p=.00$). As student teachers expressed,

> It seems like when you student teach with somebody and you're around them so much you learn what they can handle and what each other can handle and how you can help that person. We all relied on each other in a social way as well as sharing, "Well, what did you do for this? This is what I did." "Oh, can I do that?" You share ideas, get support from each other.

> I think just hanging around with the other student teachers. That helped a lot. Because we're all learning and you find out what they tried doing this way and it didn't work or it did work, so you learn from that.... We're all first time, flying for the first time, so we're very open as to whether it works or whether it doesn't.

Student teachers found the support received from their PDS cohort critical for emotional support as well as for collaboration on issues of classroom management and teaching.

In addition, PDS student teachers documented receiving support from the program director, school administration, on-site supervisor, cooperating teachers, and other teachers at the schools. They indicated feeling more a part of the school's culture (mean 4.0) than traditional program student teachers (mean 3.5) ($t=3.45$, $p=.001$). Many of them talked about feeling as though they were part of the faculty:

> I feel like this was my first year of teaching.... I truly felt like I belonged to the

> school, like I was part of the school, and they treated me like part of the staff.... I feel like I could walk into a classroom next year and feel very confident. I know it is because of this program.
>
> The fact that it is all year long. The fact that you really become part of the school. You get to know the system and you get to know the people. I feel a part of the school site. The fact that we get to talk with more than just our master teacher. We had opportunities to go to others, and they are all very willing to help at any point usually. They welcomed us with open arms.

Student teachers in the PDS program also participated in more collaborative activities than those in traditional teacher preparation programs (see Table 4). Having a PDS room at the schools promoted formal and informal collaboration by providing a gathering point for student teachers and cooperating teachers and a central location for interaction.

Realities of Teaching and Eased Entry into the Profession—Another identified strength of the PDS program is its effectiveness in preparing teachers for the profession and easing the transition into first year teaching. At the end of the PDS program, student teachers reported feeling well-prepared for full-time teaching. Program features that contributed to the authentic experience include: completing a student teaching experience that extends over the full school year, beginning their assignment on the first day of school, working closely with many teachers, participating in school inservice training and conferences, and knowing the students they teach.

The realistic and authentic experience one gets from being part of a school for the entire academic year was particularly important:

> I think the fact that you're in the program for a full year gives me the idea of what

Table 4
Comparison of Collaborative Activities

Did the collaborative activities include...	TP Teachers (n=152)	PDS Teachers (n=46)
...a room for student teachers	2%	91%
...meetings with student teachers	14%	98%
...meetings with experienced teachers	17%	98%
...meetings with the university supervisor	28%	100%
...group problem solving	12%	87%
...sharing teaching strategies	24%	98%
...sharing ideas in content areas	18%	85%
...discussions with student teachers	21%	100%
...discussions with teachers	19%	98%

> to expect at each stage during the school year so that I will go into my first year of teaching knowing how things happen.

One student teacher had the rare opportunity to compare her PDS program with the traditional program of her sister:

> I think that it has most effectively made me feel like a teacher, not just a student. Like my sister, she's in a different program and I was comparing notes with her all the time. Her program was an 8-week program.... She wasn't there for the beginning of the school year. She says if she got hired she would wonder what the first day was going to be like. I felt good—I was even there before the kids came, I was there when the teachers came.

Beyond preparing student teachers for the full scope of teaching, spending a full year at the school improved their relationships with students. As one cooperating teacher put it, "I think it develops more student loyalty to them rather than having an intruder in the classroom while the 'real teacher' is out." Since PDS student teachers were there from the first day of school, the students tended to view and treat them as teachers from the beginning. Knowing their students also allowed student teachers to plan and implement lessons and units based on their knowledge of both curriculum and students, and, as a result, led to a more realistic and contextualized student teaching experience.

As first year teachers, both PDS graduates and traditional program graduates rated the effectiveness of their programs in easing the transition into teaching. The PDS graduates' mean rating of 4.4 was significantly higher than the traditional program graduates' mean rating of 3.6 ($t=4.96$, $p=.000$). Their responses to open-ended survey questions also point to the PDS program's effectiveness in preparing them for full-time teaching:

> This program was outstanding and extremely effective. I am in my first year of teaching at M. High School and already feel as though I am in my third or fourth year. Other teachers comment on my well-developed lessons, teaching style, and preparedness as being beyond my experience.

> I felt very confident on my first day as a paid teacher. After discussions with other new teachers, I found that [the PDS program] had given me a lot more confidence and a better understanding of what to expect.

In contrast, some traditional program graduates recommended having more responsibility as student teachers in order to prepare for full-time teaching:

> I feel the student teaching experience should more closely resemble the first year of teaching. Student teachers should have experience teaching six-period days and multiple preparations since this is the reality of many first year teachers. I feel the function of a student teaching program should be to *gradually* ease the student teacher into a full teaching assignment.

> I think the student teaching program should have more emphasis on the harsh realities of full-time teaching.
>
> I would recommend more time in complete control of the classroom—if possible, without the master teacher present to get the true feeling of being completely in charge.

The professional development school program also involved student teachers in self-assessment strategies more than the traditional programs. For instance, all PDS student teachers reported having their classroom teaching videotaped compared to 42 percent of those from traditional programs.

Successful Completion of Credential Program and Employment—The supportive and collegial environment helped PDS student teachers successfully complete the credential program. In year-end interviews, they commented on how the program's structure helped them meet the demands:

> There has never been a day this whole entire year that I felt like I needed to quit, never. Never wanted to, never had any desire to. No matter what problems—little, big, small—there was always someone there.
>
> I think the fact that we're all here together and that we're all here the entire year. I'm incredibly satisfied with the whole process. From Day 1 we were here as a group and have gone through as a group and I think that kept a couple of teachers here that might otherwise have left.

Over the four-year period, 94 percent of the PDS student teachers graduated from the program. The majority of those who did not complete the program either had to withdraw because they didn't pass the required admission exams or because they took maternity or medical leaves. Of those who graduated, over 80 percent accepted positions as full-time teachers (some graduates could not be located). Other graduates others opted for graduate school, extended travel, or other opportunities. The vast majority accepted positions in local districts; approximately 30 percent of PDS graduates were hired by the districts in which they student-taught. However, other districts often lured away candidates by moving quickly on official offers and contracts. Administrators appreciated how well-prepared the candidates were for first-year teaching. As one school administrator pointed out,

> You're going to have a teacher who comes in ready to assume a leadership role in their second year. By the time they've gotten tenure, they can be a true leader on campus because they have been nurtured and they understand the realities of the teaching profession much more thoroughly than the other traditional teacher programs that I've seen to date.

Teaching Tasks and Efficacy—The survey data also measured teaching tasks, teaching efficacy, personal efficacy, and teacher commitment for PDS student teachers to determine if there were changes over the course of the program. Teaching tasks included skills identified in the research as necessary for competent

beginning teachers (Reynolds, 1992). Teachers' sense of efficacy referred to beliefs about one's ability to influence student learning (Ashton & Webb, 1986; Woolfolk & Hoy, 1990). Whereas teaching efficacy focused on the influence of teachers in general, personal efficacy referred to their own influence as teachers. Teacher commitment consisted of teachers' psychological involvement and dedication to students, to their schools, and to the profession of teaching (Firestone & Pennell, 1993). Having basic teaching skills and believing that one can influence student learning are fundamental elements contributing to a teacher's success in the classroom.

Over the course of the year, teaching tasks showed the largest gain, personal efficacy showed a substantial gain, teaching efficacy showed a very slight gain, and teacher commitment showed a substantial decline (see Table 5). It is not surprising that teaching tasks demonstrated the largest gain as this scale probably reflects the outcomes of preservice education more than the efficacy measures.

At the beginning of the program, student teachers were least confident in their abilities to plan lessons that relate new learning to old, in their knowledge of available curriculum materials and teaching strategies, and their ability to assess student learning and use the results to adapt future instruction. They entered the PDS program most confident in their knowledge of the subject matter, their ability to develop rapport with students, and their ability to deal fairly with students. The overall high ratings of the student teachers in the spring indicate that they think they can handle important teaching tasks with great efficiency by the end of the PDS program. The teacher commitment decline is a consistent finding in the preservice literature as the realities of day to day teaching attenuate preservice teachers' "unrealistic optimism" about their abilities (Weinstein, 1990). As one student teacher said, "It opened my eyes—it is a lot of hard work.... I feel it is about as close to real teaching as a student teacher program could be."

Enhance the Professional Development of Experienced Teachers

Professional Development Opportunities—The PDS program successfully expanded opportunities for teachers beyond the school's inservice activities. Two

Table 5
Teaching Tasks, Efficacy, and Commitment

Measure	Fall		Spring		Change	Effect Size
	Mean	SD	Mean	SD		
Teaching tasks	87.9	14.4	105.5	6.6	+17.6	+1.2
Teaching efficacy	19.5	4.2	19.9	4.8	+0.4	+0.1
Personal efficacy	22.3	2.5	24.1	2.9	+1.8	+0.7
Commitment	79.1	5.7	74.5	9.5	-4.6	-0.8

strengths of this component are: teachers' direct input into activities and voluntary participation. In contrast to many school and district inservice programs, teachers not only proposed the activities but also voluntarily chose which activities to participate in, based on personal needs and interests. In addition to meeting teachers' specific needs, the activities increased interaction across sites. For example, committees of teachers designed subject-area mini-conferences and teachers made presentations at other schools on areas of personal expertise or features unique to their school (e.g., pathways, families). Many of these activities also provided more natural and accommodating forums for groups of experienced teachers to enhance their learning. As one teacher commented,

> I really appreciate the fact that the program makes me feel genuinely appreciated for the contributions I make not only as a teacher in the classroom but as a professional. That's a wonderfully affirming aspect of the program and it shows at many different levels. I sense that people really do want to work with me and [they] solicit and appreciate my input. We don't have enough of those kinds of places to be stimulated, challenged, appreciated, and encouraged to grow.

Decrease Teacher Isolation while Increasing Support—Evaluation data suggest that the collaborative experience created what one teacher called a "culture of sharing and helping" among the cooperating teachers that is probably unique to the structure of the PDS program. Cooperating teachers spoke about the collaborative and supportive environment engendered by the program and how it has decreased the isolation found in many secondary schools:

> Basically, it's just been great for collegiality. It's really benefitted here. It's broken down the isolation that is so typical of this kind of setting, you know, in any high school setting.... There is the collegiality, willingness to learn from each other. We're not afraid of each other, we seek each other out, for counsel, for advice, for camaraderie.

> It provides the opportunity for growth. You find out what other people are doing in the classroom. For the first 15 years of teaching, I was pretty much—I knew what I was doing and what worked for me and I didn't know what other people were doing.

The supportive teaching environment generated a number of positive side effects. Teachers talked about a supportive environment generating trust and nurturing willingness to try new ideas in the classroom. Collaboration provided ideas, and collegiality and trust provided the courage to try new things:

> I experiment a lot more.... You just get more comfortable because you get to share your ideas and see them in practice. That's the neat thing about this, too, because you support one another in that regard. And unless you feel comfortable, you're not going to do it.

These outcomes proved to be greatest at sites where implementation of program

components, such as the daily seminar, went smoothly. One site, which had difficulty in adjusting the master schedule for all cooperating teachers, did not exhibit the same level of collegiality and sharing as the others. In contrast, the pilot site, which was in its sixth implementation year, showed the greatest level of support and camaraderie among the teachers, suggesting these outcomes increase over time.

Revitalization of Teaching—Interviews with experienced teachers indicate that the program had a positive impact on them as well as student teachers. Many cooperating teachers compared the PDS experience to their own student teaching experience, and virtually all claimed that the PDS model was better for student teachers because of the structure that was provided. That structure also led to benefits for them as experienced teachers. Working with student teachers and collaborating with colleagues prompted teachers to think carefully about their own teaching and discuss teaching strategies. Many described a "renewal" of their teaching:

> I've learned so much. My greatest awareness were things that I would want to include in my own style of teaching. Observing somebody else makes you really conscious of your own teaching strategy.
>
> Obviously it makes you more reflective on your own teaching when you're trying to help someone else as a new teacher. And it stimulates me to look for new ways of doing things, more creative approaches.

The energy gained from the PDS experience was strong enough to keep at least one teacher from resigning the teaching profession altogether. Moreover, the collegial, collaborative experience created a positive atmosphere and work environment; this, in turn, increased teachers' willingness to take risks they would not normally take. In addition, the program offered professional development opportunities for experienced teachers beyond working with student teachers.

Encourage Research Related to Educational Practice

Although this component was not a direct focus of the evaluation, interviews provided limited information regarding teacher research. There are three main outcomes from teachers' involvement in a research group. First, the activity enhances the teachers' personal professional development. Second, it promotes instructional changes as teachers analyze and study their own classrooms. Third, and perhaps most important, it signals that inquiry and research are not limited to university professors. As one teacher pointed out:

> There was probably a time in my career where I thought research was divorced from reality.... [My experience] shows that research isn't always something that someone in a university does for a year and publishes it and people read it. That is not my classroom type of thing. I see some broader implications for it.

Program Trade-Offs

The professional development school model provides important benefits for both student teachers and experienced teachers. The evaluation concluded that the PDS student teachers had a more supportive and authentic student teaching experience than those graduating from more traditional teacher training programs, so much so that they entered the teaching profession as if they were second-year teachers. In addition, the program provided opportunities for experienced teachers to participate with colleagues in professional development activities that improve their teaching.

Since traditional teacher preparation programs have not typically included the professional development of experienced teachers as a set goal, there is little question that the PDS model is superior in providing opportunities for practicing teachers at partner schools. A more compelling question may be how PDS programs compare with or contribute to typical school and district inservice training for practicing teachers.

With respect to preparing prospective teachers, the question of program effectiveness requires looking at the trade-offs. For PDS programs that prepare secondary teachers, the three main areas of trade-offs are the number of schools included in the student teaching component, the pool of cooperating teachers, and the role of the supervisor.

Number of Schools

In most PDS programs, the student teachers spend an entire year at one school site, following a staged entry plan that gradually increases responsibilities. This feature leads to a number of benefits for student teachers: they observe and experience the various stages of a school year, they become a part of the school faculty and culture, they have improved relationships with students, they design lessons based on knowledge of curriculum and students, they participate in staff inservice activities, and they collaborate more with fellow students and practicing teachers. In sum, spending the full school year at one site enables student teachers to be better prepared for the realities of teachings since they more closely experience the full scope of responsibilities that teachers encounter in their profession.

The trade-off to this approach is that the student teaching experience is limited to one site. In many traditional programs for secondary teachers, student teachers complete their student teaching at two different school sites, enabling them to experience varying school cultures and to teach at both the middle school and high school levels. The questions then become: Which experiences are more important in preparing preservice teachers for secondary teaching? Is it preferable to allow student teachers to experience multiple contexts, different faculties, and both middle and high school students? Or do student teachers gain a more realistic

preparation by experiencing a full year at one site?

Some PDS programs at the secondary level have found ways to incorporate both approaches. For example, one strategy is to have student teachers complete their primary assignment at a high school over the entire year but also participate in a condensed student teaching experience at a middle school. However, depending on the requirements of the teacher preparation program, this may create an unreasonable load for student teachers. Another method is to select PDS sites in close proximity so student teachers can have a split assignment between a high school and its feeder middle school for the full school year. Though feasible at some sites, this approach often involves scheduling conflicts and sometimes causes student teachers to feel disconnected—as though they aren't really a part of either faculty.

Our evaluation results suggest that placing student teachers at a PDS for an entire school year is a critical feature in providing an authentic teaching experience. That authenticity is essential to prepare them for the rigors of full-time teaching—or perhaps to determine definitively that a candidate is ill-suited for the teaching profession. A similarly important aspect is preparing student teachers for the level of students whom they plan to teach. Yet providing authentic student teaching experiences at both the middle and high school levels in a single year may be unfeasible. Rather than trying to incorporate both middle and high school experiences for all secondary candidates, programs may increasingly opt to create separate middle level teacher preparation programs or to require candidates to select one level of emphasis.

Role of Supervisor

The changing nature of PDS programs may require reexamining the role of the supervisor. In our program, student teachers, representing a range of disciplines, are placed in cohorts of six to twelve at each professional development school, and a university supervisor is assigned to each site. In keeping with the PDS approach, the supervisor is a liaison between the university and the school and works closely with administrators, teachers, and student teachers over the entire school year. The assignment of a permanent room at the school facilitates the ability of the supervisor to hold on-site seminars and to work primarily at the school site. With this arrangement, the supervisor is more readily available to both student teachers and cooperating teachers. The increased contact also builds understanding of the school culture and enhances the supervisor's ability to counsel student teachers about specific situations.

According to the evaluation, having a cohort of student teachers at one site was a key feature of the program. It provided a natural support system, established norms of collaboration and cooperation, and encouraged reflection about teaching experiences. Moreover, it compelled student teachers to join in interdisciplinary discussions and to consider a broader range of pedagogical strategies. The diverse

cohort also accommodated interdisciplinary teaching, typically with teams composed of one cooperating teacher and two student teachers. The supervisor—drawing upon firsthand knowledge of personalities, styles, and strengths of student teachers as well as cooperating teachers—was able to form viable teams.

The trade-off to having interdisciplinary cohorts with an on-site supervisor is that the supervisor no longer holds the role of subject matter expert for all student teachers in the cohort. In traditional preparation programs for secondary teachers, the university supervisor is typically assigned to student teachers in a single subject area but at many different schools. In seminars with student teachers and observations in classrooms, supervisors focus extensively on subject matter and pedagogical strategies for teaching a particular discipline. In essence, the supervisor is a leading subject matter resource for student teachers.

As supervisors' responsibilities change, the key for PDS programs at the secondary level is to insure sufficient and multiple ways of providing subject specific instruction and expertise. In our case, student teachers enter the fifth-year program having completed a bachelors' degree, which theoretically should represent a level of subject-matter mastery. In the credential year, the focus shifts from content knowledge to pedagogical content knowledge—from *knowing* a subject to *teaching* it. Our PDS program offers five additional sources of subject-specific support beyond the assigned supervisor. First, the subject-specific methods courses are taught by teams of individuals from the School of Education, the academic departments, and practicing teachers. Second, student teachers and cooperating teachers participate in weekly content-area seminars at the PDS during the second semester. These sessions focus on topics such as curriculum frameworks and guides, problems associated with teaching a specific topic, or subject-specific instructional strategies. Third, student teachers are invited to attend departmental meetings and inservice activities at the school. Fourth, in contrast to a one-on-one assignment, students teachers work directly with a number of experienced teachers and have access to all teachers in the department. Fifth, the program sponsors a series of subject-specific mini-conferences developed by committees of teachers from across the PDS sites.

In our case, as student teachers viewed the role of the supervisor more broadly and became comfortable using other subject-specific resources, concerns about supervisors' specializations diminished. By the second and third year of the evaluation, student teachers no longer identified supervisors' specializations as an issue.

Pool of Cooperating Teachers

As described above, the PDS approach offers important benefits for student teachers by placing them in cohorts at one site for the entire school year. An additional benefit is the opportunity to develop one's own teaching style. Student teachers work directly with numerous experienced teachers and, rather than feeling

compelled to model after one person, they observe and experiment with a variety of teaching and classroom management styles. The underlying rationale is that each person needs to determine what works most effectively for her/him. The cohort approach also breaks down the pattern of teachers working independently in isolation.

The trade-off to working with selected sites is that it limits the pool of cooperating teachers. In traditional preparation programs for secondary teachers, the potential pool of cooperating teachers may extend over a large geographic region. The strategy is to locate teachers who are considered to be the most exemplary in their specific discipline and assign one student teacher to each expert teacher for a portion of the school year. Student teachers work closely with their assigned teachers in an apprenticeship-type model.

PDS programs are taking various approaches to addressing this trade-off. The most typical approach is to select PDS sites carefully, looking for schools with a significant number of exemplary teachers, and to work closely with partner sites in the professional development of the cooperating teachers. This type of professional development extends beyond classroom teaching to include strategies for working effectively with student teachers. In addition to the careful selection of sites, many programs require teachers to apply for cooperating teacher positions. Applications may involve written information, interviews, administrator recommendations, or classroom visits.

A second approach for programs at the secondary level is to select exemplary departments rather than entire schools as partner sites. This method emphasizes the subject-specific expertise of cooperating teachers, maintains the cohort approach, and permits involvement by more schools. However, it undermines the advantages of interdisciplinary cohorts and schoolwide participation.

A third strategy, which combines the previous two approaches, is to expand the pool of PDS sites and select schools with varied areas of expertise. Depending on the configuration of student teachers in a given year, programs place cohorts at only some of the PDS sites or adjust the size of the cohort at each site. In either case, all PDS sites continue to be involved in other partnership activities—such as professional development activities for experienced teachers and educational research.

Both PDS programs and traditional programs must be concerned with the caliber of cooperating teachers. The size of the pool of cooperating teachers ultimately may be less important than the extent to which teacher education programs prepare teachers to work with student teachers and provide ongoing assistance and support. The skills needed to assist a novice teacher are not necessarily those that make an effective classroom teacher.

Conclusion

In comparing PDS programs and traditional teacher preparation programs, it inevitably comes down to a question of individual program quality. The PDS

concept holds promising potential in developing and supporting professional teaching practice for both novice and veteran teachers. Yet the way in which the PDS model is implemented determines the extent of the benefits. The realities and organizational complexities of establishing school-university partnerships often hinder progress toward identified goals (Sandholtz, 1997). Few partnerships have all the features that ideally characterize a professional development school, but some partnerships using the PDS designation are no more than clustered sites for student teacher placements with few, if any, collaborative or shared governance features (Teitel, 1997).

Researchers and teacher educators are often at a loss in determining exactly when a school is considered a professional development school; is it when the university and school district label it a PDS, or when certain criteria are met, or when there is evidence of outcomes (Book, 1996)? As professional development schools continue to evolve, there will be increasing attention to identifying the critical program features that not only define a PDS but also lead to documented improvements in learning and professional growth for both preservice and inservice teachers.

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