

Investigating a Professional Development School Model of Teacher Education in Canada

Explorer un modèle de développement professionnel de formation des enseignants en milieu scolaire au Canada

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[See table of contents](#)

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Article abstract

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INVESTIGATING A PROFESSIONAL DEVELOPMENT SCHOOL MODEL OF TEACHER EDUCATION IN CANADA

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ABSTRACT. We examined the effectiveness of a professional development school model of teacher education in Canada. Teacher education candidates responded positively to program features related to sustained participation and collaboration in school communities throughout the year. Their efficacy beliefs about developing professional knowledge were most strongly related to the school component of the program. This highlights the importance of careful selection and preparation of associate teachers where teacher candidates are placed in only one school.

EXPLORER UN MODÈLE DE DÉVELOPPEMENT PROFESSIONNEL DE FORMATION DES ENSEIGNANTS EN MILIEU SCOLAIRE AU CANADA

RÉSUMÉ. Nous avons fait l'examen de l'efficacité d'un modèle de développement professionnel de formation des enseignants en milieu scolaire au Canada. Les candidats enseignants ont réagi positivement aux dimensions du programme relatives à une participation soutenue et à la collaboration au sein des communautés scolaires tout au long de l'année. Leurs convictions relativement au développement efficace d'un savoir professionnel étaient fortement liées à la dimension scolaire du programme. Cette conclusion souligne l'importance de sélectionner et de préparer avec soin les maîtres associés lorsque les candidats à l'enseignement sont assignés à un seul établissement.

INTRODUCTION

The professional development school (PDS) model of teacher education has been well-known and implemented in many parts of the US for several decades, but not in Canada. The model is intended to facilitate the creation of communities of practice and to enhance the coherence between university coursework and field experiences for teacher education candidates (TECs) (Darling-Hammond & Bransford, 2005). One key aspect of the model is that of placing TECs in one school for all field-based experiences, so that they can participate fully in the culture and practices of that school community. The sustained immersion in their school community enables TECs to collaborate with teachers and other staff members in addressing both long- and short-term classroom and school objectives; this in turn may help them develop their professional identity and their confidence in terms of overall readiness to teach.

The PDS model was developed in the late 1980s by a group of “research” deans in the US, identified as the *Holmes Group* (Holmes Group, 1986, 1990). The model was proposed initially as a panacea for problematic education systems in the US. Many factors contributed to the development of this model, including: (1) competing tensions between university-based knowledge and school-based knowledge in teacher education, (2) inadequate links between theory and practice, (3) concerns over the need for on-going professional development of in-service teachers, (4) underdeveloped partnerships between schools and universities, and, most importantly, (5) failing student achievement (Darling-Hammond, 2005; Harris & van Tassell, 2005).

Key goals of the PDS model, as initially conceived, were: (a) increased student learning; (b) preparation of future teachers; (c) on-going professional development of in-service teachers in collaborative communities of practice (i.e., teacher education candidates (TECs), university faculty, school faculty); (d) reflective inquiry or research-based learning that potentially contributes to school-wide improvement; and, (e) sustained involvement in one school setting for all field-based experiences (Holmes Group, 1986, 1990; Leonard, Lovelace-Taylor, Sanford-Deshields, & Spearmanand, 2004). These key goals continue to be evident today in the many interpretations of the PDS model that exist.

The research reported here is part of a larger investigation of the effectiveness of a Canadian teacher education program based on a PDS model, implemented at Wilfrid Laurier University (WLU). This program is the first in Canada to follow a professional development school model. Its initial intake of approximately 70 teacher education candidates took place in September, 2007. In this paper we present findings from Year One of a two-year study, reflecting various data gathered from the TECs in the first cohort of the program.

One focus of the paper is an examination of the effects of sustained participation and collaboration within a school community on TECs’ development of professional knowledge and overall readiness to teach. Prior research in the US comparing PDS and non-PDS models of teacher education has produced mixed findings with respect to the teacher candidates’ efficacy beliefs concerning their professional knowledge. Therefore, the second focus is the development of TECs’ efficacy beliefs across six areas of professional knowledge, which is intended to be promoted through strong conceptual and theory-practice connections. Examination of both of these aspects of the PDS model within WLU’s teacher education program may help to better define the factors that will predict success for our new teachers.

LITERATURE REVIEW

It is estimated that in the US alone, there are more than 1000 PDS sites, working in close collaboration with university faculty and staff (Darling-Hammond, 2005). In contrast, a review of Faculty of Education web sites in Canada sug-

gests that the WLU PDS model may be the only one currently in existence. There may be many reasons why Canadian institutions have not implemented PDS programs while US ones have, including differing supply and demand for new teachers; the US using PDS schools to provide qualified teaching services to underserved areas; variations in education governance; and the excessive funding necessary to sustain PDS programs (Lachance, Benton, & Shiner Klein, 2007), and so forth.

Given the more than 20-year history, it is not surprising that there has been a plethora of research, from multiple perspectives, on the PDS model. The research can predominantly be grouped according to the following threads: (1) implications for TECs, (2) implications for school personnel, (3) implications for university-school partnerships, (4) implications for university personnel, and (5) implications for student learning. Remarkably, relatively less is known about implications for student learning in comparison to the other aspects. All threads relate back to the primary reform-based goals of the model, outlined earlier. The purpose of our research was to investigate the links between our PDS program goals and teacher preparation. Consequently, our focus centres on the first thread – implications for TECs.

Results from research examining the extent to which a PDS approach provides improved models of teacher education are mixed. Studies have shown that TECs in PDS settings perceive themselves to be better prepared than those in “traditional” teacher education programs (i.e., rotating practica versus sustained involvement in one community, part-time programs, etc.) (Harris & van Tassel, 2005). Castle, Fox, and O’Hanlan Souder (2006) compared PDS and non-PDS TECs using student teaching evaluations and portfolios as data sources. PDS TECs were rated higher on aspects of instruction, management, and assessment. PDS TECs also were rated higher on accountability with respect to their own learning and the community of learning at their sites. Furthermore, results showed significantly higher levels of reflectivity among PDS TECs versus their counterparts from a traditional teacher education model. In contrast, Reynolds and Wang (2005) reported mixed findings in their comparison of 61 PDS TECs and 52 non-PDS TECs. Survey results suggested that while PDS TECs scored higher on efficacy with respect to planning and preparing for instruction, implementing instruction, and creating a positive classroom learning environment, non-PDS TECs scored higher on beliefs about evaluating student learning and instructional effectiveness, and professional responsibilities.

The mixed-results are supported by research from Ridley, Hurwitz, Davis Hackett, and Knutson Miller (2005), who found no statistically significant difference on knowledge of teaching and learning between candidates from PDS and traditional models. In their research, they evaluated teaching and

learning knowledge using: (1) “a 38-item multiple-choice examination designed to assess knowledge and understanding of child development, learning, motivation, instructional theory, and other components of professional teaching” (p. 50); (2) written lesson plans; (3) videotaped teaching; and, (4) post-lesson reflections.

In terms of teaching efficacy and knowledge, these mixed results may reflect the existence of multiple versions of PDS models. The nature of the involvement of PDS faculty, as well as university faculty, varies across models. In some PDS models, associate teachers function as “clinical personnel” supervising professional development in the school setting, while others participate in the teaching of some of the content-based courses such as mathematics, science, and so forth. For example, Gajda and Cravedi (2006) describe a PDS model where teachers from the PDS site were hired to teach methods courses to the TECs. TECs have expressed appreciation for learning from “real” teachers, but at the same time have raised concerns about the pedagogical content knowledge of PDS-based faculty (Gajda & Cravedi, 2006; Leonard et al., 2004; Scharmann, 2007). Concerns over pedagogical content knowledge of school-based personnel are not limited to one model of teacher education (Shulman, 1986, 1987). However, the sustained involvement in one setting, through the PDS model, where pedagogical content knowledge might be tenuous, may be contrary to the objectives of the model as outlined initially by the Holmes Group (1986, 1990).

Differences between preparation programs may be more evident during early years of classroom practice. Ridley et al. (2005) reported that first year PDS teachers outperformed non-PDS teachers in the areas of teaching preparation and effectiveness, reflectivity, and content retention in rubric-based assessments of their practice. Castle et al. (2006) make the point that increases in teaching efficacy in early years of teaching can potentially affect students’ learning *sooner* than those from traditional teacher education programs. This increased efficacy in teaching is supported by evidence from school administrators who perceive candidates from PDS settings to have stronger pedagogical content knowledge and consequently readiness to teach (Watson, Miller, Johnston, & Rutledge, 2006). It should be noted that there are no known longitudinal studies (e.g., over more than three to five years) of PDS graduates’ experiences in comparison to non-PDS graduates’ experiences – a startling reality given the significant resources invested in such models.

It is important to note some important limitations in assessing PDS models in relation to TEC outcomes. First, in the absence of any systematic and empirical study of learner outcomes, such results must be viewed with caution. Second, all of the studies available are based upon a US context and models of teacher education that may be comparable in this setting may not be comparable in the Canadian context. For example, many of the studies contrasted

PDS and non-PDS candidates (e.g., Castle et al., 2006; Reynolds & Wang, 2005), where the non-PDS candidates were participating in part-time teacher education programs. We question such a comparison. However, we question comparison across programs in general. Given the diversity of approaches to teacher education, comparing models with one another may not yield the most useful information. Perhaps a more fruitful locus of inquiry rests in the analysis of teacher candidate outcomes against individual program goals. This is the approach we have undertaken.

METHOD

Participants

The participants in this study were the TECs accepted into the initial year of the teacher education program. During the first year of the study, 71 TECs were invited to participate during Professional Learning Seminar classes (PLS) at the beginning of the program. The PLS is a year-long compulsory, weekly seminar course that takes place in the Professional Development Schools (PDSs). Each week the seminar is hosted by a different PDS where a cohort of three to five TECs is assigned for their field experiences. In this seminar, TECs discuss specific practices in relation to theory and coursework.

All 71 of the TECs who were invited agreed to participate; however, two of them withdrew from the program during the academic year. Results are therefore reported for the remaining 69 participants. In this group there are 8 males and 61 females. The age of participants ranged from 21 to 46, with a mean age of 28.1, $SD = 6.27$.

Data collection and analysis

The data collected for Year One consists of survey responses collected at the end of the academic year; written responses to weekly reflective questions throughout the year; and responses from focus groups held during a three-day Professional Learning Camp following the final practicum. The survey responses comprise the main data source for this paper. Responses to reflective questions and focus groups are used to provide examples to support the survey results, thus enabling a triangulation of data.

Laurier teacher education program evaluation survey. The 33-item survey administered at the end of the teacher education program was structured similarly to the current course evaluations completed at WLU, using a 5-point Likert scale. The survey was composed of six sections: *demographics* (e.g., age and gender); *experiences in the program* (e.g., degree of collaboration); *perceived level of efficacy* (e.g., overall readiness to teach) (adapted from an instrument used by Reynolds & Wang, 2005); *program evaluation* (e.g., the overall quality of the program); *learning strategies for technology* (e.g., using “Help” features); and, *use*

of technology for teaching and learning (e.g., for planning and designing lessons). Data from 13 items related to collaboration, teaching efficacy, and program quality are reported here; the remaining items will be analyzed at a later time. The elimination of these items from the overall analysis permits a more focused examination of the two factors outlined in the introduction.

Near the end of the final practicum, the survey was posted on a secure web-based communication system with instructions for TECs to complete their responses electronically if they wished to participate in this part of the study. The web-based communication system had been used by TECs throughout the year for communication and course work purposes, with the intention of promoting community and collaboration among TECs, faculty, and PDS school staff. The survey took approximately 10 minutes to complete.

Reflective questions. As part of the PLS course, TECs were asked to answer a weekly reflective question directly related to their experiences and specifically the PDS model. Examples of the questions are: “*What are your early perspectives of the Professional Development School model?*” and “*Community-centered teachers use practices and strategies to promote collaborative, safe and supportive learning communities. In what ways have you seen this enacted in your PDS?*” Responses were not regulated in terms of length, were viewable only by the individual TEC and the researchers, and were only evaluated on a “complete/incomplete” basis. Although all TECs were required to answer the reflective questions as part of their coursework, specific informed consent permitted the researchers to use their answers as part of this study.

Focus groups. As part of the Professional Learning Camp that took place during three days following the final practicum, TECs participated in 60-minute focus group sessions to provide feedback on various aspects of the program. TECs were randomly assigned to one of four focus groups and voluntary verbal consent was confirmed. Focus group sessions were videotaped. Data from only two of the sessions were analyzed for this paper – the session regarding community in the PDS model and the impact of sustained participation, and the session investigating the connections made between theory and practice. The video data from one of these was not usable due to audio problems. Field notes were used as the data for this session and the video of the other session was transcribed for analysis.

Data analyses. The Laurier Teacher Education Program Evaluation Survey responses were analyzed using statistical analysis software. Initial descriptive analyses were conducted to produce frequencies, means, and standard deviations. Differences between means were tested using t-tests, and Pearson’s correlations were computed to estimate predictive relationships. Excerpts from responses to weekly written reflective questions and from end-of-year focus group transcripts were used to support these findings. The three forms of data were triangulated to focus on the program goals articulated earlier: 1) The effects of sustained

participation and collaboration within a PDS community on TECs' perceived development of professional knowledge and their readiness to teach, and 2) the extent to which conceptual and theory-practice connections enhanced their efficacy beliefs related to professional knowledge.

RESULTS AND DISCUSSION

Descriptive data from survey results

A response rate of 63.8% resulted in an n of 44 for the Laurier Teacher Education Program Evaluation Survey. Of the 44 TECs who responded to the survey, 5 were male, 37 were female, and 2 did not indicate gender. Nearly 60% of the sample were over 26 years old (40.9% were between 26 and 35 and 18.2% were over 36). Nearly 55% of the sample had had another career before entering the program and 38.6% had had previous paid experience in schools. In the following sections we report TECs' ratings, using a five-point Likert scale (1 = low, 5 = high), on various aspects of the program, including degree of collaboration, their perceived readiness to teach and levels of professional knowledge, and program quality.

Experiences in the program. TECs indicated the degree of collaboration they experienced between themselves and their school communities while in the program. The overall mean was 4.18 (see Table 1), although ratings ranged from the minimum of 1 to the maximum of 5. The degree of collaboration between TECs, their school community, and their faculty advisor was rated significantly lower, $t(43) = 4.31, p < .001$, with a mean of only 3.34 within the same range (see Table 1).

Perceived levels of professional knowledge. TECs evaluated their perceived level of overall readiness to teach, as well as their professional knowledge in six specific areas. As shown in Table 1, the mean rating on their readiness to teach was 3.95, with scores ranging from 2 to 5. Unlike earlier research by Reynolds and Wang (2005) that reported mixed results in terms of the six specific areas of professional knowledge, our survey results indicated that TECs felt relatively knowledgeable. Means ranged from 3.56 for "evaluating student learning and instructional effectiveness" to 4.32 for "creating a positive classroom learning environment" (See Table 1 for additional means).

Comments made by TECs in response to focus group and written reflective questions also indicated that many felt prepared to take on their own classrooms at the end of the program. For instance, one reflective question response reads,

As we near the end of the program, I feel as though I am prepared to take on a classroom and successfully cover the curriculum. I have an idea of how to differentiate work for a variety of students. I also have an understanding of how the education system works in Ontario.

In a focus group discussion about their confidence in the area of differentiating instruction, one TEC commented,

I would say that probably everyone's better at it than you realize, because one of my associate teachers was asked to give a workshop for us on differentiated instruction, and she said to me, like, "I don't know why they asked me" you know, she's been teaching for three years, and she's like "I can't figure it out" and I was like, "because it's what you do every minute of every day."

In terms of their readiness in the area of assessment, one TEC noted that,

When I was in school it was like, here's the test, do it. But then now I've learned that you can do, like, 3 different examples of the test, you can have someone scribing, and you know, ... when you first said it I thought, "Oh my god, I don't feel prepared at all," but then as I'm thinking about it, I'm thinking, ok.

Program quality. The quality of the program was evaluated overall and for each component (school and university). The mean for overall quality of the program was 3.86, with ratings ranging from 2 to 5. More specifically, TECs evaluated the quality of the school component ($M = 4.11$, $SD = .92$) as higher than the university component ($M = 3.18$, $SD = .97$), $t(43) = 6.06$, $p < .001$. The quality of school component ratings ranged from 2 to 5, while quality of university component ratings ranged from 1 to 5. The quality of the program in terms of connectedness between the in-school and university components was rated below 3 ($M = 2.89$, $SD = 1.17$). It appears that participants did not consider these connections as a high quality aspect of the program. Given that the theory-practice connection is an important goal of the PDS program model, this lower mean rating is noteworthy.

There were many positive comments related to theory-practice connections made by TECs in reflective question and focus group responses, while concerns were raised, both in our qualitative data and anecdotally throughout the year, about inadequate communication between the university and PDS sites. One excerpt from a focus group discussion illustrates one of these communication issues: "Teachers resented the number of assignments that required us to work with students and not knowing about them in advance." It is possible that TECs saw connections between the university and in-school components of the program more in terms of communication and coordination of field experiences, rather than as connections between theory and practice.

Impacts of program components on developing professional knowledge

Correlations related to both of the research questions that are the focus of this paper are found in Table 2. In the following sections we describe the findings related to each question, including significant correlations among survey responses and relevant excerpts from reflective question and focus group responses.

TABLE 1. Means and standard deviations on the Laurier Teacher Education Program Evaluation Survey.

Item Description	n	Range		Mean	SD
		From	To		
Degree of collaboration (TEC and school community)	44	1.00	5.00	4.18	.92
Degree of collaboration (TEC, school community, and faculty advisor)	44	1.00	5.00	3.34	1.10
Impact of inquiry on development as a teacher	44	1.00	5.00	2.98	1.09
Impact of inquiry on school community	44	1.00	5.00	2.50	1.19
Level of professional knowledge in:					
planning and preparing for instruction	44	2.00	5.00	4.05	.78
creating a positive classroom learning environment	44	3.00	5.00	4.32	.67
implementing instruction	44	3.00	5.00	4.09	.56
adjusting instruction based on individual needs and strengths	44	1.00	5.00	3.73	.82
evaluating student learning and instructional effectiveness	43	2.00	5.00	3.56	.83
professional responsibilities	44	1.00	5.00	4.02	.85
overall level of readiness to teach	44	2.00	5.00	3.95	.78
Quality of program					
overall quality of program	44	2.00	5.00	3.86	.95
school component of the program	44	2.00	5.00	4.11	.92
university component of the program	44	1.00	5.00	3.18	.97
Connectedness: School and university components	44	1.00	5.00	2.89	1.17

Sustained participation in school community

One question of interest in this paper concerns TECs' perceptions of how sustained participation and collaboration within a school community influenced the development of their professional knowledge and their overall readiness to teach. It should be noted here that the availability and selection of associate teachers in our professional development school sites was subject to similar limitations to those experienced by other teacher education programs. That is, even though our schools agreed to partner with the university and declared at least 80% agreement of their staff in these partnerships, associate teachers nonetheless volunteered to serve as sponsors to our TECs. There were some schools in which staff changes were made after the school year began and also schools where the number of associate teachers available were quite limited for various reasons. The limitations in terms of number and possibly expertise of the associate teachers who volunteered for this role may have influenced the perceived value of sustained participation in a school by the TECs who were assigned there.

There was a moderate but statistically significant correlation ($r = .37, p < .05$) between TECs' ratings of the degree of collaboration between themselves and their school community and their overall readiness to teach. A similarly moderate but statistically significant correlation ($r = .40, p < .01$) was shown

between TECs' ratings of the quality of the school component of the program and their perceived readiness to teach.

Positive relationships were also demonstrated between ratings on the degree of collaboration between TECs and their school community and levels of professional knowledge in planning and preparing for instruction ($r = .38, p < .05$), creating a positive classroom learning environment ($r = .39, p < .01$), implementing instruction ($r = .33, p < .05$), and adjusting instruction based on individual needs and strengths ($r = .47, p < .01$).

The literature often cites practicing teachers' claims that school experiences were the most important part of their professional education (e.g., Guyton & McIntyre, 1990); nonetheless, there is evidence in the literature that the benefits of practice teaching vary depending on such factors as clarity of goals, modeling of expertise and guidance provided by host teachers, timing in relation to coursework, and intermittent opportunities to reflect (Darling-Hammond and Bransford, 2005). That there are qualitative differences between more and less effective school experiences was supported in our survey results.

We found a strong positive correlation ($r = .74, p < .001$) between collaboration in the school setting and ratings on quality of the school component of the program, implying that collaboration with the school community was seen as an important aspect of TECs' practical experiences. Interestingly, the degree of collaboration that included the faculty advisor (TECs, school staff, and university faculty) was not related to quality ratings of the in-school component. Thus, it may be that, at least for our TECs, the collaboration within the school community that is possible with sustained participation over the year may be a key factor in their positive perceptions of the in-school component of the program.

The qualitative responses from reflective questions and focus groups also indicate that TECs overwhelmingly praised the in-school component of the program. Although there were some negative comments made concerning specific classroom placements, the emphasis on in-school experience within the program was highly regarded and, similar to findings cited above, many TECs identified this as the most important source of their learning to become a teacher.

One reflective question response that illustrates TECs' valuing of sustained participation was,

As the year progresses you see the relationships develop between staff and students, teachers and other programs, the school as a community including parents. You observe how the atmosphere changes around report card time or holidays or March Break. I have observed how the curriculum develops over time and how lesson plans turn into unit plans which turn into long range plans.

Another comment similarly praised this aspect of the program:

We are heavily involved in the school... It is a professional development school – there is great learning occurring here... The personal growth that I have experienced here is enormous. I never would have seen myself teach grade 6, play piano for the winter assembly or start and lead a junior level choir group. All of this was possible because the school enables us to create for ourselves the kind of experience we want to get out of this program.

Similar positive comments about sustained participation in the school community were echoed in the focus group responses. For example, when asked, “*In what ways do you feel this kind of experience contributed to your growth as a teacher?*” we heard such comments as:

- Had a chance to see how a whole year unfolds, from the set up of the classroom in August until almost the end of the year.
- Had some opportunity to see how students change across the year.
- Got a fuller picture of what teachers have to do in a school beyond classroom teaching.
- Had a chance to know the school and the classroom before having to go in for practicum – more useful than being “parachuted into” a school and then out again.

Some TECs, however, mentioned drawbacks to the year-long immersion in one school. These concerns were focused mainly on limitations with respect to experiencing other school cultures and networking, rather than on development of professional knowledge. One example from the reflective question responses is,

However, I do wish that I could have spent some time at another school as well. Every school is run differently at an administrative level and every school offers a different kind of school community as its student population is unique in itself. Also, by spending time at different schools it allows the TECs to form additional professional acquaintances and resources, and of course it increases your networking ability.

Again, focus group participants expressed similar concerns when asked about the limitations of sustained participation:

- Did not get to see schools with different demographics/issues.
- Because some schools had a very limited number of Associate Teachers, some TECs spent two practica in the same classroom or had to be split across two classrooms during the same practicum.
- Some were placed in a Catholic School for the whole year without understanding that this would could cause problems applying to a public board.
- TECs need an opportunity to do at least one placement (perhaps the final practicum) in a board in an area where they hope to teach (e.g., Toronto).
- The Field Days were often a waste of time after the first semester – some teachers questioned why TECs were still observing and not teaching during those days.

Theory practice connections

A second question of interest in this study involves the extent to which TECs' perceptions of conceptual and theory-practice connections within the program promoted their development of professional knowledge. In the survey data, this relationship is addressed in correlations between ratings on quality of the program with respect to school-university connectedness and ratings on overall readiness to teach and on level of professional knowledge across the six categories (see Table 2). Statistically significant, positive correlations were found between school/university connectedness and ratings on planning and preparing for instruction ($r = .37, p < .05$) and adjusting instruction based on individual needs and strengths ($r = .36, p < .05$), but not on the other areas of professional knowledge. Support also was not shown for a relationship between school-university connectedness and efficacy ratings in terms of overall readiness to teach.

We do not have direct ratings of the degree to which TECs perceived conceptual connectedness across courses in the university component of the program. However, we did find that there was no relationship shown between quality of the program's university component and efficacy ratings in any area of professional knowledge. These survey results add further support to those reported in the previous section. Specifically, these results demonstrate that the in-school component of the program, both in terms of its quality and the collaboration TECs experienced within their school communities, was a predictor of their efficacy beliefs in most areas of professional knowledge. In short, these TECs appear to feel that their most important learning experiences occurred in their field settings.

Although TECs' survey ratings of the connections between university and in-school components were not correlated with their ratings of program quality or to their feelings of readiness to teach, theory-practice connections were noted strongly in many of the reflective question responses. For example, one TEC commented,

I think learning to teach via a combination of learning theory and having a hands-on experience in a real school and classroom environment is extremely effective. It allows me to immediately implement the theory in the school I'm at so that I learn better through putting knowledge into action. The real school setting also helps me to better conceptualize the theory by imagining it in terms of how it would play out with the students I'm working with.

Similarly, when TECs were asked about theory-practice connections in a focus group session, we heard such comments as,

I found myself making connections, coming to school (university) on Monday and then going to the school on Tuesday and being like, "Oh wow, that's what they meant by that!"

TABLE 2. Correlations among survey variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Confidence in teaching	-												
2. Confidence in self as a teacher	.18	-											
3. Knowledge of teaching	.37*	.51**	-										
4. Efficacy of teaching	.38*	.53**	.78***	-									
5. Efficacy of self as a teacher	.39**	.58**	.72***	.71***	-								
6. Efficacy of teaching in the future	.37*	.62**	.80***	.81***	.80***	-							
7. Efficacy of teaching in the future	.47**	.54*	.77***	.82***	.74***	.41**	-						
8. Efficacy of teaching in the future	.51	.53	.83***	.74**	.77*	.50**	.57***	-					
9. Efficacy of teaching in the future	.59	.67	.87***	.80***	.80***	.53***	.57***	.80***	-				
10. Confidence in teaching	.59***	.68**	.74*	.70	.78	.63	.53	.63	.69	-			
11. Confidence in self as a teacher	.74***	.78	.86**	.86*	.88	.80	.61**	.54	.51	.73***	-		
12. Confidence in teaching	.89	.83***	.93	.93	.90	.81	.54	.63	.58	.88***	.83**	-	
13. Confidence in self as a teacher	.96	.98**	.98	.96*	.94	.89	.54	.65	.55	.95**	.96**	.98**	-

* p < .05 ** p < .01 *** p < .001

Another focus group participant noted,

On the flip side, it almost allows us to make practice-theory connections, because sometimes you might observe something in the classroom first and then you know,

a week later you come across that in a (university) class setting and go, "Ok, now that makes sense."

It is clear from the qualitative data that many TECs are seeing and valuing the connections between theory and practice that the program is designed to promote. Moreover, as stated earlier, some TECs may be considering university-school connections in terms of communication and coordination of their placements rather than conceptual or theory-practice links.

CONCLUSIONS

The PDS model is unique in terms of the experiences it provides TECs, especially because of the emphasis on extended immersion in their school communities and strong efforts to enhance the development of professional knowledge through connecting theory and practice in meaningful ways. In this study we have found limited support for these program features as they were perceived by the TECs in the teacher education program at WLU. The data indicate that the school component is viewed as the most important way in which our TECs have developed their readiness to teach and their specific areas of professional knowledge, which has been consistently reported in other research. That they rated their development in these areas as quite high is an important program outcome in itself given the emphasis of the PDS model on sustained participation. The strength of their field experiences in predicting their sense of teaching readiness is supported in teacher education literature generally, regardless of program model; however, their strong positive ratings and comments on the PDS-based collaborations they were able to engage in are supportive of the sustained participation aspect of the PDS model.

This outcome of the study points to the important role played by associate teachers in teacher preparation, and suggests that we may need to focus additional efforts on their support. Both careful selection and training of associate teachers are noted in the literature as important to the learning experiences of teacher candidates (Darling-Hammond & Bransford, 2005); these factors may be even more critical in PDS models, where their involvement in mentoring TECs may be longer and more intense. Indeed, in some cases our TECs were placed in the same classroom for more than one practicum block, partly due to limitations in availability of associate teachers. School placements also more generally affect the quality of learning experiences for TECs and variations in them may be exaggerated within PDS models. For instance, one reflective question response noted that,

My PDS school was less welcoming and supportive than I would have hoped. I think some PDS schools fostered growth better than others by truly treating TECs as part of their community.

The limitations we found in TECs' ratings of university-school connectedness as a predictor of readiness to teach or professional knowledge may be more

indicative of the way in which they interpreted the notion of connectedness (i.e., in terms of communication) than a true reflection of how well they saw theory-practice links as helping them learn to teach. Although the qualitative data tends to suggest that this may be the case, further data collection and analysis is needed to confirm or dismiss the idea.

It may also be the case that connections between theory and practice within the program may need to be made more explicit, in courses and by faculty. Connectedness between theory and practice has been an enduring challenge in teacher education. The PDS model, although intended to tackle this challenge, fell short according to survey results.

It should also be noted here that these data present a one-sided and limited picture of the processes and outcomes of this program at best. The fact that many TECs do not perceive learning value from one or another component of the program either during or immediately following its completion does not mean for certain that they did not, in fact, develop important skills and knowledge from those components. It is possible that such relationships might be seen by others (such as associate teachers or principals) and not by the TECs themselves, or that they may recognize them later on, once they have put their “readiness” into practice for a period of time. Further light may be shed on these questions through data collection from other stakeholders (Watson, Miller, Johnston, & Rutledge, 2006), and in follow-up surveys of this cohort of TECs.

As outlined in our literature review, there are many different versions of the PDS model. It is likely that the WLU model will maintain some features and change others as we respond to evidence gathered through this two-year study. Thus far, our results confirm the importance of sustained participation in schools as an important aspect of the PDS model. From the equivocal results found in our survey responses and the variation in perceptions about specific PDS school experiences reported by our TECs in the qualitative data, we learned that communication and training for associate teachers is an aspect of the program we would like to enhance. In the second, and now third year of our program, we have added more accessible and targeted communication and training sessions for our associate teachers. Also, by providing more detailed information to our schools about school-based assignments our TECs must complete (such as inquiry projects and observation reports), the connections between theory and practice that we want TECs to make have become more explicit and clear. Our next steps in this research will be to include the perspectives of associate teachers and school principals in the analysis. We anticipate that implementations of the PDS model in Canada, such as the WLU program, will continue to evolve in light of relevant fiscal and socio-cultural factors, in addition to research evidence supporting various program features.

REFERENCES

- Castle, S., Fox, R. K., & O'Hanlan Souder, K. (2006). Do professional development schools (PDSs) make a difference? A comparative study of PDS and non-PDS teacher candidates. *Journal of Teacher Education*, 57(1), 65-80.
- Darling-Hammond, L. (Ed.). (2005). *Professional development schools: Schools for developing a profession*. New York: Teachers College Press.
- Gajda, R., & Cravedi, L. (2006). Assimilating "real" teachers in teacher education: Benefits and limitations of a professional development school course delivery model. *Action Teach Education*, 28(3), 42-52.
- Guyton, E., & McIntyre, D. J. (1990). Student teaching and school experiences. In W. R. Houston (Ed.), *Handbook of research on teacher education* (pp. 514-535). New York: MacMillan.
- Harris, M. M., & van Tassel, F. (2005). The professional development school as learning organization. *European Journal of Teacher Education*, 28(2), 179-194.
- Holmes Group. (1986). *Tomorrow's teachers: A report of the Holmes Group*. East Lansing, MI: Author.
- Holmes Group. (1990). *Tomorrow's schools*. East Lansing, MI: Author.
- Lachance, A. M., Benton, C. J., & Shiner Klein, B. (2007). The school-based activities model: A promising alternative to professional development schools. *Teacher Education Quarterly*, Summer, 95-111.
- Leonard, J., Lovelace-Taylor, K., Sanford-Deshields, J., & Spearmanand, P. (2004). Professional development schools revisited: Reform, authentic partnerships, and new visions. *Urban Education*, 39(5), 561-583.
- Reynolds, A., & Wang, L. (2005). Teacher retention: What role does Professional development school preparation play? *The New Educator*, 01(03), 205-229.
- Ridley, D. S., Hurwitz, S., Davis Hackett, M. R., & Knutson Miller, K. (2005). Comparing PDS and campus-based preservice teacher preparation: Is PDS-based preparation really better? *Journal of Teacher Education*, 56(1), 46-56.
- Scharmann, L. C. (2007). A dynamic professional development school partnership in science education. *The Journal of Educational Reserach*, 100(4), 235-242.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher*, 15(2), 4-14.
- Shulman, L. S. (1987). Knowledge and teaching: Foundation of the new reform. *Harvard Educational Review*, 57(1), 1-22.
- Watson, S., Miller, T., Johnston, L., & Rutledge, V. (2006). Professional Development School graduate performance: Perceptions of school Principals. *The Teacher Educator*, 42(2), 77-86.

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