Best Practice for Teacher Professional Development
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Abstract

This study explores teacher professional development (PD) in three urban schools from the perspective of both teachers and administrators. Research explores the following questions: What models of teacher professional development do participants find most effective?, How does professional development manifest itself into teacher practices?, and How can administrators get the most out of teachers to improve student learning? This study also highlights the differences in perception between administrator and teacher views of PD and how PD can be improved. Participants completed questionnaires with open-ended and Likert-scale responses. Data was then examined for trends at each school, as well as a cross-case analysis. Findings showed that teachers predominantly attended PD about "Techniques for Teaching" and that PD is most effective when it is responsive to teacher and school needs. Findings could help schools to implement a professional development plan that is effective for the context, supportive of the school's mission, and creates an environment that encourages teacher growth.

Professional development (PD) is one of the most important aspects contributing to the advancement and improvement of a teacher's skills. Although PD is so crucial, it is often overlooked by professionals and not effectively developed with consideration of the specific needs of the teachers, students, and school it is targeting. This qualitative study was conducted to examine what types of professional development teachers find to be the most effective, how those professional development programs influence teacher practices, as well as how administrators and schools can make teachers' professional development more impactful for students.

To examine PD, teachers from three schools responded to a questionnaire. Administrators then responded to a similar questionnaire that was informed by teacher responses. The questionnaire asked many open-ended questions to elicit teacher views of PD they experienced and how those influenced their school environment. Findings suggest that a wide variety of PD options, in a variety of contexts, are necessary to meet teachers' needs. For administrators to get the most out of teachers to improve student learning, PD needs to adequately reflect the needs of the school as a whole and be meaningful to teachers.

Literature Review

To contextualize this study and its results, I situate this data in literature around best practices in teacher professional development, professional learning communities, and implications for practice and implementation in the classroom. Professional development can be described as activities and interactions that increase teacher knowledge, skills, competence, and effectiveness (Desimone, 2009; Hidden Curriculum, 2014). Authentic teacher professional development spans over time and is voluntary, inquiry-oriented, and

based on each teacher's unique needs (Flint, Zisook, & Fisher, 2011). Professional

development can be viewed as a trifold effort situated in the school context; the

professional development program, the teachers (as learners), and the facilitator all work

together to increase student achievement (Borko, 2004). Currently, millions, if not billions

of dollars are spent every year on in-service seminars and other forms of PD that have little

to no effect on student achievement (Borko, 2004). However, it should be noted that

spending more money on PD may allow for higher quality PD, more time, and more follow-

up, but in no way guarantees it (Mizell, 2010). As Heather Hill writes, "Most teachers

receive uninspired and often poor-quality professional development and related

opportunities," (2009). Not surprisingly, almost half of the teachers in the U.S. are

dissatisfied with their opportunities for PD (Darling-Hammond, Wei, Andree, Richardson, &

Orphanos, 2009).

Best Practice for Teacher Professional Development

A vast amount of research exists that examines best practices for professional

development. Previous research has illuminated common trends among best practices,

which include building collegial relationships with trust, communication norms, and a

shared belief system, while also allowing for a critical dialogue among members to analyze

teaching (Borko, 2004). PD should also include learning objectives, group discussions,

demonstrations, pre-work or homework, and follow-up support (Linder, Rembert,

Simpson, & Ramey, 2016). To be effective, PD needs to establish, identify, conceptualize,

and assess the 'what' of teacher learning, while also being content focused, coherent, and

supportive of active learning and collective participation (Desimone, 2009, 2011). Content

is the most important component of PD and makes the difference between improving and

cultivating teachers' skills and simply providing the context for teachers to speak

collaboratively with each other (Darling-Hammond & Richardson, 2009). PD should mimic

the learner development we expect from students and provide teachers with the same

learning experiences and opportunities.

Overall, PD needs to meet the individual needs of teachers, while also

acknowledging the context surrounding them (Borko, 2004). There are two main

categories of PD: extracted (external) and embedded (internal) (Hamilton, 2013).

Extracted professional development 'develops' teachers through outside experts that often

do not understand the school context. They may also not understand the teacher as a

learner and student needs. Embedded professional development comes from within the

school environment and allows teachers to learn from collaborations, observations of each

other, and insiders' expert knowledge. To bring improvement to PD within schools,

educators embedded in each school should meet to explore problems and seek solutions,

and then develop PD to address these problems (Guskey & Yoon, 2009). Professional

development should take into consideration the knowledge of the teacher, school

environment, students, problems, routines, aspirations, and the individual practices and

beliefs of the teacher (Opfer & Pedder, 2011).

Teachers should see PD as a custom to consistently evolve, grow, and develop their

teaching practices, rather than a 'make and take' approach (Linder et al, 2016). A 'make

and take' approach relies on showing teachers a skill, concept, or idea to implement in the

classroom, where they create and model, but may or may not directly apply it to their

context (Harwell, 2003). Instead of PD being viewed as a one-time practice, it should be an

ongoing collaboration process building and expanding on teachers' prior knowledge to

improve student achievement (Garet, Porter, & Desimone, 2001; Harwell, 2003). Most

importantly, PD should further emphasize that teachers need to actively instruct students,

collect data, analyze, brainstorm, implement, and revise based on collaboration.

Professional development should also emphasize that there is no "mastery," but consistent

learning that may change situationally.

   In alignment with this view, PD is about teachers' learning. Teachers learn how to

learn and reflect on their knowledge and then implement it to foster student growth

(Avalos, 2011). For effective reform to happen, PD must have sufficient duration that

acknowledges the span of time, as well as the duration of the activity (Desimone, 2009).

Teachers should have adequate time to develop, absorb, discuss, and practice new

knowledge that was obtained from PD, with structured follow-up development in place. In

addition, a significant amount of contact hours are often associated with an increase in the

effectiveness of PD (Opfer & Pedder, 2011).

   Professional development must address how teachers learn individually, and allow

for active learning opportunities that transform teaching, not layer new strategies onto the

old (Darling-Hammond & Richardson, 2009). It is also important to note that not all forms

of PD are appropriate for every teacher; the individual must be taken into consideration, as

well as the skill to be developed, before selecting a PD program (Hamilton, 2013). Hill

describes this as efficiency in teacher professional development, ensuring that teachers

have access to the PD they need (2009). PD must also be responsive and flexible to the

changing needs and desires of teachers, as well as the nuances of teaching (Darling-

Hammond & McLaughlin, 2011). Facilitators of PD should also provide multiple

frameworks and lenses for design within the larger model of PD to differentiate for

teachers to meet their needs, just as we expect for student learning (Desimone, 2009).

Smylie's research on PD shows that teachers need to be viewed as evolving learners and

speculates that "We will fail…to improve schooling for children until we acknowledge the

importance of schools not only as places for teachers to work but also as places for teachers

to learn" (Smylie, 1995 in Flint et al, 2011, p. 1). If we do not acknowledge teachers as

learners in the process as well, schools will not improve because there is no attainment for

teachers to strive towards. In PD, teachers need to be acknowledged as being just as

important as the students they are trying to positively influence.

Further, professional development should be incorporated into teacher practices

and aligned with the standards and goals of the school. PD should reflect both the

environment and expectations of the school and also allow for different ways of instruction

(Jacobs, Burns, & Yendoll-Hoppey, 2015). It cannot be disjointed from what and how the

teacher is instructing, but allow teachers to actively implement what they learn over time

(Darling-Hammond et al, 2009). Embedding the PD requires teachers to be active learners

in this process with active teaching, assessment, observation, and reflection (Darling-

Hammond & Richardson, 2009). Active teaching refers to students being a partner in the

learning process instead of passive participants (Using Active Learning in the Classroom,

n.d.). When there is embedded PD in the context of the school environment, teachers have

more opportunities to apply what they have learned on-site in their own classrooms almost

immediately (Hamilton, 2013).

Professional Learning Communities

Professional learning communities (PLCs) are defined as "educators committed to

working collaboratively in ongoing processes of collective inquiry and action research to

achieve better results for the students they serve" (DuFour & Eaker, 2004, as cited in

Hoaglund, Birkenfeld, & Box, 2014). As an evolution of literature about professional

development shows, PD should be student-driven, teacher learning focused, standards

based, and improve and create PLCs (Kent, 2004). Teachers are both the subjects of

learning, as well as the objects of PD (Hamilton, 2013). PLCs present many positive

outcomes for both teachers and students. Teachers in strong PLCs feel they can influence

and help every student achieve his or her full potential because teachers feel supported by

their community and can rely on other colleagues and academic supports to further benefit

the student (Carroll, Fulton, & Doerr, 2010). Further, PLCs encourage an environment

inviting everyone to be a learner; through the creation of this environment, schools become

more welcoming and rewarding for teachers and students (DuFour, DuFour, & Eaker,

2008). The purpose of a PLC is to move beyond ensuring that students are taught, but that

they actually learn (DuFour, 2004). In an effective PLC, there are shared values and goals,

collective responsibilities among members, authentic assessments of learning and student

achievement, self-directed reflections, stable settings, and strong leadership support

(Carroll et al, 2010).

Collaboration is an essential piece of professional learning communities. Teaching

does not happen in isolation and teachers should rely on one another to increase student

achievement and learn from each other. Strong individual teachers are important, but it is

more important that strong individuals can collaborate and support improvement and

growth for all students (Talbert & McLaughlin, as cited in Carroll et al, 2010). In creating

collaborative environments, positive changes in teacher practice, attitudes, beliefs, and

student achievement increase because teachers feel supported and can ask for guidance

(Opfer & Pedder, 2011). In PLCs, each teacher takes an interest in the success of all students in the school, not just the ones in his or her own classroom or department, to contribute to the overall success of the school (DuFour et al, 2008).

Professional learning communities allow teachers to become deeply embedded in the successes and failures of their school and begin to recognize those successes and failures as their own. Through collaboration, PLCs allow teachers to become experts for each other and learn how to be colleagues as well as learners (Darling-Hammond & McLaughlin, 2011). Teachers also report higher levels of job satisfaction and feelings of support when provided with opportunities to engage with colleagues in a positive way (Hoaglund et al, 2014).

When implementing PLCs into schools, members should recognize that they can make long-term positive changes in teaching practices. While PLCs are laborious to implement successfully, they are well worth the labor (Stoll, Bolam et al, 2006, as cited in Carroll et al, 2010). Research has shown that PLCs are most effective when schools allocate time for developing relationships in departments and grade levels to foster collaborative and collegial environments (Darling-Hammond et al, 2009; Mizell, 2010).

Implications for Practice

For PD to be implemented effectively, Desimone proposes that teachers follow these five steps: experience the professional development; increase their knowledge and skills; change their attitudes and beliefs through the PD; use their newly acquired knowledge, skills, attitudes, or beliefs to improve their teaching; improve student learning (2011). Through implementation of PD, we can test for outcomes of teachers to see if they have learned, if they have changed, and if student achievement has changed as a result

(Desimone, 2011). Planning and implementation of PD is the most important component to increasing teacher learning and student outcomes (Mizell, 2010). However, research also indicates that although what happened in a single school or district was effective at one time, that may not always be the case, and reproduction of specific PD is tricky (Guskey & Yoon, 2009).

When implementing professional learning communities, it is crucial to develop a supportive school climate for the PLC to thrive. The group should come together at specific times in the learning process to receive instruction on stages of professional learning and to collaborate on whole group strategies to work on (Hoaglund et al, 2014). Furthermore, there should be some one-on-one faculty support for teachers to monitor teacher growth, as well as facilitate other discussions on growth and personal achievement. Although it should be a supportive relationship, some healthy pressure should be applied from principals, administration, and other faculty to ensure focus, partnerships, and non-punitive accountability. There should not be pressure for educators to teach to the test and move away from best practices in teaching, as these have a grossly negative impact on student achievement (Jacobs et al, 2015).

Research also notes many reasons why PD is often ineffective. PD may be short in duration, poor in focus, and may not have adequate follow-up and collaboration. However, it is also important to note with collaboration that there is a tipping point between excessive collaboration and too little. With excessive collaboration, learning is stifled, but with too little, teachers resort back to being in isolation, without reflection and growth (Opfer & Pedder, 2011). If teachers begin to feel unsupported or their concerns are not addressed, they may not seek help to overcome challenges (Kent, 2004). Providing many

types of PD is also important, but providing too many options can also decrease effectiveness. This occurs when there is not enough of a clear focus and connection between activities, thus becoming too much misaligned information (Hill, 2009).

Overall, when implementing PD into the school, there should be equitable PD options provided that ensure needs of all teachers are met. In addition, to ensure success, support and many opportunities for practice are also needed. Professional development should also include incentives, models, and norms for teachers to follow and be able to reach their highest potential (Hill, 2009).

Research Questions

With my research, I sought to answer how teachers took what they learned in professional development and implemented it into their classrooms. I also examined principal and administrator perceptions of the professional development in place in these schools. By focusing on three specific schools and the teachers' and principals' experiences in these schools, I sought to answer the following questions:

(1) What models of teacher professional development do participants find most effective?

(2) How does professional development manifest itself into teacher practices?

(3) How can administrators get the most out of teachers to improve student learning?

Methods

Context

In this study, three schools were examined. School One, further referred to as the Wildflower School, serves a K-12 population in an urban setting. The Wildflower School

follows the International Baccalaureate Curriculum in all grades and is certified IB in the

Primary Years Program (PYP) (grades K-6), and the Middle Years Program (MYP) (grades

7-10), and is working towards the Diploma Program (grades 11-12). The Wildflower

School is a public school with a current enrollment of 750 students **(Figure 1).** While 69%

of the Wildflower School qualifies as Free and Reduced Lunch, 42% of the students are also

classified as Limited English Proficient (CDE Wildflower School, 2013). There are currently

40 certified staff members consisting of 20 teachers on the K-6 staff, thirteen teachers on

the 7-12 staff, three Life Skills teachers, one K-6 interventionist, one PYP Coordinator/ ELL

Coordinator, one MYP Coordinator/ Instructional Guide, and one Post-Secondary Options

Coach. The Wildflower School also boasts the use of differentiated PD, directed by

individual responsibilities, levels of experience, and school/district initiatives and

priorities (CDE Wildflower School, 2013).

Figure 1: Demographic information of students at the Wildflower School (CDE Wildflower School, 2013)

Race/Ethnicity	Percentage (%)
Hispanic	75%
White	18%
Asian	2%
African American	1%
American Indian	1%
Two or more ethnic backgrounds	2%
Total Number of Students:	**750**

Within the same urban metropolis of the Wildflower School, School Two, further

referred to as the Meadowlark School, is a public tuition-free charter school serving a K-8

population. They follow a liberal arts curriculum. The Meadowlark School's current

enrollment is 507 students categorized as 36.9% Free and Reduced Lunch, 5.7% SPED,

33.7% ELL, and 43.6% Minority **(Figure 2)**. The Meadowlark School also boasts the use of

an interim assessment cycle built around a six to eight-week cycle; after each cycle, there is

a data day for teachers to track progress and growth and plan their teaching accordingly.

There are currently 52 staff members consisting of fourteen teachers on the K-5 staff, ten

teachers on the 6-8 staff, two intervention staff, three specials (Music, Art, PE) teachers,

one student services liaison, two performance group teachers, three directors, two SPED

teachers, three Spanish teachers, six teaching assistants, one business manager, one

director of enrollment, one social worker, one speech-language pathologist, and one

English Language Acquisition teacher.

Figure 2: Demographic information of students at the Meadowlark School (CDE Meadowlark School, 2013)

Race/Ethnicity	Percentage (%)
White	49.7%
African American	28%
Hispanic	15.2%
"Other"	7%
Total Number of Students	**507**

In the second largest urban city where the study took place, School Three, further

referred to as Hummingbird Elementary, serves a K-5 population**.** It follows a curriculum

that educates "the whole child" and includes a positive school climate and community (CDE

Hummingbird Elementary, 2015). Professional Development is centered on providing

students with personalized instruction with reader's and writer's workshop models.

"Experts from the field" lead PD and model lessons, observe teachers, and provide them

with feedback (CDE Hummingbird Elementary, 2015). There are currently 22 certified

teachers and a total of 35 staff members. Hummingbird Elementary is a traditional public

school with a current enrollment of 294 students categorized as 52% male and 48% female

(Figure 3). Hummingbird has a population where 3% qualifies as Free and Reduced Lunch,

while .02% is classified as ELL.

Figure 3: Demographic information of students at Hummingbird Elementary (CDE Hummingbird Elementary, 2015)

Race/Ethnicity	Percentage (%)
White	67%
Hispanic	16%
African American	7%
Two or more ethnic backgrounds	7%
Asian	3%
Total Number of Students	**294**

Methodology

The purpose of this study is to gain an insight into teachers' and administrators'

perceptions of PD and to explore what teachers perceive as best practice in professional

development. Participants have a wide range of experiences with PD and brought a variety

of backgrounds and insights to this study.

To explore these unique perspectives, I examined patterns and trends in the PD

teachers experienced, as well as their perceptions and subsequent implementation of the

PD content, themes, and resources. This study is grounded in qualitative methods of

collecting, coding, and analyzing data. Each school's data was looked at from a case-study

perspective exploring the real-life situation in each school through data collections from

administration and teachers (Creswell, 2013). Each school was provided with a pseudonym

to protect its identity and the participants. Data was first analyzed from the individual

schools to determine themes; all three schools were then examined together for a cross-case analysis of trends.

Selection

To select participants for my survey, I purposefully selected schools with similar grade ranges with different forms of PD. I did this to examine a spread of PD in place, and how PD can be influenced by the environment in which it is implemented and by the size of the school. The schools were also selected based on professional learning in several contexts, such as professional learning communities and collaborative development and trainings. I invited classroom teachers and school administrators from the three schools to participate in my survey. Specials teachers (art, music, physical education), Special Education teachers, and intervention teachers were also invited to participate. I was somewhat familiar with each of these schools, which provided access for me and buy-in from teachers and administrators.

In May 2016, I invited teachers from the Wildflower School to participate in my qualitative study. At the beginning of the next school year, in September 2016, I invited teachers from the Meadowlark School and Hummingbird Elementary to participate. To invite teachers, I first sent an email and an introduction outlining the purpose of my study and questionnaire to school administrators. I outlined my questionnaire and intent of my study. I further explained that my intent was to collect data about how professional development programs are involved in and impact teacher practices.

Of the 92 total questionnaires sent to teachers at all three schools, 46 participants responded, giving a response rate of 50%. The Wildflower School provided a

response rate of 39.4%, with 33 surveys sent, and 13 completed. The Meadowlark School

produced a response rate of 45.95%, with 37 surveys sent, and 17 completed.

Hummingbird Elementary had the highest response rate of 72.73%, with 22 surveys sent,

and 16 completed. Any discussion including administration is limited to the Wildflower

School and Hummingbird Elementary.

Demographic information of participants collected included gender, years of

experience, and race or ethnicity. Among all three schools, 78% classified themselves as

female, 20% classified themselves as male, and 2% classified themselves as other. A

majority of respondents (89%) were White, followed by 9% Hispanic, and 2% American

Indian or Alaska Native. In regards to years of experience, 46% had 11-25 years, 28% had

6-10 years, 11% had 4-5 years, 9% had 1-3, and 7% had 26 or more years.

After teachers completed the surveys, I utilized data from their responses to form a

series of questions to be sent to administrators from these schools. Administrators were

asked to reflect on what PD they chose for their schools and how they saw teachers

implement and interact with the PD. These questions were used to compare teacher

perceptions of what was actually happening in their classrooms, with what administrators

thought they were seeing from PD. Administrators' surveys were composed of

demographic questions and several open-ended questions. The questions were intended to

examine why administrators chose PD programs for their schools and how they saw

teachers responding.

Questionnaire

The questionnaires used were constructed via Qualtrics as a web-based survey. The

demographic information collected in each survey provided a multiple-choice response,

with a response of "other" when applicable. Likert-scale response questions also had a

selection choice that allowed one answer for each statement. The open-ended questions

were required to have a minimum of one character. Each question of the survey had a

forced answer, so respondents could not go on until each was answered. Participants were

each sent an anonymous link to the survey via email; data could not be linked to them, and

they could save their survey to return later with this link.

   The questionnaire sent to teachers contained nine questions that collected data

about demographics, views of professional development, and how they have implemented

professional development (Appendix A). The first section of the questionnaire asked for

gender, ethnicity, and years in profession. The next section asked for a Likert-scale

response (Strongly agree, agree, somewhat agree, neither agree nor disagree, somewhat

disagree, disagree, strongly disagree) inquiring if PD influenced their classroom practices

and environment, and if teachers have sought out external professional development. The

last section included two open-ended questions soliciting answers about what specific

professional development teachers attended, as well as how they applied that specific PD

to their classroom practices.

   The questionnaire sent to administrators was constructed similarly to the

questionnaire sent to teachers; however, the administrator survey only contained

demographic multiple-choice questions and open-ended response questions (Appendix B).

The questionnaire contained eleven questions. The demographic section asked questions

related to gender, race or ethnicity, years as a teacher, years as a principal, and years total

in education. The open-ended questions asked for descriptive data about what specific

professional development the administrator at each school has seen and facilitated, as well

as any feedback they received specific to the PD. Administrators were also asked for their

opinions regarding best practice in teacher professional development based on their own

experiences, observations, and thoughts.

Data

  To analyze data from individual schools, data was collected in separate, anonymous,

survey groups for each school within Qualtrics to ensure no crossover between schools.

Each group of teachers at each school was sent a link to a separate questionnaire, and the

administrators were each sent a link to separate surveys. This created multiple data sets:

one data set from teachers at each of the three schools, one data set from each

administrator, and one collective data set.

  I first analyzed the questionnaires to determine the response rate from each school.

I examined how many surveys were sent to the school in relation to how many were

completed. Then I analyzed the demographic composition from each school by looking at

the completed surveys, and calculating the demographic percentages and mean scores of

each individual who participated. I analyzed the demographics to see if any trends stood

out that may have implications on the data in terms of the populations served at each

school. I then collectively examined the questionnaires to calculate the total demographic

mean scores of participants.

  Participant data was entered into an Excel spreadsheet. All responses were first

listed into one sheet separating surveys from each school by giving them individual

participant numbers that started with an A, B, or C, depending on the school, followed by a

number determined by the order in which the surveys were received. After the data was

inputted, responses were coded for a count and mode for gender information, race and

ethnicity, and years in profession; counts were made from each school, then compiled for a total from all three schools.

I assessed each school individually to develop trends in the data from one environment. I coded data and analyzed trends between the administrator's perspective of professional development and the teachers' experiences of the PD. I coded the data for Likert-scale responses based on if PD was viewed as positive or negative by teachers, how they implemented it, and whether or not it benefitted the teachers' classroom environment and instruction. After isolating these trends and patterns for each school, I studied the data collectively and explored trends across the three schools. These trends provided a case study analysis allowing me to examine each school through multiple sources of information at one point in time to develop themes to use within a larger multisite study (Creswell, 2013).

For the open-ended responses, I reviewed the data multiple times. I used multiple methods of coding, categorizing, and theming the data. I first coded the responses and organized them based on what they answered within my research questions (Miles, Huberman, & Saldana, 2014). I organized and categorized these codes to assess trends in each research question. Using a deductive approach, I examined broad themes in professional development, and worked towards specific types of PD attended. I coded for types of professional development and examined if they were trainings for Inclusive Education (i.e. Culturally Relevant Teaching, Culturally and Linguistically Diverse Trainings, and Special Education), Techniques for Teaching, Content Specific, Assessments, Teacher-Led, Leadership, Technology, or "Other". Professional Development could have fallen into multiple categories of codes.

After applying codes to the specific responses of individual schools, I studied the

trends indicating the most common types of PD attended at each school. Once I had themes

from each school, I compared them across the three schools. I then considered if the

demographic information from each school could influence data, or if there were any

patterns among the schools.

I took the specific PD data from each school and put it into a matrix display to

examine trends and themes (Miles et al, 2014). I could then pull larger themes from this

data set to develop an overall theme and hypothesis of PD attended at each school, as well

as across the three schools. This also provided an opportunity for me to examine any other

trends I had missed in my initial coding **(Figure 4).**

Figure 4: Table showing specific counts of PD attended by each school and overall

Type of PD:	Wildflower School:	Meadowlark School:	Hummingbird Elementary:	**Totals:**
Inclusive Education:	8	4	6	18
Techniques for Teaching:	14	19	17	50
Content Specific:	10	11	14	35
Assessments:	1	2	4	7
Teacher-Led:	2	0	1	3
Leadership:	0	2	3	5
Technology:	4	0	0	4
Other:	1	0	5	6
Internal PD:	11	34	42	87
External PD:	29	4	8	41

At this point in the data collection, I had a wide range of codes for different trends

and themes, which I then compiled and condensed into descriptive coding to analyze larger

themes. With these multiple codes, I could see trends at each school, and how those

evolved into wider trends in a holistic picture of PD.

I then used NVivo software to discern trends in the types of professional development attended to see the biggest types of PD influences at each school. NVivo recognizes the tone of participants and provides clues into cultural categories of participants (Miles et al, 2014). I used NVivo because it assisted in determining what the administrators and teachers from each school saw as the most necessary types of PD. NVivo also helped determine where PD manifested itself into teacher practices. Similar to the matrix display, I put the specific PD reported from each school into NVivo in separate sheets. I then tagged each PD as the code it represented. This provided a coding density similar to counts at each school. Additionally, I used NVivo to develop trends between the teachers' views on PD and the administrators' views. I inputed the open-ended responses of both teachers from question two on Appendix A and administrators from question two on Appendix B. I excluded common words, such as "and", "the", and "a". This allowed me to see patterns in wording of how teachers implemented PD and how administration saw teacher interaction with PD.

In the second cycle of coding, I compared the types of PD with whether the respondent implemented those specific strategies and ideas, and improved either their classroom teaching or environment. This type of coding allowed me to assign a value coding to understand how teachers and administrators viewed PD (Miles et al, 2014). Value coding is used to reflect respondents' values, attitudes, and beliefs that are particularly useful in evaluating and exploring participants' experiences and actions (Miles et al, 2014). Value coding aided in determining which PD participants found most effective at their respective schools.

To analyze Likert-scale responses, I assigned a quantitative response to each answer. When coding data, I assigned each qualitative piece a number 1-7. Strongly agree was given a "7", all the way down to Strongly Disagree, which was given a "1". This data was then entered into an Excel spreadsheet and analyzed for the mode and a count of each response. Analyzing and compiling the data in this fashion allowed me to find a common pattern of teacher perceptions at each school, as well as across the three schools.

I then compared the Likert-scale responses to the open-ended responses. By linking these responses, I could determine trends between what teachers' perceptions about PD in general were, as compared to the PD they attended, and further how they implemented it into their classrooms. To compare these, I lined up individual Likert-scale and short answer responses, before linking them with administrator responses from their particular school context.

Results and Discussion

"Techniques for Teaching and "Content Specific" were the most reported PD types across all three schools, suggesting that teachers found these to be the most effective models of PD. Teachers also reported that PD had a positive impact on their classroom environment and instruction. They were able to implement specific strategies learned in PD, such as graphic organizers created, as well as more content specific strategies, such as "Reading like a historian." This suggests that PD can manifest itself in teacher practices in a variety of ways and, depending on the level of experience of the teacher, application of PD may look different. When examining PD effectiveness on student learning, administration should ensure there is follow-up support for teachers and that PD adequately meets the needs of the school.

At the Wildflower School, teacher and administrator views of PD were in close

alignment to each other. The majority of teachers "Somewhat Agreed" that PD had a

positive impact on their classroom environment (**Figure 5**). Although overall teachers

mostly attended PD that had to do with "Techniques for Teaching," most teachers selected

"Agree" or "Neither Agree nor Disagree" when asked if PD attended had a positive impact

on their classroom instruction. This result is possible because teachers reported overall PD

categorized as "Techniques for Teaching", which may not have been exactly relevant to

their context or all of their students, but was nevertheless useful as a teacher. One

respondent said, "I incorporate something from PDs into every unit I teach, or I pass it onto

another teacher who could benefit," while others echoed with similar phrasing. Teachers

may have also felt neutral because PD strengthened what they already knew versus

teaching new strategies. For example, one teacher stated, "[PD] confirmed what I already

knew, based on reading books the year before." PD in this school could be improved by

taking prior knowledge into consideration (Opfer & Pedder, 2011).

Figure 5: Table showing specific Likert-scale responses

N=13	Negative (-)			Neutral (+/-)	Positive (+)			
Scale	1	2	3	4	5	6	7	
Question: (For full question, see appendix A)	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	# %
1	2 15.38%	0 0%	2 15.38%	2 15.38%	5 38.46%	1 7.7%	1 7.7%	# %
2	1 7.7%	1 7.7%	2 15.38%	3 23.08%	2 15.38%	3 23.08%	1 7.7%	# %
3	1 7.7%	0 0%	2 15.38%	1 7.7%	1 7.7%	6 46.15%	2 15.38%	# %
4	3 23.08%	2 15.38%	4 30.77%	0 0%	4 30.77%	0 0%	0 0%	# %

Additionally, teachers reported that some PD was used to help them get to know students and use data, rather than on specific methods of instruction; this was beneficial when they could apply PD directly to the student. Teachers reported using internal PD focused on the WIDA test and other ELL strategies to benefit individual students; one teacher said she used the unique ELL PD to "help out a Chinese speaking student learn math and English at the same time."

Administration at the Wildflower School reported that PD had the greatest impact when it was meaningful to teachers and they could utilize it to improve their instruction. A majority of teachers also reported that they attend external PD. This agrees with administrator responses explaining PD facilitated internally is often chosen using school-wide data, the International Baccalaureate model, school improvement plan, and teacher need. This echoes previous research showing the best PD includes building collegial relationships, providing a goal for teachers to work towards, and overall information about the school that contributes to effectiveness (Borko, 2004; Desimone, 2009, 2011; Opfer & Pedder, 2011).

Teachers reported in their open-ended responses that often PD implemented in their classroom environment was limited from internal PD, but external PD was more beneficial, and teachers had positive views of how they implemented specific strategies into their teaching. This demonstrates that although PD may be limited, it does manifest itself positively into teacher practices at this particular school, especially with regards to specific strategies gained from PD. The administration response aligned with teacher responses stating that teachers want their PD to be applicable to what they do in their

classrooms, and something they can take back and immediately implement. Although

administration tries to adequately address a wide array of needs, professional

development sometimes falls short and teachers receive poor-quality PD as a result (Hill,

2009).

 In terms of feedback and follow-up for PD, teachers tended to report on the middle

of the scale, reporting either "Somewhat Agree" or "Somewhat Disagree." This aligns with

administrator views that with certain PD programs there were opportunities for feedback,

but this is not always the case. One teacher expressed his or her unhappiness with

implementation and choice of internal PD by saying, "Next year, the rumor is, time will be

provided for teachers to observe and critique each other in an effort to [improve PD]." This

response could also be due to teachers attending PD not provided by their school, therefore

not having adequate opportunities for PD feedback within the school context.

 At the Meadowlark School, teachers attended mostly "Techniques for Teaching" and

"Content Specific PD". Teachers reported that PD had a positive impact on classroom

environment and instruction **(Figure 6).** Many teachers reported that they were able to

take what they had learned from PD and apply it directly to their classrooms; teachers

overall had a positive view of the PD attended and provided specific examples for how this

PD informed their teaching. For example, one teacher said, "[PD] has given me more

structure and support for the approaches I take, and allows for me to 'norm' my

approaches with other teachers in my school."

Figure 6: Table showing specific Likert-scale responses

N=17	Negative (-)			Neutral (+/-)	Positive (+)			
Scale	1	2	3	4	5	6	7	

Question: (For full question, see appendix A)	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	# %
1	0 0%	0 0%	0 0%	3 17.65%	8 47.06%	5 29.41%	1 5.88%	# %
2	0 0%	0 0%	1 5.88%	1 5.88%	5 29.41%	8 47.06%	2 11.76%	# %
3	0 0%	3 17.65%	2 11.76%	4 23.53%	2 11.76%	4 23.53%	2 11.76%	# %
4	0 0%	0 0%	2 11.76%	2 11.76%	7 41.18%	5 29.41%	1 5.88%	# %

Furthermore, teachers reported that it was helpful to practice using the graphic organizers and techniques created in PD themselves before implementing them in the classroom to strengthen their instruction stating, "It was stellar because we actually [completed] the graphic organizer as a staff during PD." Teachers must equally understand what they are supposed to teach for it to be effective (Avalos, 2011). Teachers selected "Somewhat Agree" or "Agree" when asked if they received follow-up support for PD attended. Those responses could be because, unlike the Wildflower School and Hummingbird Elementary, the Meadowlark School almost exclusively reported attending internal PD. Surprisingly, in the Likert-scale responses, teachers mostly selected "Agree" or "Neither Agree nor Disagree" when asked if they attended PD not provided by their school, even though they did not report external PD. This could be due to teachers not fully reporting external PD, and exclusively reporting internal PD. There was no administrator data from the Meadowlark School.

At Hummingbird Elementary, teachers and administration had an overall positive view of PD **(Figure 7).** Administration reported that the school has facilitated PD around

incorporating culture, science, literacy, leadership, and vision for the school. Administration also reported that PD in place has encouraged good discussion from teachers, and changes to instruction. This was supported by teachers' questionnaires where a majority selected "Agree" that PD has had a positive influence on classroom environment and instruction. Teachers stated that when they shared collaboratively as a group, they were "immensely pleased" and able to immediately try those strategies suggested in their PLC. However, teachers reported that they have not yet implemented PD because they have either not had enough time yet or because they have not received follow-up support to answer lingering questions. Teachers from Hummingbird reported, "I haven't had a chance to implement it," and "To feel comfortable [using PD with students,] I need follow-up support and practice."

Although the school has facilitated many types of professional development, a majority of teachers selected "Strongly Agree" that they have attended PD not provided by their school. In addition, almost all of the reported PD attended was external. Many teachers reported attending out-of-district workshops, seminars, and larger conferences. This could be attributed to teachers attending larger conferences with a "Content Specific" focus, dually coded as "Techniques for Teaching".

Figure 7: Table showing specific Likert-scale responses

N=16	Negative (-)			Neutral (+/-)	Positive (+)			
Scale	1	2	3	4	5	6	7	
Question: (For full question, see appendix A)	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	# %

1	0	0	1	0	8	5	2	#
	0%	0%	6.25%	0%	50%	31.25%	12.5%	%
2	0	1	0	0	5	8	2	#
	0%	6.25%	0%	0%	31.25%	50%	12.5%	%
3	0	1	4	0	1	4	6	#
	0%	6.25%	25%	0%	6.25%	25%	37.5%	%
4	1	3	2	1	6	3	0	#
	6.25%	18.75%	12.5%	6.25%	37.5%	18.75%	0%	%

Similarly to the Wildflower School and the Meadowlark School, the professional development attended at Hummingbird Elementary was mainly coded as "Techniques for Teaching" and "Content Specific PD." Administration reported that the best professional development has three anchors in place: ongoing monetary support, initial start-up training for teachers, and then monthly short check-ins and restarts; however, PD is chosen based on current needs, available funds, and current teacher expertise in an area. This supports literature recommending that PD be looked at holistically within the larger picture of the school to ensure that PD can reach peak effectiveness (Darling-Hammond & McLaughlin, 2011; Jacobs et al, 2015). If additional funds in the school are diverted or allocated to attending external PD, or if there is monetary support available, these could explain why larger conferences and external PD are attended, in comparison to the other two schools, who attended largely internal PD. Teachers selected "Somewhat Agree" that there is opportunity for follow-up, in contrast to the administration perspective that there is opportunity for feedback through professional learning communities currently in place. This response could also be due to teachers mostly attending external PD with no opportunities to provide feedback, rather than exclusively providing feedback about the PD at each school.

Cross-Case Analysis

Across all three schools, participants were predominantly white, female teachers with 11-25 years of experience in teaching. A common trend emerged showing that PD attended somewhat had a positive impact on classroom environment and instruction. Teachers also agreed that they attended PD not provided by their individual schools. This finding was supported by teachers attending a majority of PD for "Techniques for Teaching" internally, and attending "Content Specific PD" externally. Further, a majority of teachers selected "Somewhat Agree" when asked if they received follow-up support for PD attended **(Figure 8)**. Overall, it can be interpreted that teachers found external PD to be effective.

Figure 8: Table showing specific Likert-scale responses

N=46	Negative (-)			Neutral (+/-)	Positive (+)			
Scale	1	2	3	4	5	6	7	
Question: (For full question, see appendix A)	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree	# %
1	2 4.35%	0 0%	3 6.52%	5 10.87%	21 46.65%	11 23.91%	4 8.7%	# %
2	1 2.17%	2 4.35%	3 6.52%	4 8.7%	12 26.09%	19 41.3%	5 10.87%	# %
3	1 2.17%	4 8.7%	8 17.39%	5 10.87%	4 8.7%	14 30.43%	10 21.74%	# %
4	4 8.7%	5 10.87%	8 17.39%	3 6.52%	17 36.96%	8 17.39%	1 2.17%	# %

Each school attended a wide range of PD. All three schools had a majority that attended PD categorized as "Techniques for Teaching." The second largest reported type of PD was categorized as "Content Specific PD." Although these were the two most commonly

attended types, these findings do not suggest that participants found "Techniques for Teaching" and "Content Specific PD" to be the most effective. Teachers at the Wildflower School and Hummingbird Elementary predominantly attended external PD, while teachers at the Meadowlark School almost exclusively attended internal PD provided by the school. This finding also suggests that internal and external PD effectiveness is contingent on what PD is available and when, depending on teacher need. Administration at the Wildflower School and Hummingbird Elementary agreed that PD needed to arise from teacher need and from "understanding the needs of the whole building" (Administration, Hummingbird Elementary). These responses propose that to get the most out of teachers to improve student learning, administrators need to see the whole picture of the school, including student and teacher needs, to choose a PD that most effectively and adequately meets the larger needs.

Implications and Recommendations

Based on the findings of this study, schools may consider several options for implementing professional development. "Techniques for Teaching" and "Content Specific PD" could be changed to work in tandem with each other. Because teachers mostly attended these two types of PD, it would make sense for these two to overlap to increase effectiveness. It should be noted, however, PD is only as effective as the environment it is established in (Mizell, 2010); therefore, specific PD cannot be generalized across schools, but instead focused directly on the individual school.

Moving forward, PD selected should focus on the larger needs of the school, contingent on student data and teacher needs, including their needs as learners. To accomplish this, administration could survey teachers at the beginning of the year to

examine their needs and wants. Administration could then use these findings to develop a

flexible scope and sequence of PD throughout the school year that reflects the changes in

teacher and school need. General "Techniques for Teaching" could be focused on in the

beginning of the year and more "Content Specific PD" could be scheduled throughout the

year. A flexible scope and sequence would allow for teachers to plan for supplementing

with additional external PD to further meet their needs (Darling-Hammond and

McLaughlin, 2011).

Administration should also survey teachers about professional development

attended previously, so they can provide PD to fill gaps, rather than layering repeated PD.

Surveying teachers at the beginning of the school year would also allow for PD to be

directly applicable to their classrooms, and allow for teacher input into what PD they will

need to attend. This beginning of the year survey may also serve as the base for a PLC that

establishes effective collegial relationships as effective pieces of PD, where teachers can

learn from each other (Borko, 2004).

Opportunities for teachers to share growth and development over the school year

should also be provided. For PD specifically planned by the school, explicit inclusion of a

feedback loop should be considered. As stated previously, PD should mimic student-learner

development; therefore, PD should be revisited throughout the school year to be a

continued learning process that incorporates findings of the feedback loop (Opfer &

Pedder, 2013). This would also support PD spanning over time to reach peak effectiveness

(Desimone, 2009). Overall, administration should consistently revisit and revise PD to

further develop and improve teacher learning.

Limitations

When examining the results of this study, several limitations need to be taken into consideration. The study surveyed three separate districts in different regions in one state in the Western slope of the United States. However, the regions were chosen because of the similar community environments they were housed in. This study is limited to the views and opinions of the teachers and administrators in each school and may not reflect the views and opinions of other schools, but instead may recognize general themes in teacher professional development. There is also a difference in the student populations. The Wildflower School serves a high Hispanic population, while the Meadowlark School and Hummingbird Elementary serve a higher population of White students. The differences in student populations may influence the teachers that each school attracts. The results gained from examining these three unique schools are not generalizable to a larger context.

Additionally, I attended one of the schools involved in the study as a student, and that may influence how teachers reported PD. Teachers may not have been as open to reporting their answers on a survey to a former student. On the contrary, teachers may have also expanded more on their answers because I was a product of that PD as a student and I could directly see implementation of PD while attending the school. I also have a personal bias attached to the school because my sister was one of the teacher respondents. To eliminate bias, I ensured the survey would be anonymous with individual links to the survey that only provided demographic information submitted by each participant.

Humans are notoriously bad at self-reporting, and may report wrong or misleading information, even if that is not their intent (Stone, Bachrach, Jobe, Kurtzman, & Cain, 2009). This study relies on teachers to self-report what PD they have attended, but they may forget over time. Further, they may have only reported PD that was exceptionally

meaningful to them or extremely poor in their opinion, and may not have included all PD

attended. Additionally, teachers may not have considered PD they were required to attend

in the last year as reportable PD.

Phrasing of questions may also have attributed to respondents' answers. When

asked about follow-up support, this question was not specific to follow-up from the school

where PD was attended, but was instead phrased in terms of general PD attended. This

could explain why there was a disconnect between administrators' views of feedback

provided and teachers' thoughts.

Teachers may have also responded differently because I am a prospective teacher

studying at their school. Teachers may have wanted me to perceive PD in a more positive

way, instead of providing their true insights and opinions. If teachers wanted their school

to be viewed in a positive and inviting way, they may have changed what they reported,

therefore skewing the data.

Another limitation of this study is there was no opportunity for me to ask specific

follow-up questions to each respondent. Because each questionnaire was anonymous, I

could not ask a specific respondent to provide more insight into his or her answer. This

made it difficult when coding the data because I could not ask for additional information to

make it fit better into a specific code or category. Data was also coded into multiple

categories suggesting a higher amount of total PD attended, but in reality, the

representative numbers for PD may have been dually coded and counted in multiple

categories. Additionally, I did not have a second coder to confirm and check how data was

coded for inter-rater reliability.

There are also higher numbers of respondents in the Likert-scale questions because not everyone completed the survey in its entirety. Some respondents did not provide an answer for the short answer questions, but provided Likert-scale responses. However, these incomplete responses were included in the study because they provided insight into how teachers view PD manifesting itself into their classroom practices. Teachers may not have completed the entire survey because although a response was required from each answer, teachers had to click through each of the three modules to actually complete it.

Similarly, discussion of administration in this study is limited to two of the three participating schools. Administration from the Wildflower School and Hummingbird Elementary responded. However, administration from the Meadowlark School did not provide a response to the survey; this further limits the discussion of findings and comparison between teacher and administrator views among the three schools.

Future research may address limitations of this specific study. A follow-up survey could be conducted asking how teachers specifically think PD could be changed to make it more effective. Follow-up questions could also be asked to specify PD to allow them to fit in more exact categories when coding the data. A questionnaire could also survey administrators asking them how PD could be more engaging. A larger sample size may also be beneficial to increasing the effectiveness of the survey because more perspectives would be present and allow to test for statistical significance.

If this study was redone, questions about specific PD attended may be more in depth and ask teachers to distinguish between internal PD provided by the school, and external PD sought out individually. In addition, action-research may also be beneficial for teachers

to seek out information relevant to their context and specific questions through their PLCs.

Conclusion

Findings suggest PD with specific strategies ("Techniques for Teaching") and a clear content focus ("Content Specific PD") are the most attended types of PD. Teachers overall "Agreed" or "Somewhat Agreed" that professional development had a positive impact on their classroom environment and instruction. PD manifested itself into teacher practices through specific techniques implemented, as well as through providing structure and support to practices already in place. For administration to get the most out of teachers, they need to provide follow-up support, while also focusing on the overall needs of the school and teachers. They could also provide additional monetary support for teachers to attend external PD when it is not adequately provided by the school. Finally, to prevent teachers getting the same content repeatedly, PD also needs to be revisited every school year.

Although changes should be made to how PD is selected and implemented, this is by no means an easy process. Schools and administrators have to consider budgetary restrictions and recognize the complex needs of addressing school-wide, teacher-wide, and student needs. Administrators must also determine when and how to allocate time for adequate and effective PD (Mizell, 2010). Administrators also face the choice of deciding if PD should be one-size-fits-all, or if it should target specific needs of a smaller group, which leaves some teachers feeling resentful of PD they are required to attend (Mizell, 2010). This also raises the question of asking if schools should allocate additional funds for teachers to attend external professional development.

As a system, professional development needs an overhaul. We need to recognize that teachers play a valuable role in schools and they are equally important as learners in the school environment, and we should recognize them as such. PD should focus just as much on helping teachers as teachers focus on helping their students. If we see skills that need to be improved as a school, PD should be focused on meeting those needs in ways that are differentiated to work best for teachers, rather than providing the same PD for all.

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Appendix A:

Professional Development Survey Questions (For Teachers):

Part 1: Demographics

Gender:

_____ Male _____Female _____ Other

Race/ Ethnicity:

____White ____Hispanic/Latino ____ African-American ____Native American/ American Indian ____Asian/ Pacific Islander ____Other

Years in profession:

____1-3 ____ 4-5 _____ 6-10 ____11-25 _____26+

Part 2: Likert-Type Response Questions

1. The professional development I have attended has had a positive impact on my classroom environment.

2. The professional development I have attended has had a positive impact on my classroom instruction

3. I attend professional development not provided by my school

4. I receive follow up support for the professional development I attended

Part 3: Open-Ended Questions

1. Please describe the professional development you attended last year (please be specific)

2. How have you applied the professional development you attended last year? (please be specific)

Appendix B:

Professional Development Survey Questions (For Administration):

Part 1: Demographics

Gender:

_____ Male _____Female _____ Other

Race/ Ethnicity:

____White ____Hispanic/Latino ____ African-American ____Native American/ American Indian ____Asian/ Pacific Islander ____Other

Years as a teacher:

_____0 ____1-3 ____ 4-5 _____ 6-10 ____11-25 _____26+

Years as a principal:

____1-3 ____ 4-5 _____ 6-10 ____11-25 _____26+

Total Years in education:

____1-3 ____ 4-5 _____ 6-10 ____11-25 _____26+

Part 2: Open-Ended Questions

1. What types of professional development have you facilitated?
2. How have you seen teachers interact with the professional development you have facilitated?
3. What is the "best" professional development you have seen and why did it work?
4. What feedback have you received from teachers in regards to professional development?
5. How is professional development chosen to implement in your school?
6. Are there opportunities for teachers to receive feedback on the implementation of professional development in your school?