

From Doing to Being: Nurturing Professional Learning Communities

With Peer Observation

by

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## ABSTRACT

In this dissertation I employed a culminating cycle of action research following two earlier ones to facilitate the creation of a professional learning community (PLC). My research took place at an elementary school in an urban area of the American southwest. As principal of this school I had initiated the policies and procedures that were often recommended to create PLCs. However, observations of teachers in PLC meetings indicated that conversations focused on logistical planning issues, rather than on the in-depth pedagogical discussions that characterize high functioning PLCs. To address this problem I introduced a form of peer observation into the PLC meeting. This was achieved by showing short video recordings of teachers in their classrooms. I used a mixed methods approach to investigate how this innovation influenced three constructs associated with PLC meetings: professional learning, the sharing of tacit teaching knowledge, and collaboration in the PLC.

Quantitative data consisted of responses to a survey given as a pre-, post-, and retrospective pre-test. Results showed significant gains for all three constructs between the retrospective pre-test and the post-test, but no significant gain between the pre- and post-test. Analysis of qualitative data produced four assertions. First, the process of peer observation during a PLC meeting benefitted the personal learning of teachers. Second, peer observation benefitted teacher teams' abilities to demonstrate the critical behaviors of a true PLC. Third, the process of facilitating peer observation through video recordings evoked negative emotions. Fourth, the degree to which teachers were able to learn from a video was influenced by their perceptions of the video's authenticity and similarity to their own classrooms.

In the discussion, complementarity of the quantitative and qualitative data was described and results were explained in terms of previous research and established theory. Additionally, practical lessons that were learned, limitations, and research implications were described. In a concluding section, I discussed my personal learning regarding leadership, innovation, and action research; the purpose of the doctorate in education; and strengthening connections between research and practitioners.

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## Chapter 1

### Introduction and Context

In the summer of 2012, I joined my fellow principals in the Paradise Valley Unified School District's first administrative meeting of the year. The daylong meeting was packed with icebreakers, budget updates, special guests, and other presentations we needed to jumpstart a new year. It concluded with the superintendent's speech. And that speech closed with this piece of advice: "If you do one thing right this year, make it PLCs" (J. Lee, personal communication, July 26, 2012). PLCs, or *professional learning communities*, were clearly presented as one of the primary goals for all schools to work toward in the years to come.

As this meeting concluded my principal colleagues and I lingered behind in clusters. There was some small talk: How was your summer? Are you ready for a new year? Is your school air conditioning working? But our conversations eventually drifted towards the superintendent's concluding piece of advice. We began to ask each other: How exactly do we employ PLCs correctly? What does a PLC look like? How do we pay for PLCs? What do they cost? How do we know if teachers are implementing PLCs appropriately? These questions drove many more conversations during the 2012-2013 school year as we attempted to nurture truly collaborative PLCs at our sites.

A year later many of these questions remained unanswered. During the first principals' meeting in 2013, consultants reviewed PLC strategies and facilitated a discussion on the past year's successes and challenges. Some of us proudly recounted anecdotes of teachers highly engaged in team planning. Others complained that

schedules, budgets, or personality conflicts prevented true PLCs from ever forming. In some cases, schools with similar schedules and professional development budgets reported contradictory results. Some schools exhibited success whereas others did not. A growing consensus emerged from our discussions: PLC success required unique planning for each school. Therefore, the discussion questions became more than just “How exactly do we employ PLCs correctly?” or “What does a PLC look like?” Rather, the well-honed questions became: How exactly do we employ PLCs correctly *in this context*? What does a PLC look like *in this context*?

Importantly, a review of the professional literature on this topic tends to complicate the issue. The phrase PLC has been found in professional literature for several decades ([www.allthingsplc.info](http://www.allthingsplc.info)). During this time PLCs have been defined in many different ways. This variety leaves a principal wondering not only, “How do I fit PLCs into the context of my school” but “With which definition or version of a PLC do I even begin?”

This emphasis on context and problem solving points to a particular research design for this study: action research. Action researchers focus on solving authentic problems in local contexts (Mills, 2011; Plano Clark & Creswell, 2010). In this dissertation, I will tell the story of my attempt to solve PLC challenges through three cycles of action research beginning in the fall of 2012 and concluding in the fall of 2014.

The challenge of defining a PLC was addressed during the first cycle of action research. In the fall of 2012, the Paradise Valley school district provided training in the PLC model proposed by DuFour and Marzano (2011). In this model teachers are required to meet on a regular basis to collaborate on four essential questions.

1. What exactly do we want students to learn?
2. How will we know they learned it? (In other words, what will the assessment look like?)
3. How will we respond to students who show mastery?
4. How will we respond to students who do not show mastery?

By collaboratively creating responses to these four questions teachers participated in a professional learning experience (DuFour & Marzano, 2011). This model provided a common definition of the goal when implementing PLCs. District leaders also suggested a recommended calendar of dates to hold PLC meetings. Moreover, they provided forms that afforded structure during those meetings. My staff and I began the first year of the PLC implementation committed to following this formula with fidelity. After all, the promises of a well-implemented PLC were just too good to ignore. Taken together, the use of these procedures suggested that a principal who guides the creation of a community of professional learners will have a much greater influence on student learning than a principal who focuses on other, more traditional methods of school improvement (DuFour & Marzano, 2009).

Nevertheless, as the fall semester of the first year concluded, it became clear to me that implementing an authentic PLC required more than just following a formula. Indeed, if all teachers merely followed the PLC recipe (attend meetings, fill out forms, and answer the four essential questions), then they would be missing the most critical point of a PLC. Further, if teachers view a PLC meeting as time to deal with the clerical issues (i.e. selecting objectives, designing assessments, making photocopies), then they will be *doing* the actions of a PLC without *becoming* a PLC. In its truest sense, the term

*professional learning community* refers to the identity that a group takes on as members collaborate and create new learning (Hord, 2008). Thus, to attain the full benefits of a PLC as a community of professional learners, the teachers at my school must build a sense of community, develop personal connections, and construct a shared purpose.

### **Research Problem**

This action research study was conducted to address the challenge of how professionals work together to *become* a professional learning community. For the purposes of this study, a PLC was defined as a community of professionals constructing knowledge together as they answer key questions about student performance (DuFour & Eaker, 2002; DuFour & Marzano, 2011; Hord, 2008). In addition to being the primary researcher in this study I am also the school principal. In this role, I was able to observe the behaviors and social interactions of teachers during PLC meetings. During previous observations of PLC meetings, I noticed that there were numerous instances of team planning focused on logistical teaching issues, i.e. what chapter to work on or which resource to use. This documented evidence suggested the following problem: during PLC meetings, teachers focused on managerial conversations that do not typify the advanced professional learning that can be achieved in a PLC. They *do* the activities of a PLC without *becoming* a PLC.

### **Related Literature**

Despite this extensive body of literature *defining* PLCs, there is an absence of research that has been conducted to study specific methods for *creating* PLCs. For example, a search of the term “professional learning community” in the ERIC database produced 72 peer reviewed journal articles that were published in just the last three years.

However, when that search was limited to research reports the number is cut in half and few of the remaining studies dealt specifically with the administrator's role in developing authentic PLCs at an elementary school.

Overall, results from this search provided insights that suggested an administrator could influence PLC success by moderating teacher commitments (Maloney & Konza, 2011) and fostering relational trust among teachers (Cranston, 2009). Nevertheless, results also suggested even when teachers had positive opinions of their participation in PLC meetings; this did not automatically translate into improved student performance (Vescio et al., 2008). A more extensive review of research on PLCs will follow in chapter 2. Again, this literature review will show an abundance of information on defining PLCs, but a lack of details on the methods an administrator can take to nurture the development and implementation of PLCs.

### **Context**

I conducted this action research study to explore the implementation of the PLC model at Echo Mountain Intermediate School, one of the 44 schools in the Paradise Valley Unified School District. I have the privilege to serve as the principal of this school. In that role I supervise the learning experiences for 423 students in fourth through sixth grade. The school is located adjacent to a prekindergarten through third grade elementary school with a similar name, Echo Mountain Primary School. Both schools qualify for Title I funding because 96% of students qualify for the National School Lunch Program. This percentage has been increasing for several years. During the previous school year 83% of students qualified for free lunch. Four years ago only 56% qualified.

The Echo Mountain Intermediate School student population consists of 210 girls and 213 boys. During registration parents select a race/ethnicity category for their child. Based on parental selection, 65% of students are labeled as Hispanic/Latino, 24% are Caucasian, 5% are African-American, 3% are American Indian/Alaska Native, 3% are two or more races, and only three students, less than 1% are Asian American.

Of the students, 39% live in a home in which English is not the primary language. In most of these homes, 162 of them, Spanish is the primary language. In two homes the primary language is Serbo-Croatian. With respect to English language learning services, 23% of students are eligible for these services. Of these students, 39 are currently enrolled in a full-day ELL classroom. Fifty-four students are in the first or second year of being exited from an ELL classroom. This means their progress is monitored and they remain eligible for ELL services if needed. Additionally, four students are eligible for ELL services but do not receive any because of parent refusal.

Forty-four students, 11% of the student body, receive special education services. However, only six of these students were identified as qualifying for special education services while enrolled at Echo Mountain Intermediate or Echo Mountain Primary. Thirty-eight of the 44 students receiving special education services were identified while attending a different school. This highlights a difference between Echo Mountain and many other schools in Arizona. Both Echo Mountain Intermediate and Echo Mountain Primary Schools use the response to intervention (RTI) model. This model provides several tiers of extra help to students before special education evaluation is considered. Consequently, fewer students are identified as requiring special education services.

Nevertheless, many students transfer to Echo Mountain after attending schools that do not have an RTI model in place.

The Echo Mountain student body changes throughout the year. On the first day of the 2012-2013 school year, 417 students were enrolled. Of this number, 46 students did not show up on the first day of school and were later dropped from attendance rolls. Moreover, 78 students withdrew from school during the school year. However, 123 students registered during the same period. Thus, even though the total student population only decreased by one, 29% of this population was not present beginning on the first day of school. This trend continued during the second year of this action research work. By October of 2013, 57 students had either withdrawn or had not reported to school to begin the new school year. During that same time, 51 new students had enrolled.

I have been the principal of Echo Mountain for seven years. Prior to this assignment, I was an assistant principal for one year. Before that I served as a homeroom teacher, ELL teacher, and reading specialist at the elementary level for twelve years.

My current teaching staff consists of 25 teachers with a variety of experience levels. Two teachers are in their first year of teaching. Five are in their second through fifth year. Nine teachers have six to ten years of experience and nine have more than ten years of experience.

The Arizona Department of Education labeled our school as a “B” school based on AIMS data from the 2012-2013 school year ([www.ade.az.gov/edd](http://www.ade.az.gov/edd)). For the previous year, we were labeled a “C” performing school, but prior to that we had been a “B” level school. In the years before letter grading, we were labeled as a “Performing” school.



During these same years, many other schools in the Paradise Valley School district were labeled as “Excelling” or “A.” Yet, the current grade for the overall district, a figure that takes into account the performance of all schools in the district, including Echo Mountain, was a “B.” This rating stands in stark contrast to other nearby school districts. The Deer Valley, Cave Creek, Madison, and Scottsdale school districts, which were all labeled as “A” based on AIMS data from 2013.

The Paradise Valley School District has been commonly thought of as serving middle- to upper class clientele, but as noted above, the district serves many students from lower SES backgrounds. Several notable sports and political figures have enrolled their children in district schools. Moreover, the name of the district, Paradise Valley, is shared with a nearby town known for mansions and movie stars. However, the population of Paradise Valley students receiving free and reduced lunch has increased in recent years. Sixteen of the 32 elementary schools in the district now receive Title I funding. The Paradise Valley Unified School District is facing significant demographic changes.

Echo Mountain is a “B” school surrounded by “A” schools, in a “B” district bordered by “A” districts. Clearly, one can see how my staff and I feel the pressure to improve. And if the superintendent called PLCs the *one thing to do right*, then we dedicated ourselves to doing just that.

### **The Program and Innovation**

My staff and I began the 2012-2013 school year committed to implementing the PLC model as proposed by DuFour and Marzano (2011). By the end of September, grade level teams had already participated in three PLC meetings. During these meetings

they held conversations and made plans that answered the four essential questions recommended by the model. See Appendix A for the four questions. In October of that first year, I asked for teacher input on how PLCs were going so far by asking them to complete a brief five-item survey. For example, I asked teachers to use a five point Likert scale to rate statements such as, “By participating in this PLC I am a more effective teacher” And “I learned new teaching strategies during this PLC.” See Appendix B for the complete set of items and results. Results indicated that many teachers credited these PLC meetings with helping them become more efficient and effective.

Nevertheless, as the semester progressed I noticed that PLC meetings had become quieter. I often saw teachers typing up assessments, independently grading assignments, or filling in the PLC forms. Such independent activities were useful, but not indicative of the group discussion and collaborative construction of new knowledge that should be occurring in a PLC meeting.

At this time I reflected on what was missing from PLC meetings. Why were teachers not debating pedagogical issues? Why were they not sharing advanced teaching strategies? Why did they spend their time constructing assessments rather than co-constructing new knowledge? Was the mandated nature of the PLC model affecting motivation? These questions eventually coalesced into the following research problem: During PLC meetings, teachers focus on managerial conversations that do not typify the advanced professional learning that can be attained in a PLC. They *do* the activities of a PLC without *being* a PLC.

In late October I brought up these issues during a focus group of sixth-grade and special area teachers. I started the discussion with a genuine request for constructive feedback. I began, “How are the PLCs going? And, honestly we can change them. I want good feedback. The PLCs are supposed to be helping kids learn. Is that happening? How would you change the PLCs?” See Appendix C for the complete transcription. Discussions from this meeting suggested a possible innovation – a unique form of peer observation. The following provides an excerpt from the conversation. One teacher was discussing her willingness to have others observe her in action:

Teacher 3: “...somebody asked me if I was willing to go and teach other classes I said yes but then I thought it would be better if that teacher comes to my room and observes me or I can go to the other teacher’s room and, well teach to her class...”

Teacher 6: “And if that’s not available maybe videotaping like we did from that writing program.”

Teacher 4: “Oh that’s a good idea.”

Teacher 6: “Videotaping and then we can observe it and observe the details.”

Teacher 3: “That’s awesome.”

Teacher 3: “The PLC time”

Teacher 6: “Exactly, that way we’re not taken away from our class and having to put a sub plan together or whatever it...”

Teacher 3: “That’s right.”

Teacher 4: “Right”

Teacher 3: “That’s a much better idea.”

Teacher 6: “It can be much more detailed.”

After hearing their excitement for the idea of peer observation in the form of video recordings, I took the idea and developed it into a more detailed intervention. This was applied during the first cycle of action research. During the course of regular classroom observations I made recordings of teachers. From these recordings, I then selected short clips to show during the PLC meetings in the spring semester. I then collected qualitative and quantitative data to answer the following research questions for the first cycle of action research:

1. How do video observations of colleagues influence professional learning during a PLC meeting?
2. How do video observations of colleagues facilitate the sharing of the tacit knowledge of teaching?
3. To what extent do video observations of colleagues create a community of learners who share and apply each other's teaching strategies?

Results from the first cycle of action research supported three assertions, which I labeled with teacher comments from post-intervention interviews. First, the “It helps some...” assertion, suggested that overall the intervention did increase the level of professional development that occurred during a PLC meeting, but that more improvements were needed. This relates to the second assertion, “we are not there yet...” which reflected a growing teacher understanding that we had not yet formed a genuine and authentic professional learning community. The third assertion, “oh...duh!” encapsulates a common experience for many of the participants: sudden epiphanies of understanding that occur when you see your colleagues demonstrate a particular technique.

These results informed the design of the second cycle. As a result, the innovation, shared video clips of colleagues, and the research questions became more purposeful. In the second cycle of action research, conducted during the 2013 – 2014 school year, teachers determined the strategies that best demonstrated their unique talents. I then recorded the teacher applying these specific strategies in the classroom. Later, I shared these videos with other staff members, as I had done during cycle one. The difference was that in cycle one I selected videos to share, whereas in cycle two, the teachers selected videos to share based on their perceptions of their own unique talents. Thus, for the second cycle of action research a more focused innovation informed more specific research questions:

1. How do video observations *of a colleague's personal best practices* influence professional learning during a PLC meeting?
2. How do video observations of colleagues facilitate the sharing of the tacit knowledge of *personal best practices* teaching?
3. To what extent do video observations of colleagues create a community of learners who share and apply each other's *personal best practices*?

During this second cycle of action research my field notes provided the most insightful data. Several times I had to remind teachers to schedule a time to record what they felt represented their personal best practices. Other times I arrived in a classroom and found that the teacher was not ready to demonstrate their personal best practices. Personal reflections in my field notes suggested that teachers were not as interested in supporting the specific version of the intervention for this cycle of action research.

However, they remained interested in the general idea of peer observation. In fact, they requested to see other videos related to a new teaching strategy that most teachers on campus were trying to implement. At the beginning of this school year all teachers were trained on the “close reading” technique. (This strategy, not to be confused with “cloze reading,” is a technique that focuses on careful and “close” reading of details in text. It is often suggested for use with the new Arizona College and Career Readiness Standards.) To my surprise, staff wanted to view each other teaching this method, even though it was a new strategy and few teachers had mastered it. Many teachers expressed anxiety about their ability to teach this method. This hints at a possible motivation issue that will be explored in more detail in chapter 2.

These reflections informed the design of the third cycle of action research with the following questions:

1. How is the professional learning in a PLC meeting influenced by video observations of a colleague’s attempt to apply a new teaching strategy that was selected by the teacher team?
2. How is the sharing of the tacit knowledge of teaching facilitated by video observations of a colleague’s attempt to apply a new teaching strategy that was selected by the teacher team?
3. To what extent do video observations of a colleague create a community of teacher learners who help each other succeed with a particular teaching strategy?

## Chapter 2

### Theoretical Perspectives and Research Guiding the Study

First, a definition of the term professional learning community in the context of this study is provided. This will be followed by a review of social constructivist learning theories that explain how professional learning communities might function. In the third section, some reasons why professional learning communities are not functioning at their full potential in the context of this study are offered. In particular, the problem of *doing* a PLC rather than *being* a PLC is explored through the lenses of knowledge management theory, Deci and Ryan's self-determination theory, and the ideas of communities of practice espoused by Lave and Wenger. This chapter concludes by offering a possible solution to this problem that draws on Bandura's social learning and social cognitive theories.

### Defining a Professional Learning Community

The phrase *professional learning community* is widespread, but the core practices underlying the idea are less evident, and many schools that claim to be using PLCs are clearly not (DuFour & Marzano, 2011). For this reason, it is helpful to begin a definition of the term by first explaining that to which it does not refer. PLCs are not a thing to do, but a process to follow and become (DuFour & Eaker, 2002). Being a PLC does not require importing or purchasing programs. It requires socially constructing solutions in the local context (Padwad & Dixit, 2008). And PLCs are not defined by just any social constructions, but by professional, collegial, collaborative conversations focused on inquiry and problem solving (Harris & Jones, 2010; Horn & Little, 2009; Jacobs & Yendol-Hoppey, 2010). Most importantly, PLCs are not dependent on one key leader or

expert. Rather, they flourish based on the collaborative contributions of all members on a team.

A school that uses a PLC focuses on improving student learning by first improving teacher learning. This is done in regularly scheduled opportunities to construct shared learning (DuFour & Marzano, 2011; Hord, 2008). Hord offers five conditions needed for PLCs to be successful: shared leadership, vision, practice, collective learning, and a supportive environment. DuFour and Eaker suggest six characteristics: shared mission, experimentation, collaboration, use of best practices, a focus on results, and a commitment to improve.

In more recent work, DuFour collaborated with Marzano and offered this definition: PLCs build the collective capacity of a teaching staff with ongoing, job-embedded discussions that are aligned to goals and focused on results (DuFour & Marzano, 2011). Specifically, members of PLCs must collaborate on a regular basis and answer four essential questions: What exactly do we want students to learn? How will we know they learned it? How will we respond to students who did not show mastery? And how will we respond to students who did show mastery?

As members of a PLC engage in the process of answering these four questions, they create common formative assessments and SMART goals (DuFour & Marzano, 2011). Nevertheless, more important than the things they make, is the knowledge they co-construct. Teachers in a PLC socially construct new teaching knowledge and participate in high quality professional development focused on inquiry and reflection (Jacobs & Yendol-Hoppey, 2010).



Phrases such as “socially constructed” or “shared knowledge creation” or “collaborative learning” are common in many different definitions of professional learning communities. For this reason, in the next section of this chapter I present information on the “learning” of professional learning communities through the lenses of constructivist theory.

### **Explaining How a Professional Learning Community Functions Ideally**

Lev Vygotsky examined constructivist theory by focusing on child development. However, his ideas can be used to explain how adults construct knowledge together during shared experiences in a particular socio-cultural context. In Vygotsky’s version of constructivism, social developmental theory, all mental actions and processes exist first as social interactions (Wertsch, 1985). For example, before a teacher tries a new teaching strategy in her classroom, she may learn of the strategy during a discussion with colleagues in a PLC. This discussion occurs in what Vygotsky refers to as the *intermental plane* (Vygotsky, 1978). Knowledge in this intermental plane does not exist in the teacher’s head; rather it exists in the interaction that occurs between or among individuals. With sufficient time and discussion, this knowledge becomes internalized and becomes part of the teacher’s intramental plane, a space within the teacher’s mind. This discussion may be facilitated by a *more knowledgeable other* (Vygotsky, 1978). For example, there may be a teacher in the PLC meeting who has used the teaching strategy for several years. Thus, she can provide examples of how she has used the strategy, which can provide comprehensive instructional information to other members of the group.

Integral to Vygotsky's learning theory is that whatever learners can do collaboratively or with assistance they can later do independently (Smith, 2011). The structure of a PLC appears to align with this developmental sequence quite well. First, teachers meet as a team and collaborate or assist each other with a new idea. Moreover, teachers who have had experience with a specific type of teaching strategy might share these experiences with their colleagues in the group. Later, others who were less experienced about the idea return to classrooms and begin to apply those ideas independently.

This example demonstrates the social nature of how teachers can learn new methods for teaching. Vygotsky posits that knowledge is not simply transmitted to a learners' mind; rather, new knowledge, and indeed all forms of consciousness and cognition are the products of social interactions (Vygotsky, 1978, 1986). The PLC meeting offers a potential tool for facilitating such interactions. "Although not explicitly stated as a model of professional development based on Vygotskian theoretical framework, the PLC model may be viewed as an exemplar of a professional development in practice that has its basis in socio-culturally oriented developmental theories" (Eun, 2008, p. 14). Administrators seeking to improve teacher practice should keep this in mind when planning for professional development.

Vygotsky died at a young age, but one of his contemporaries, Leont'ev, expanded on constructivist ideas by examining the interactions of a group of people as a single system that cannot be separated into smaller parts (Leont'ev, 1981). Leont'ev refers to this social interaction as an activity system. It can be composed of a family, a group of friends, teammates, or any other group of people engaged in ongoing, object directed

activity (Leont'ev, 1981). The activity system is conditioned by the local history and it is dialectical in nature (Leont'ev, 1981).

When teachers in a PLC meet, they are acting within an activity system. The ideas they create will be influenced by the local history each one of them brings to the system. For example, if one teacher once had a negative experience with a particular mathematics resource, when she shares this negative experience, it will become part of the system. The dialectical nature of the system provides for spreading the negative experience throughout the system.

More recently, Jonassen expanded on activity theory by focusing on the learning that occurs in the interactions between members of the system (Jonassen, 2002). He posited that not only does learning occur in the interaction, it is the interacted meaning; knowledge does not exist in any single state of mind; it exists only in the interaction. Thus, it is most beneficial for learners with different skills and backgrounds to collaborate on projects to arrive at shared understandings together (Jonassen, 2002). The benefits of such interactions are clearly evident for PLC meetings. For example, two educators with different teaching talents could examine the performance data of a struggling student and work together to discover the best course of action. Neither party acquires this new knowledge directly from the other. Rather, the conversation and the sharing of information leads to learning, which is about making meaning, not receiving it (Jonassen, 2002). The concept of learners as active creators rather than passive receivers echoes Vygotsky's concepts from earlier decades.

Taken to its final conclusion, this suggests education should be structured so that it is not the student that is educated, rather it is the student who educates himself

(Vygotsky, 1997). The idea that a learner was in charge of “educating himself” is also a central tenet of Knowles, Swanson and Holton’s (2011) theory of adult learning. They explain that, in addition to being self-directed, adult learning should be based on prior experiences, incorporate problem solving, provide an immediate value, and have a clear and relevant purpose. Additionally, adults should be involved in the planning of their learning and mistakes should be viewed as a basis for examination and learning. These guidelines work best when the learning is “adapted to fit the uniqueness of the learner and the learning situation” (Knowles et al., 2011, p. 3). Certainly, these conditions are experienced when a group of teachers meet to discuss assessment results from their students and then plan lessons for their classroom.

Further, by its nature a PLC meeting demonstrates adult learning is frequently focused on process. Importantly, Knowles’ theory is a process model rather than a content model. “The difference is not that one deals with content and the other does not; the difference is that the content model is concerned with transmitting information and skills, whereas the process model is concerned with providing procedures and resources for helping learners” (Knowles et al., 2011, p. 114). Thus, in the ideal situation, the PLC meeting does not transmit learning; it provides procedures and resources that enable learning.

Taken together, the PLC model offers all of the components needed for high quality constructivist learning among adult participants. The interactions in PLC meetings are purposeful, self-directed, and based on prior knowledge, which allows for learning to occur as teachers interact with each other within a single activity system. Moreover, in PLCs, interactions may occur with more knowledgeable others.

Additionally, teachers have time to internalize these social interactions. Thus, all of the conditions are in place for the teachers in a PLC meeting to co-construct new learning. Why then, do PLC meetings at Echo Mountain often focus on low-level logistical and clerical tasks such as typing assessments or finding resources?

### **Explaining Why a PLC is Not Functioning at Ideal Levels**

It would be a mistake to say that the clerical, planning tasks observed during PLC meetings at Echo Mountain are not without some benefit. After all, students deserve classroom experiences that are organized and planned well. Nevertheless, the point of a PLC meeting is not to provide time for more thorough planning. The purpose is to provide teacher learning that leads to more effective planning. It would also be a mistake to blame teachers for not initiating high-level conversations on complicated pedagogical issues. They are eager to learn and improve their effectiveness. Most likely, no one on any team is holding back an idea that they know is effective. As soon as one teacher finds something that works, the idea spreads quickly. Nevertheless, PLC meetings are not just about sharing ideas. An ideal PLC meeting must involve the social construction of new ideas. As a result, this action research study must provide some understanding about why present PLC meetings are not attaining the outcomes that might accrue in an ideal meeting.

The first clue in this investigation came from the same focus group discussion that inspired the intervention for this research study. At one point, one teacher was trying to explain why students in her class had such high success rates. Her colleagues wanted to know exactly what she was doing, but she could not put it into words:

Teacher 3: “Oh, so ok, because I’m doing this for a good 32 years it was hard to articulate what I do, I don’t know what I do because I’m doing the same thing.”

Teacher 6: (laughs)

Teacher 3: “The same thing for 32 years and it’s easier for me if somebody comes and observes me and said, ‘what are you doing?’ ”

Teacher 6: “Uhm-hmm”

Teacher 3: “I was doing this for 3 decades. I don’t know. I’m just teaching...”  
This conversation demonstrates the difficulty of sharing tacit knowledge. If the

32-year, veteran teacher could have attributed her success to an explicit technique, she would have happily shared it. However, she could not articulate why she was successful. Knowledge management theory describes tacit knowledge as personal and difficult to formalize in a way that can be communicated or shared (Snowden, 2002, Nonaka & Takeuchi, 1995). Further, Alavi and Leidner (2001) added that tacit knowledge can be internal knowledge of which one may not even be aware.

In his discussion on communities of practice (COP), Wenger (1998) explained that tacit knowledge sharing required informal learning structures such as storytelling. He also advised that not all forms of knowing can be written on a piece of paper (Wenger, McDermott, & Snyder, 2002). Moreover, the information that can be written on paper is not always the information that people want to share. Wenger pointed out that many companies have gone to great lengths to create large databases of information that no one ever accessed (Wenger, 2000). Finally and importantly, Wenger (1998) argued the informal learning structures in communities of practice facilitated the sharing of knowledge.

In some literature, PLCs and COPs are used interchangeably. Although the two concepts share some qualities, there are fundamental differences. PLCs are often

mandated initiatives with specific guidelines. As a case in point, use of the PLC model was mandated in the context of this study when the superintendent advocated their use by principals in our school district. By comparison, COPs grow naturally and voluntarily among people who share a common concern and who get better at addressing this concern as they interact on a regular basis (Wenger, 1998). A COP could be a group of friends improving their fishing technique, a group of secretaries meeting at lunch to figure out new accounting procedures, or a group of teachers sharing teaching ideas.

The growth of COPs can be nurtured, but it cannot be controlled (Lave & Wenger, 1991). For example, teachers in a mandated PLC meeting may evolve into a COP, but it could be a COP on figuring out how to fill in the mandated PLC paperwork, rather than a COP on how to help students. To ensure efforts are conducted toward a specific outcome, leaders are better off designing formal structures such as PLCs to ensure stronger accountability and results, and then allowing for informal learning structures to stimulate knowledge sharing and innovation (Wenger et al., 2002). As a result, the mandated format of the PLC meeting may, in fact, stifle some of the informal learning needed to share tacit knowledge.

Mandated structures or limits are also explored in self-determination theory. This theory posits that motivation is influenced by three innate human needs: autonomy, relatedness, and competence (Deci & Ryan, 2000). It is human nature to be curious and to be interested in learning, but learning can be thwarted if any of these three needs are not met (Niemic & Ryan, 2009). PLCs support autonomy to some degree by allowing teachers to create their own answers to the four essential questions. However, the questions are still imposed on them by the PLC model. PLCs support relatedness by

providing planning time with colleagues who have mutual interests in teaching.

Nevertheless, PLCs are essentially assigned groupings rather than naturally evolving communities. This action research project will not address problems related to autonomy or relatedness. The PLC model in place at Echo Mountain is not optional. Thus, the third component of self-determination theory, competence, appears to be the more likely construct to consider with respect to its influence on PLCs.

In self-determination theory, competence refers to the ability to succeed at challenging tasks and achieve the desired results (Baard, Deci, & Ryan, 2004). The PLC model should be effective for fostering competence because it provides opportunities to construct new knowledge. In turn, this new knowledge should increase chances for success in challenging situations. If, in fact, this theoretical mechanism was working in the PLC, teachers would be motivated to discuss challenging situations because this discussion would result in a better ability to deal with the challenge. Unfortunately, this outcome was not being achieved in the current version of the PLCs being enacted at Echo Mountain. When challenging situations or students were discussed during PLC meetings, eyes rolled and conversation stopped.

This outcome stood in stark contrast to what would be expected when an effective PLC model is implemented. Importantly, in the use of PLCs, no single person has all the answers needed to address each child's needs, but the model also suggests that when enough people got together and collaborated an answer would emerge from the collective wisdom of the group (DuFour & Marzano, 2011). However, what happens when no one in the group has any insight? What does the PLC model suggest for a situation in which



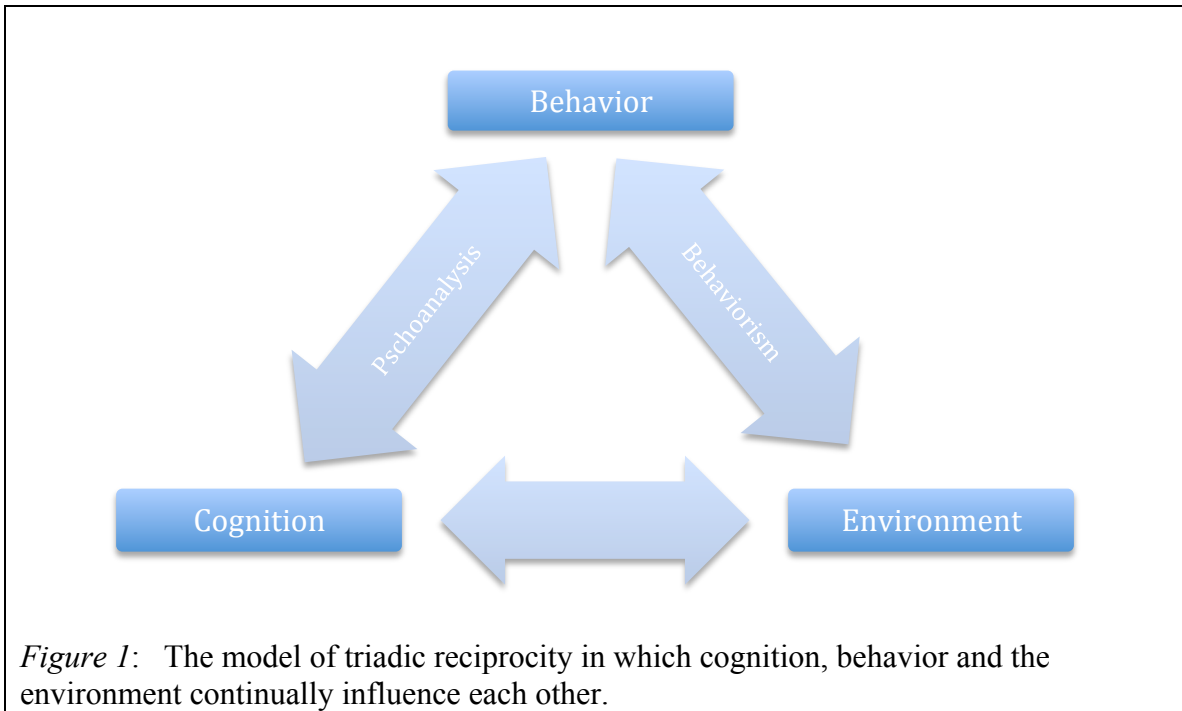
no one has competence for a particular challenge? What happens when the easy solutions have already been shared or co-constructed?

These questions point to a working theory about why PLCs were not functioning optimally at Echo Mountain. Teachers have already shared simple solutions and solved the easy problems. The issues that now arise in PLC discussions have tended to be very challenging. Occasionally, these challenges required competencies that no one in the PLC can articulate. Therefore, this action research project needed to address methods for sharing more tacit knowledge and building competence.

### **Proposing a Solution to Fix Non-optimal PLC Performance**

Teachers at Echo Mountain are ready to collaborate and co-construct solutions, but lack of competence and/or an inability to share their tacit teaching knowledge may be hindering PLC conversations. The work of Albert Bandura suggested possible solutions. His early work on social learning theory and particularly his efforts on modeling offered a solution for sharing tacit teaching knowledge, whereas his later work on social cognitive theory explained how this modeling may increase teacher self-efficacy and competence.

Bandura (1986) argued that human behavior was not completely determined by environmental factors, as behaviorists have contended. Nor did he believe that cognitive or personal issues were the driving force behind all of our decisions, as psychoanalysts have argued. Instead, Bandura proposed a model of triadic reciprocity in which cognition, behavior, and the environment continually influenced each other. This model of triadic reciprocity is depicted in Figure 1.



Human behavior and learning was not merely a reactive response to rewards or punishments. Instead, it was seen as a proactive response based on self-regulation and self-reflection (Bandura, 1986, 1993, 1997, 2001).

Self-efficacy and social modeling are concepts that exist in the broader framework of Bandura's (1997) social cognitive theory. Social modeling is seeing others succeed at a task or deal with a situation (Bandura, 1977a, 1982). This provides the observer with a way to vicariously experience the skill being demonstrated. In the context of this study, these vicarious experiences would involve one teacher observing a model teacher as she performed a teaching strategy or method. Such modeling could address the difficulty of sharing tacit teaching knowledge. Nevertheless, the benefits of this social modeling go beyond merely demonstrating teaching methods that are difficult to explain.

Social modeling also has a powerful influence on increasing self-efficacy (Bandura, 1977b, 1997). Self-efficacy is a belief that one can act to achieve a goal or accomplish some task at a certain level of proficiency (Bandura, 1977a, 1997). Therefore, if teachers see others succeeding in a classroom, then their own feelings of self-efficacy may increase. Increases in a one's self-efficacy regarding teaching methods have been shown to benefit student achievement (Goddard, Hoy, & Hoy, 2004). Further, there is a cumulative benefit to having increased self-efficacy among all teachers at a school. A school faculty's belief in this collective efficacy has also been shown to have substantial effects on student achievement (Bandura, 1993; Goddard et al., 2004).

Increasing teacher self-efficacy may also decrease teacher anxiety. As mentioned in chapter 1, teachers were eager to view each other apply a new method, *close reading* that few teachers had yet mastered. This was causing stress on campus as this strategy was continually touted as a critical component for teaching the new Arizona Career and College Readiness Standards. Bandura's theories suggest a mechanism for reducing anxiety. He argued that stress or anxiety was produced by a perceived discrepancy between a perception of the level of competence required to do a task and one's perception of self-efficacy regarding that task (Bandura, 1997). His obvious advice to fix this anxiety was to increase one's self-efficacy.

Self-efficacy has also been shown to be influenced by mastery experiences, experiencing success with a skill or task; social persuasion, such as feedback or compliments from peers; and physiological responses, being nervous and scared versus being confident and calm (Bandura, 1977a, 1997). Although, these factors are related to the overall context, they will not be the primary areas of focus for this study. When

teachers watch each other on video, I often hear them compliment each other or make comments about how nervous they felt being recorded. Thus, this action research study will focus on how the vicarious experience of social modeling influences teacher self-efficacy.

We can also expand the examination of teacher self-efficacy to consider the collective-efficacy of the school's faculty as a whole. Whereas self-efficacy can be defined as an individual's belief in her or his ability to achieve a goal or accomplish a task, collective efficacy is the beliefs of members of a group about "the performance capability of a social system as a whole" (Bandura, 1997, p. 469). Bandura (1997) further explained that "personal and collective efficacy differ in the unit of agency [individual or group], but in both forms efficacy beliefs have similar sources, serve similar functions and operate through similar processes" (p. 478).

The PLC model provides a fitting context for developing collective and individual self-efficacy. Collective efficacy among teachers can be developed by allowing teachers to make important and relevant decisions about classroom instruction (Goddard et al., 2004). This also provides a sense of purpose and commitment that helps teachers overcome obstacles to instruction (Goddard, 2006). For this reason, schools serving low socio-economic populations benefit from professional development that increases teacher self-efficacy (McCoach & Colbert, 2010). Bandura (1993) made a strong case for the influence of self-efficacy when he wrote,

Schools in which the staff collectively judges themselves as powerless to get students to achieve academic success convey a group sense of academic futility that can pervade the entire life of the school. School staff members who

collectively judge themselves capable of promoting academic success imbue their schools with a positive atmosphere for development. (p. 141)

Social modeling also provides an informal learning structure. The teacher being observed does not need to explain what he or she is doing. If their particular teaching method involves components that are too tacit to put into words, they simply need to show how to do it. Video recordings have been shown to increase performance quality in other fields such as medicine (Makary, 2013), and video modeling is often used in new and novice teacher training (Sewall, 2007).

Bandura's social cognitive theory provides the theoretical framework for this innovation. During PLC meetings, teachers will view short video clips of each other. Social cognitive theory suggests these video clips are a form of social modeling that could increase individual and collective efficacy among teachers and ultimately contribute to the development of genuine professional learning communities.

Consistent with these ideas, I will collect qualitative and quantitative data to answer research questions specific to a third cycle of action research related to improving PLCs at Echo Mountain Intermediate School. After the first two cycles of action research, these questions evolved to reflect emerging themes and interpretations of the earlier results. Although the questions changed, the theoretical lens did not. Indeed, after being informed by theory, the questions asked during each successive cycle of action research became increasingly focused on the core issues.

### **Cycle One Research Questions – Spring of 2013**

1. How do video observations of colleagues influence professional learning during a PLC meeting?

2. How do video observations of colleagues facilitate the sharing of the tacit knowledge of teaching?
3. To what extent do video observations of colleagues create a community of learners who share and apply each other's teaching strategies?

### **Cycle Two Research Questions – Fall of 2013**

1. How is the professional learning in a PLC meeting influenced by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
2. How is the sharing of the tacit knowledge of teaching facilitated by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
3. To what extent do video observations of a colleague create a community of teacher learners who help each other succeed with a particular teaching strategy?

### **Cycle Three Research Questions – Fall of 2014**

1. How and to what extent is the professional learning in a PLC meeting influenced by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
2. How and to what extent is the sharing of the tacit knowledge of teaching facilitated by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?

3. How and to what extent do video observations of a colleague create a community of teacher learners who help each other succeed with a particular teaching strategy?

A brief recap of the results from these cycles of action research, which were presented more fully in chapter 1, indicates that peer observation, in the form of video recordings, can help teachers understand the subtle nuances of teaching strategies that they are trying to learn. This also fosters collaboration and provides a form of nutrients for newly sprouted PLCs. Interest in the recordings is increased when the video focuses on showing success with a strategy that causes teacher concern or anxiety. Taken together, these results suggested the final set of research questions outlined above. This final set of questions will be used to direct the efforts of the dissertation work.

## **Chapter 3**

### **Method**

In this action research study, I examined the implementation of a professional learning community (PLC) model at Echo Mountain Intermediate School, where I serve as principal. The PLC model mandated in this context required teachers to meet on a regular basis to answer four essential questions: What do we want students to learn? How will we know they learned it? How will we respond to students who did not learn it? And, how will we respond to those who did? By collaborating to answer these questions, it was anticipated that teachers would construct new knowledge; and that this teacher learning ultimately would lead to more student learning ( DuFour & Marzano, 2011; DuFour & Marzano, 2009; Hord, 2008; Jacobs & Yendol-Hoppey, 2010).

Echo Mountain is a Title One School with 96% of students qualifying for free lunch. The school also has a high mobility rate and a significant ELL population. With these challenges in mind, the Echo Mountain Staff and I began the 2012 – 2013 school year dedicated to faithful implementation of the PLC model. However, in the four semesters since then, it had become clear to us that PLC meetings often were limited to the logistical facets of these four essential questions, rather than in-depth discussions of practice.

A review of the literature showed that PLC meetings offered many of the ingredients needed to foster constructivist learning. Nevertheless, many of the difficult challenges brought up in PLC meetings could not be solved without first addressing issues of tacit knowledge sharing and self-efficacy among members of a team.



Bandura's Social Cognitive Theory offered a possible solution, which were explored using the methods set forth in this chapter.

### **Research Design**

I used a mixed method approach for this action research study. When used in tandem, qualitative and quantitative data have been shown to strengthen each other and build a more comprehensive understanding of an issue (Plano Clark, & Creswell, 2010). For example, in this study I searched for complementarity between qualitative data such as teacher comments provided during a focus group, and quantitative data based on survey results from a Likert scale. By using qualitative and quantitative measures, this study employed concurrent triangulation (Creswell, 2008) as a method for making assertions.

The groups in this study were pre-established grade level teams. All grade level teams at Echo Mountain were required to participate in the PLC implementation and all grade level teams received the intervention. No grade level teams had the option to not implement PLCs. In fact, I did not have the option to not make PLCs a school-wide focus. My supervisors have directed me to make PLCs work.

This pointed to a clear rationale for using the action research model. Action research methods have been aimed at solving real problems of practice in specific contexts (Mills, 2011; Plano Clark & Creswell, 2010). The focus of action research studies has not been on explaining problems; the focus has been on correcting problems. Thus, the focus of action research studies has been on showing research and research literature can be applied in actual situations.

## **Setting**

During the study, Echo Mountain Intermediate School served 423 students in fourth through sixth grade in the Paradise Valley Unified School District. Echo Mountain qualified for Title I funding because 96% of students qualified for free lunch. The student population consisted of 213 girls and 210 boys. During registration parents selected a Race/Ethnicity category for their child. As a result, 65% of students were classified as Hispanic/Latino, 24% were White, 5% were African-American, 3% were American Indian/Alaska Native, 3% were two or more races, and only three students, less than 1% were Asian.

Thirty-nine percent of students lived in a home in which English is not the primary language. Twenty-three percent of students were eligible for English Language Learning services and 11 percent of the student body received special education services. The Echo Mountain student body changed throughout the study. At the conclusion of this study, only 71% of students had been enrolled since the first day of school.

The certified staff at Echo Mountain Intermediate School was composed of sixteen homeroom teachers, three specialists serving gifted and special education students, three Title I staff members, and five part-time special area teachers for music, art, library, computers and physical education. Although all staff participated in some way during PLC meetings, the focus of this dissertation was on the discussions and interactions amongst homeroom teachers.

## **Participants**

The participants in this study were sixteen homeroom teachers at Echo Mountain Intermediate School. There were five homeroom teachers from sixth and fifth grade and

four homeroom teachers from fourth grade. There was one ELL homeroom teacher each in fourth and fifth grade. These participants were selected by invitation. During a staff meeting in August, I described the intervention and asked grade level teams if they would like to participate in the study and receive the intervention. Obviously, the fact that I was their supervisor may have influenced their decision. This threat to validity will be discussed further in chapter 5. There were twelve other teachers at Echo Mountain. They served in a variety of positions such as Physical Education or Reading Specialist. These twelve teachers did not participate in this study because they were not regularly attending members of the grade level PLC meetings.

### **Intervention**

This intervention was conducted to address the following research problem: teachers were not constructing new knowledge during PLC meetings. Instead, they were focused on doing the activities of a PLC without being a PLC.

To apply the idea of social modeling in a practical manner, I used peer observation in the form of recorded videos. The process to record and share these videos was framed around the schedule of PLC meetings. Each month during the 2014 – 2015 school year teachers had an entire release day to meet as a professional learning community. During the first PLC meeting of the year in August, teacher teams agreed on a teaching strategy that they wanted to examine using peer observation. For example, the fourth grade teachers decided that they would like to observe each other using graphic organizers to help students generate and organize ideas as they compose expository essays.

The particular teaching strategy that the team selected was not critical to the outcome of this study. What was critical was that the teachers identified a skill or strategy that they all agreed needed to be examined as a team. At the beginning of the school year, teachers filled out forms related to their personal and team growth goals, so they also readily selected a strategy to improve using peer observation. This strategy was referred to as the *peer observation focus strategy* (POFS).

After this first PLC meeting, teachers invited me to their classrooms so that I could record a five- to ten-minute demonstration of the teacher applying the peer observation focus strategy. All teachers were recorded once before the next PLC meeting in September. At the beginning of that PLC meeting, I showed these videos to each team. The team saw videos from all of their teammates. Various techniques were used to ensure the time needed to view the videos did not exceed 30 minutes. For example, I fast-forwarded through the video as needed. I also handled other logistical issues related to showing the videos such as cuing up a segment, setting up a viewing screen, etc.

After the 30 minutes of video viewing, teachers still had five-and-one-half hours remaining in their PLC meeting. A substantial portion of this time was devoted to in-depth discussions of teaching methods to foster construction of deep understanding of the POFS. PLCs were provided with some guiding questions to foster these discussions. For example, some questions were: how would you apply this strategy in your classroom? or, what exactly did your colleague do to make this strategy work? See Appendix D for a full list of guiding questions. Methods for measuring the discussions and their outcomes are delineated in the section on Instruments and Data Sources.

For this study, the cycle of recording and sharing of the peer observation focus strategy was repeated during the October and November PLC meetings in addition to the September meeting. Thus, by the end of November teachers had three opportunities to observe their colleagues demonstrate the peer observation focus strategy and considerable discussion occurred.

### **Instruments and Data Sources**

To gauge the effectiveness of this intervention, qualitative and quantitative data were gathered to answer three research questions:

1. How and to what extent is the professional learning in a PLC meeting influenced by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
2. How and to what extent is the sharing of the tacit knowledge of teaching facilitated by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
3. How and to what extent do video observations of a colleague create a community of teacher learners who help each other succeed with a particular teaching strategy?

The sections below list the instruments that were used to collect quantitative data as well as the sources that were examined for qualitative data.

**Instruments for collecting quantitative data.** Surveys of teachers provided the quantitative data for this action research. Teachers responded to items in an online Google Forms survey that assessed three constructs related to the PLCs functions. The three constructs were: (a) professional learning in the PLC, (b) sharing tacit

knowledge, and (c) the sense of a community of supportive colleagues in the PLC. Example items included: “At the end of our PLC meetings, I come away with ideas to try in my classroom;” “During our PLC meetings, I found it helpful to discuss what others to make their lessons successful;” and “I am more successful using the new teaching strategies because of support I receive during the PLC meeting;” which illustrated each of the three constructs, respectively. See appendix E for the entire survey. As noted in Appendix E, the survey consisted of fifteen items, which were assessed on a four-point Likert scale. The survey was administered as a pre-test assessment before the intervention was implemented, as a post-test assessment immediately after the final PLC meeting in November, and again two weeks after the final PLC meeting. This third time the survey was given as a retrospective pre-test assessment. Retrospective pre-test assessments are discussed in greater detail in a subsequent section.

**Sources of qualitative data.** The first source was focus group interviews. During the previous cycles of action research focus groups provided insightful data. Therefore, each of the three grade-level teams participated in a focus group in December. By this time, all teachers had three opportunities to experience the intervention. The focus group was voluntary, and all members of each team decided to participate. These focus groups followed a semi-structured format with the main research questions of the study serving as the stimuli for group discussions. If further stimulation was needed, then the following vignette was used, “Imagine that you transfer to a new school and you find out that the principal there wants to create a professional learning community. What would you share about your experiences with peer observation?”

The second source was individual Interviews. During the previous cycles of action research I took note of teachers who made comments or actions worthy of further exploration. These staff members were later interviewed and they often provided unique insight. During this final cycle of action research I used this same technique for identifying possible interview candidates. As the intervention was being applied I recorded intriguing anecdotes or teacher comments in the field notes. Later, the teachers responsible for these comments or anecdotes were invited to a one-on-one interview. For example, during one PLC meeting a teacher commented on how different the experience of video recording was at her previous school. I recorded this anecdote in my field notes and added her to my list of potential interview candidates. The interviews followed a semi-structured format. I began by sharing the reason the teacher was selected for the interview and then allowed him or her to comment on this. The interview was recorded and I took general notes. If the interviewee used an emotional word I circled this word in my notes and later asked the interviewee to elaborate on this. This was done to dig deeper into the motivations and feelings behind teacher beliefs about PLCs.

Table 1

*Inventory of Instruments for Quantitative Data*

Instrument	Research Question Addressed	Inventory of Results
Survey Questions 1,2,3,4,5	1	pre-, post, and retrospective pre-test surveys from 12 participants
Survey Questions 6,7,8,9,10	2	pre-, post, and retrospective pre-test surveys from 12 participants
Survey Questions 11,12,13,14,15	3	pre-, post, and retrospective pre-test surveys from 12 participants

Table 2

*Inventory of Qualitative Data Sources*

Data Source	Research Question Addressed	Inventory of Results
Focus Group Interview	1, 2, 3	64 minutes of recorded interview
Individual Interviews	1, 2, 3	77 minutes of recorded interview



## Procedure and Timeline

This study served as the third cycle of an action research project that began in the fall of 2012 and concluded in the fall of 2014. The table below outlines the major events from the previous two cycles as well as the specific events of this third cycle.

Table 3

### *Timeline During 2012 – 2015 School Years*

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August 2012	PLC Training Provided to Teachers
August – October 2012	First PLC Meetings
November 2012	Exploratory Surveys and Focus Groups Identifying Research problem and Possible Intervention
Spring 2013	Cycle One Application of Intervention
April 2013	Cycle One Data Collection and Analysis
Fall 2013	Cycle Two Application of Intervention
Spring 2014	Cycle Two Data Collection and Analysis
August 2014	Staff Meeting Explaining Cycle Three Procedures
August 2014	First PLC of the Year – Teams Identify the POFS
August 2014	Pre-test Assessment Likert Survey
September 2014	First Recordings Made
September 2014	First Application of the Intervention/Field notes collected
October 2014	Second Recording Made
October 2014	Second Application of the Intervention/Field notes collected
November 2014	Third Recording Made
November 2014	Third Application of the Intervention/Field notes collected
November 2014	Post-test Assessment Likert Survey
December 2014	Retrospective Pre-test Assessment Likert Survey
December 2014	Focus Groups
December 2014	Individual Interviews
January 2015	Data Analysis
January 2015	Member Check Staff Meeting and Survey

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**Narrative of Procedures for the 2014 – 2015 School Year.** As detailed in the table above, this study follows up on two previous cycles of action research. Consequently, participants were not required to be provided with detailed instructions on how the intervention functioned. Instead, they simply needed to know how the intervention had evolved. More precisely, they needed to know the 2014-2015 intervention focused on peer observation of a strategy that they selected as a team, rather than on strategies that they individually selected, which was true of cycle 2, or random recordings of classroom methods, as in cycle 1. This was explained at the first staff meeting in August. During this meeting, I also read the “Purpose Statement for Action Research on PLCs.” The document indicated the proactive position I was taking with respect to reducing the validity threat that existed because I was also the participants’ supervisor and evaluator, as well as outlining efforts required of them in the project. The entire text is provided in Appendix F. In Chapter 5, I will discuss this threat in greater detail.

During the first PLC meeting day of the year in August, teacher teams were instructed to select the teaching strategy that they would like to examine more deeply by using peer observation. Teams were allowed to select a strategy from the school district long-range plan, the teacher evaluation system, recent professional readings, and so forth. I advised teams to select a strategy in which they would be interested in examining for the entire semester. During subsequent meetings and interviews this strategy was referred to as the peer observation focus strategy (POFS).

After this PLC meeting, teachers individually took the PLC survey the first time. Although teachers had taken similar surveys in previous cycles of action research, this

still provided useful pre-intervention data because no video sharing had occurred during this first PLC meeting. Additionally, teachers have recently returned from their summer break and some of the gains from the second cycle of action research might have faded.

During the month of September, I recorded each teacher demonstrating the target POFS. These videos were shared during the next PLC meeting. I managed all logistical issues related to playing the videos so that teachers remained free to discuss what had been demonstrated. This cycle of recording and sharing videos and holding a thorough discussion of the videos was repeated for the October and November PLC meetings, as well.

At the conclusion of the November PLC meeting, the PLC Survey post-intervention assessment was administered. However, there were three reasons why this pre- and post-intervention assessment process may not have provided useful data for this cycle of the project. First, only three months will have passed between the two tests and during this time teachers will have only received the intervention for three 30-minute periods. This may not have provided sufficient time for lasting change to occur. Second, the teachers in this study have already experienced a version of this intervention during two previous cycles of action research – in other words the pre-test assessment may not really have been a genuine pre-test assessment.

The final reason presents the most intriguing problem: if the intervention works, teachers may have developed a better understanding of the constructs being measured by the survey, as a result they may begin to evaluate themselves using a different internal scale. Because they understand the constructs better, they may have been more critical of themselves, which means post-test scores would not have increased because they were

using a new metric. This issue has been explained by response-shift theory, which posited that all self-evaluation metrics exist inside participants' minds. If participants knowledge of a topic shifts so too did the internal metric (Goedhart & Hoogsstraten, 1992; Sibthorp, Paisley, Gookin, & Ward, 2007).

Here is an example to further illustrate the issue: without special training as a sommelier, I might unreasonably rate myself as a good judge of wine and its characteristics. However, if I were to take a beginner's course in wine tasting I would learn that there are many facets to consider when judging the qualities of a wine. My knowledge of wine tasting would increase. As my knowledge on this topic increases, I become more cognizant and therefore more critical of my own capabilities as a sommelier. Consequently, I might rate myself much lower as a wine taster.

For teachers the example might look like this: before they started a critical examination of our PLCs they might have rated themselves as pretty good. They worked as a team and shared resources. However, after two cycles of action research on developing authentic PLCs the teachers may have developed a much higher standard by which they now judge themselves. This possibility is suggested by the cycle one assertion, "*we are not there yet...*" which encapsulated teachers' nascent understanding that we had a long way to go before becoming a true PLC.

Fortunately, a possible solution to response-shift exists in the form of the retrospective pre-test assessment. This form of self-evaluation asks a participant to think back in time and evaluate themselves with respect to some ability as they were at that particular point in time (Howard, Schmeck, & Bray, 1979). Response-shift is avoided because the participants rate an earlier, less well-developed version of themselves using

their current level of understanding. Retrospective pre-test assessments have been shown to control for response shift (Pelfrey & Pelfrey, 2009) and increase validity (Nimon, Zigarmi, & Allen, 2010; Visser, Oort, & Sprangers, 2005).

In this study, a retrospective pre-test assessment occurred as the third administration of the PLC survey. Previous studies have found better validity when the retrospective pre-test assessment was not given at that same time as the standard post-test appraisal (Nimon et al., 2010). For this reason the retrospective pre-test measure was given in December, two weeks after the standard post-test assessment. Teachers were directed to think back and rate themselves as they perceived they were in August of 2012, before the first cycle of action research. The wine-tasting example provided above was shared to help explain the concept of response-shift.

Three focus groups and four individual interviews were conducted in December. The focus groups each consisted of five volunteers from a grade level team and were conducted at a time convenient for that team. Coffee and small snack items were provided as a way to encourage participation without providing a distorting level of reward. The individual interviews were conducted with teachers who had made intriguing comments during the intervention phase of this research study. They were invited to expand upon these comments.

### **Data Analysis Procedures**

**Quantitative results.** Survey results were analyzed using repeated measures analysis of variance to determine whether the means of responses for each of the three constructs assessed by the Likert scales were different for the retrospective-pre-, pre- and post-intervention assessments.

**Qualitative results.** Responses that teachers made during focus groups or interviews were coded and subsequently gathered into larger categories and then into emerging themes using Strauss and Corbin's (1990) grounded theory approach. First, I transcribed and read through the focus group discussions a number of times. Following the readings of the transcripts, I engaged in open coding where I attached labels to the concepts expressed by respondents. Further cycles were conducted to gather the initial codes into larger more meaningful categories, which were still consistent with the data. I then repeated this same process for the individual interviews.

The most common code combinations were identified and tabulated. At this time, entries in the field notebook were grouped into categories and used to compliment any of these emerging codes. Themes that were supported with multiple sources of data were gathered together to establish tentative assertions.

Merely formulating a list of assertions did not satisfy the purpose of this action research study. The participants and I were not just researching to create new knowledge, we were attempting to apply knowledge and solve a problem of practice. In this context, the problem of practice was implementing genuine PLCs. Therefore, final assertions were developed which provided insight that assisted Echo Mountain teachers in reaching this goal. To ensure the efforts were consistent with teachers' understandings, I asked teachers for their input on whether the assertions captured what they had stated by using a formalized process known as "member checking."

Member checking has typically used a process of asking participants to examine material from a study to check it for accuracy, completeness, or fair representation (Lewis-Beck, Bryman, & Liao, 2004; Plano Clark & Creswell, 2010). This can occur at

different phases of the research. For example, participants can examine the accuracy of transcripts from an interview before data were analyzed. Alternatively, participants could examine interpretations drawn from those transcripts and comment on whether or not findings matched their own understanding. Some qualitative researchers have argued that member checks increase the accuracy, credibility, internal validity, and transferability of data and interpretations (Lincoln & Guba, 1985; Yanow & Schwartz-Shea, 2013). Along with triangulation or audit trails, member checks have been often touted as a method for strengthening the trustworthiness of qualitative findings (Carlson, 2010). Further, member checks have been shown to align with naturalistic inquiry and provide a careful method for handling data related to social issues that cannot be explained with positivist approaches based on empirical research and testable results (Lincoln & Guba, 1985).

However, critics of member checks have countered that this determination to show solid method suggested a hang-up on positivist approaches. “Assessing validity through specific methodological criteria continues the positivist assumption of an external foundational reality, untainted by our subjective involvement, to which research results can be compared and judged for their truth-value” (Angen, 2000, p. 383). Still others argued that member checks can distort data, rather than improve its validity. For example, participants have been shown to over-edit transcripts, deleted items that embarrass them or changed their story completely (Carlson, 2010). Participants may also misunderstood the language of qualitative findings or were unwilling to criticize or disagree with a researcher (Emerson & Pollner, 1988). Member checks set up a social dynamic that, like any social interaction, was heavily dependent on unique contexts. The member check was a socially constructed device with both participants and researchers

bringing to the table their unique interests, goals and personas to portray, such as “good research subject” or “thorough researcher” (Sandelowski, 1993).

Further discussion of validity issues related to member checks will follow in chapter 5. Briefly, the solution to these issues was: I embraced the idea of member checking as a socially constructed device that influenced results. My participants and I were conducting action research with a purposeful goal. We were solving a problem of practice. If member checks corrected flaws in data – great. If this led to new understandings that I co-created with participants – even better. This was not a revolutionary idea in qualitative action research. Qualitative research has always been a negotiated process of meaning making for both sides (Doyle, 2007) and understanding has been co-created in dialogues between researchers and participants (Angen, 2000). This focus on co-created meaning through dialogue also complimented the constructivist perspective that frame the theoretical perspective of this research.

To initiate this constructivist conversation I first presented the tentative assertions to all participants at a staff meeting. During the staff meeting I also reread the “Purpose Statement for Action Research on PLCs” (See Appendix F). I then employed Google Forms to send all participants a survey with a Likert scale item related to each assertion. Each item stated the assertion and then followed with, “This assertion accurately captures my own opinion or understanding.” Participants will select, *Strongly Agree*, *Agree*, *Disagree*, or *Strongly Disagree*. Results from this survey provided a final piece of information with respect to the veracity for each assertion.



## Chapter 4

### DATA ANALYSIS AND RESULTS

Results from the study are presented in the following two sections. The first section includes results from the quantitative data. In the second section, results for qualitative data are presented. For the qualitative data, assertions are presented and reinforced with themes, theme-related components, and quotes from participants. Prior to presentation of results, a section on data collection processes and analyses procedures is provided.

Quantitative data included survey results from 12 teachers who completed retrospective-pre-, pre-, and post-intervention surveys. The surveys measured teacher perceptions of three constructs related to the PLC—professional development in a PLC, sharing tacit knowledge, and a community of supportive colleagues. The quantitative data were analyzed in several ways. First, reliability of the constructs was examined. Following the reliability analysis, a repeated measures analysis of variance (ANOVA) was conducted on the retrospective-pre-, pre-, and post-test data to determine whether there were differences for these mean scores.

Qualitative data included observation data, data from three focus groups each of five teacher participants, and three interviews of individual teachers. These qualitative data were entered into HyperRESEARCH (HyperResearch 3.x.x, 2014). The data were analyzed using the constant comparative method (Strauss & Corbin, 1998), in which data were coded using initial open codes that included key words or short phrases. Subsequently, initial codes were gathered into larger categories. The categories were then collected into theme-related components, which were then brought together into

themes. The themes led to the development of assertions, which were supported with quotes from the original data.

## **Results**

### **Results for Quantitative Data**

Results from the quantitative data are presented in two sections. First, reliability data are presented. Second, the repeated measures ANOVA of the three constructs for the retrospective-pre-, pre-, and post-intervention survey scores are presented.

**Reliability of the three constructs.** The surveys used to examine teachers' perceptions about their PLCs included three constructs: (a) professional development in a PLC, (b) sharing tacit knowledge, and (c) a community of supportive colleagues. Items for each of these constructs are presented in Appendix E. For the post-intervention assessment, Cronbach's  $\alpha$  was computed for each of the constructs using SPSS to determine the reliability. In examining the post-intervention responses, the reliabilities for the constructs were: .88, .91, and .82, respectively for the three constructs. The reliability coefficients were all above .70, which is a minimally acceptable level of reliability, and confirm the reliability of the subsets of items for each of the constructs assessed by the survey.

**Repeated measures analysis of retrospective pre-, pre-, and post-intervention scores.** A multivariate repeated measures analysis of variance (ANOVA) was conducted to determine whether there were differences in scores when comparing the retrospective-pre-, pre-, and post-intervention survey results on the three constructs. The multivariate  $F(6, 42) = 3.99, p < .003$  was significant and  $\eta^2 = .36$ , which is a large effect size for a within-subjects design based on Cohen's criteria (Olejnik & Algina, 2000).

Individual, univariate repeated measures ANOVAs showed scores differed reliably for all three constructs when retrospective-pre, pre-, and post-intervention scores were compared. Specifically, the repeated measures ANOVA for perception of professional development in a PLC was significant,  $F(2, 22) = 21.71, p < .001$  and  $\eta^2 = .66$ , which is a large effect size for a within-subjects design (Olejnik & Algina, 2000). Similarly, the repeated measures ANOVA for sharing tacit knowledge was significant,  $F(2, 22) = 23.73, p < .001$  and  $\eta^2 = .68$ , which is a large effect size. Likewise, the repeated measures ANOVA for community of supportive colleagues was significant,  $F(2, 22) = 20.73, p < .001$  and  $\eta^2 = .65$ , which is a large effect size for a within-subjects design. The large effect sizes indicated reliable differences in the retrospective pre-, pre-, and post-intervention means. Follow-up post-hoc comparisons showed none of the pre-intervention scores differed from the post-intervention scores. This outcome was anticipated because teachers had been engaged in their PLCs for the past two years prior to the dissertation study. Nevertheless, follow-up post-hoc comparisons for all retrospective-pre-intervention scores differed significantly from the pre-intervention and the post-intervention scores. Importantly, differences between retrospective pre-intervention scores and post-intervention scores were 1.15, 1.12, and 1.15, which indicated substantial differences in perceptions on the 4-point scale. The retrospective-pre-, pre-, and post-intervention means and standard deviations are presented in Table 4 on the next page.

Table 4

*Retrospective Pre-, Pre-, and Post-Intervention Scores*

Construct	Time of Testing					
	Retrospective Pre-interv.		Pre-interv.		Post-interv.	
	M	SD	M	SD	M	SD
Professional Development	2.57	0.69	3.57	0.60	3.72	0.41
Sharing Tacit Knowledge	2.43	0.63	3.35	0.50	3.55	0.55
PLC Supportive	2.52	0.64	3.50	0.49	3.67	0.42

**Results for Qualitative Data**

Results for the qualitative data are presented in three sections. First, a description of the data sources is provided. Second, the themes, theme-related components and assertions are presented. The final section provides quotes from the data to illustrate the themes and strengthen the assertions.

**Description of the data sources.** Qualitative data were collected to further illustrate the personal beliefs, attitudes, and perspectives of participants in this study. This was accomplished with individual interviews with four teachers and focus groups with each of the three grade level teams represented in this study. These interviews and focus groups followed a semi-structured protocol that initiated conversation around the three constructs related to the PLC—professional development in a PLC, sharing tacit knowledge, and a community of supportive colleagues. These data were recorded and

transcribed, producing 2 hours and 21 minutes of audio files and approximately 25,000 words of text. The qualitative data are further delineated in Table 5 below.

Table 5

*Description of Qualitative Data Sources*

Data Source	Word Count	Minutes
Teacher 1 Interview	1811	12:29
Teacher 2 Interview	3012	18:50
Teacher 3 Interview	2832	15:28
Teacher 4 Interview	3443	18:09
Focus Group 1	4697	24:43
Focus Group 2	5417	28:30
Focus Group 3	3817	24:17
Totals	25,029	141:06

**Themes, theme-related components, and assertions.** In the analysis of the qualitative data 319 unique codes were identified. These codes were grouped into categories. Categories were gathered into theme-related components, which in turn were collected into themes from which assertions were developed. Based on this process, the four themes were: (a) personal learning, (b) team dynamics (c) emotional blocks and (d) connecting to videos. These themes led to four assertions. Table six on the next page lists these four themes in addition to the theme-related components and assertions associated with each theme.

To make the data analysis process more public, I followed Anfara, Brown, and Mangione’s (2002) suggestion and have provided information about the processes used to analyze the data, in particular the accretion of codes into categories and categories into theme-related components from which themes and subsequently assertions were derived. For example, to demonstrate the accretion of codes into larger categories, consider the following illustration. Codes such as “new things are scary,” “nervous being filmed,” and

“fear of being judged” were brought together into a larger category, which was called “evoking fear from the experience.” Groups of similar categories such as “dealing with intimidation,” “feelings of discomfort,” and so on were accumulated into the theme-related component, “The process of being recorded or observed by others was fearful and intimidating to some participants.” In turn, these theme-related components were amassed into themes. At each step, the data were revisited and thoughtfully considered to ensure they supported each of the higher-level interpretations (Guba, 1981). Thus, the data analysis was performed in an analytical, dependable, and careful way. The processes are credible because comprehensive processes were followed, reflective efforts were utilized, and a thorough audit trail was established (Guba, 1981).

Table 6

*Themes, Theme-related Components, and Assertions Based on Analysis of Qualitative*

*Data*

Themes	Theme-related Components	Assertions
Personal learning	<ol style="list-style-type: none"> <li>1. Peer observation allowed teachers to learn specific teaching strategies.</li> <li>2. Peer observation stimulated reflection on teachers' professional practice.</li> <li>3. Peer observation had a positive effect on a teachers' sense of self-efficacy.</li> </ol>	The process of peer observation of videos during PLC meetings benefitted the personal learning of teachers.
Team dynamics	<ol style="list-style-type: none"> <li>1. Peer observation sparked conversation.</li> <li>2. Peer observation had a positive influence on teachers' perceptions of their colleagues.</li> <li>3. Peer observation facilitated the sharing of the unspoken details of a teaching strategy.</li> <li>4. Peer observation built cohesion and collaboration among PLC members.</li> </ol>	Peer observation fostered discussion and allowed teacher teams to demonstrate the critical behaviors of a true PLC.
Emotional blocks	<ol style="list-style-type: none"> <li>1. Teachers' familiarity, comfort level, and trust with colleagues influenced their abilities to participate in peer observation.</li> <li>2. The process of peer observation awakened feelings of self-doubt.</li> <li>3. The process of being recorded or observed by others was fearful and intimidating to some participants.</li> </ol>	The process of facilitating peer observation through video recordings evoked negative emotions.
Connecting to videos	<ol style="list-style-type: none"> <li>1. Teacher placed greater value on videos showing a setting that was similar to their own classrooms.</li> <li>2. Teachers were skeptical of videos because of a perception that people behave differently on camera and that some recorded lessons were contrived.</li> </ol>	The degree to which teachers were able to learn from a video was influenced by their perceptions of the video's authenticity and similarity to their own classrooms.

**Supporting quotes from the data sources.** The following section provides quotes from participants to support and further strengthen the four assertions. The first two assertions posited benefits with respect to the use of peer observation. On the other hand, the latter two assertions presented challenges to the use of peer observation. The quotes of the participants helped to illustrate this contradiction.

**Personal learning.** Assertion 1 - *The process of peer observation of videos during PLC meetings benefitted the personal learning of teachers.* Several teachers commented on the simple fact that watching a teaching strategy in action helped them learn that strategy. For example, a fourth-grade teacher averred, “[the video] allows me to see those things that we talk about and realize how it is done” (Teacher interview, December 9). A fifth-grade teacher explained,

To see it in action is totally different than just to hear about it, so we kind of have to apply what we apply in our classrooms ... we all learn differently and we all need that professional development in different ways, you can't just give us a handout or just verbally tell us, you know, its useful to see. (Focus group, December 10)

Her colleague later added,

For me I like seeing the strategies, and the extension of the strategies, and the enrichment of the strategies in someone else's classroom was very powerful. I was just like, oh I can also try to extend it this way. (Focus group, December 10)

This team also explained that the videos exposed them to ideas beyond just the one strategy that was selected as an area of focus for the team. A team member affirmed, “[the videos] also give different strategies that I never thought of doing .... It just gave



more reality to different strategies that you could use, that the kids enjoyed, and they can be successful with” (Focus group, December 10).

Teachers often made comments about the general effectiveness of visual learning for teaching methods. A sixth-grade teacher claimed, “I’m such a hands on practical learner that for me to see these things in action, it’s really great” (Focus group, December 11). Moreover, a fifth-grade teacher maintained, “just like the kids need visuals to learn better, this is our visual, we are constantly as teachers learning, its our job, so to see that as a visual, that’s our learning tool” (Teacher interview, December 11).

Comments about learning were often paired with comments related to personal reflection. For example, one participant asserted, “I like to reflect and I think watching myself or watching another teacher really impacts what I do because I always think there is something I can learn” (Teacher interview, December 12). Teachers also reported that this personal reflection occurred beyond the PLC. One teacher illustrated this outcome when she testified,

I’m just thinking of how many times I actually think or reflect on our videos and its a lot, in my classroom, or at home when I’m planning lessons, so I’m going to have to say it’s pretty important how many times I think about it afterwards.

(Focus group, December 5)

Reflections often brought about changes in opinion. For example, one teacher explained, “I could tell you something and you’d be like, ‘oh that won’t work for my kids,’ but when you see it working for the kids you’re like, ‘oh’ and you might be more apt to try it” (Focus group, December 11). A fifth-grade teacher shared a similar thought. After seeing her colleague use a strategy she declared, “it’s like wow, I need to start doing that,

I need to open my mind to it too, so definitely, it is eye opening” (Focus group, December 10).

Other teachers shared similar, eye-opening anecdotes, many of which were connected to changes in their own perceptions of self-efficacy. A fifth-grade teacher commented, “by seeing yourself on film and seeing it help others, like, of course, it builds your confidence as a teacher and it makes you, it empowers you to want to go and help more” (Teacher interview, December 11). This teacher also commented on how her teammates have changed after they reflected on what observed when she claimed,

I feel that it has opened up some of my teammates’ eyes to newer, maybe newer strategies that they may have not have even heard about or thought about, or maybe they didn’t think they would be successful at it, but it opened their eyes to it... (Teacher interview, December 11)

She later continued,

I think the video was what helped teachers succeed. Without that, like I said, just the verbal [explanation of teaching strategy] ‘this is what I did, this is what I’m planning to do,’ that’s not very helpful for some people. They can’t really see that in action, but watching it happen I think is what really, really helped not just my own team, but all the other teachers on campus understand, ‘oh I can do that too, here’s something new I can try, I can step out of my comfort zone.’ You know that person was successful with it, I think I can be successful too. (Teacher interview, December 11)

This idea was reiterated during that teacher’s team focus group when a colleague maintained,

In our classrooms, we're by ourselves. There's really no one there to tell us and give us the feedback on a daily basis of, 'hey you're doing a good job' and sometimes we look to those percentages [test scores] for that and when they're not very good we start to feel like, 'gosh what am I doing wrong,' so to have our videos watched and to hear out teammates complimenting us on, 'wow that was really neat,' that was different, I didn't think of that. 'It's like, ok I am doing a good job I'm not insane, people are actually liking what I'm doing, this is working.'" (Focus group, December 12)

A sixth-grade teacher noticed a similar effect with her team. She explained, "team members maybe are reticent to jump on whatever the newest latest and greatest bandwagon is, but seeing that others are doing something different would lead them to think that 'sure I can'" (Teacher interview, December 8). The self-confidence theme is repeated in the sixth-grade focus group when one participant suggested,

I'll go home and I have a tendency of saying, 'gosh was I too much today' [too strict on students] you start to question yourself. It was nice to see my peer come in and in my opinion I felt like she was even more [strict] and I was like wow, that's cool." (Focus group, December 11)

The comments above demonstrated how teachers as individuals benefitted from the video observations. These videos allowed for the visual sharing of specific strategies, stimulated professional reflection, and strengthened self-efficacy. Further comments will illustrate how the videos benefitted the teams as shown in the next section.

**Team Dynamics.** Assertion 2 - *Peer observation fostered discussion and allowed teacher teams to demonstrate the critical behaviors of a true PLC.* One hallmark trait of a PLC meeting is professional conversation. Several teachers commented on how such conversation was stimulated by the videos. A fourth-grade teacher shared,

I think that they [videos] definitely sparked conversation between us. I mean, I feel like especially with all of us have different styles of teaching and seeing how one person did it really got us like kind of going, like well explain more, how did you do that and what are you doing for follow-up? (Focus group, December 5)

Later one of her colleagues commented on how the PLC conversations have changed over time,

I think when we started, I was just going to say we were focused on what we were teaching, and now we're focused on how are we teaching and how are we assessing and how are we bringing technology in." (Focus group, December 5)

This perception was reiterated by one of the team members in the private interview when she maintained,

It has opened up discussion for us. It's allowed us to look at things and say, 'okay I see that now,' or 'we didn't' talk about this before, but I saw you do this in the video, lets talk about this particular strategy.'" (Teacher interview, December 9)

This same teacher later commented on how the videos stimulated professional conversations outside of the PLC meeting when she claimed,

Another instance I know for me, personally, was when we watched the video with the Read 180 room and the centers and getting to see how those centers were going. I then went back and implemented that with my after school group and it

did okay the first time, but then I realized, ‘oh I need to go back and talk to her.’ So it sparked more conversation about ‘how did you actually do this and how did you create that flow?’ And she was able to tell me. (Teacher interview, December 9)

A fifth-grade teacher commented on how the videos helped her PLC stay focused on professional conversations, rather than just clerical planning work during PLC meetings. She explained,

I think without the video observations it is extremely hard for teachers to remember without somebody constantly reminding them, ‘hey this should be professional development, we should be talking about the how’ because as we’ve talked about before its very, very easy to get into ‘ok, let’s make this test, how are we going to grade it , what’s the scale,’ so I think without the reminding its hard for it to become professional development, but with the videos that’s the visual we talked about and it takes it beyond just talking. (Teacher interview, December 11)

Other conversations suggested the videos allowed teachers to form new impressions of their colleagues. A sixth-grade teacher commented,

I think there are some misconceptions, some preconceived ideas of how other teachers teach, and I think seeing the other teachers in action maybe made a difference with the team and I think that it’s kind of changed the conversation as far as how we even relate to each other on the team in a positive way. (Teacher interview, December 8)

She later mentioned a specific example of how she believed one of her teammates changed her opinion of her,

My class has the perception of being a little more ‘loosey-goosey’ than everybody else’s class cause my kids are always moving, they’re always talking, but yet I got a compliment last week that ‘you really do have classroom management!’ I was like ‘okay... I guess you didn’t think I did [beforehand]’ so you know, I think without the videos that would not have been seen. (Teacher interview, December 8)

Later, during her focus group, this teacher’s colleagues extended the idea of collegial perceptions to collegial trust. One teacher shared,

I’m more confident, if we had to switch [classes] having each one of you have my kids, because I always want to have my own, you know, they’ll live or die by me in what I teach, but I feel really confident in what you guys can do just by what I see in the videos.” (Focus group, December 11)

The fourth-grade focus group also discussed changes in perceptions of colleagues. At one point, while remembering humorous events on a teacher’s video recording one teacher asserted, “We all know Tera, she’s fun and she’s spunky, but I would have never known that she does that stuff in her classroom!” (Focus group, December 5). Another member of this team added a comment about having a better understanding of how to go to her colleagues for help. She explained,

I think it helps us understand the way each person teaches too, like some people are more structured. If I know I’m having to do this one thing and I need it to be

like this certain way... I can be like ‘I know you’re like this so I was coming to you for this help.’” (Focus group, December 5)

Teachers also discussed how the dynamics of their team were changed because the videos allowed them to communicate finer details of their methods. One teacher explained,

I agree that it [the videos] allow us to talk about things, so if I mention things people can see them, and then we can talk about them, but it also lets them see things that we don’t think about mentioning ... the things that come naturally that I don’t think about talking to other people about (Teacher interview, December 9).

This discussion of team dynamics was repeated in the fifth-grade focus group where one of the participants declared, “you get visuals in a video that people don’t always remember to explain” (Focus group, December 10). It also surfaced during an interview of a sixth-grade teacher who testified,

I’m not even so sure that it is really tacit so much that it’s just things that we kind of assumed people might know that they might not know, or things that we do automatically without even thinking that we do them, but if we had to sit down and step-by-step write down exactly what we’re going to do, when we’re going to do it, we would even forget to write those things down. (Teacher interview, December 8)

A fifth-grade teacher offered an explanation of how this worked when she declared,

To see another teacher in the way that they make a poster along with the students and how they ask for input from the students, that is different than just saying well

I made a poster, but to listen to the questioning, the process, how long did it take, did you take five minutes, did you take two minutes, you know, to watch somebody do that helps you better understand what happened rather than just the teacher saying well my class helped me make a poster. (Teacher interview, December 11)

The idea of visual information influencing tacit knowledge sharing is also evidenced in the exchange between these two teachers.

Teacher 1, “When we teach our kids, especially when it comes to writing, you want to write so that the reader gets an image in their head, the mind’s eye, .... I think by putting things on video that’s [a way to make] very explicit [the] mind’s eye because when we go through and we plan things how are we going to plan this day, this lesson, whatever, I try to visualize it in my head....”

Teacher 2, “And it’s so much easier just to watch something, plus you get those extra things that you don’t think of saying...” (Focus group, December 10).

Visuals also allow for the communication of unique styles, as this sixth-grade teacher explained,

I’ve talked to teachers and say well how do you apply this, or how do you apply that concept ... when they explain it, yeah you can write it down but you really never see their style or their approach, or their personal touch, so I really felt like the videos do that and then you can take that approach and make it your own.

(Focus group, December 11)

Teacher quotes thus far have demonstrated how the videos sparked professional conversations, created professional perceptions of colleagues, and helped teachers share



the details of their methods. These qualities were common in well-functioning PLC meetings. Indeed, teachers have noticed this and made several comments about improvements to their cohesion and collaboration.

A fifth-grade teacher stated it plainly when she said, “This year we’ve done the many observations and, sharing those with my team, we’ve grown a lot” (Teacher interview, December 12). These sentiments were echoed by a sixth-grade teacher who added a bit of metaphorical flare when she declared, “we’re no longer in our bubbles, we’ve had to come out of our bubbles and learn how to play in the same sandbox” (Teacher interview, December 8). The following exchange between three teachers on the fifth-grade, focus group demonstrated how their team had become a collaborative group of problem solvers. One member began, “I think it brings us together as a professional group that we can trust each other and we can—you know everyone has a lot to contribute . . . I think it brought us closer as a planning group.” Then a teammate jumped in and asserted, “exactly, I liked that closeness too.” Subsequently, a third teammate finished the exchange when she affirmed,

I think it gave us glimmers of hope too, like when we were watching you, one student that you’d really been struggling with. We all of a sudden saw a side of this student none of us had ever seen before and we were all like, ‘wow, it is working, he is doing some positive things’ and we all started thinking about ways we can help that one kiddo.” (Focus group, December 10)

The sixth-grade focus group provided an equally insightful exchange between two teachers. The first teacher initiated the when she averred, “I don’t think it’s so much self-reflection amongst the team; maybe so much as maybe just a little bit of a different tone

amongst the team.” Her teammate questioned, “You think the meeting has something to do with that?” Then the first teacher continued,

“I think maybe it does. I think maybe that we see more [of] each other’s awesome qualities and maybe more [of] each other’s ... days that we stumble and we think ‘oh yeah, they stumbled too,’ and I think it’s having just a little bit of a shift in the team.” (Focus group, December 11)

A fifth-grade teacher offered an explanation for how the videos brought teams together when she suggested, “what I think ultimately is there’s a certain amount of vulnerability to going on camera and having everyone else watch it and I think that brings us together” (Focus group, December 10). Vulnerability, trust, and other strong emotive words appeared throughout the data. This emotive aspect was explored further in the next section. Indeed, although teacher comments so far focused on the benefits of peer observation, the comments that follow showed these benefits do not come automatically or without some emotional tension.

**Emotional Blocks.** Assertion 3 - *The process of facilitating peer observation through video recordings evoked negative emotions.* Teacher comments on the positive effects of video observation and discussion were often paired with comments about unpleasant emotional states. For example, several teachers cautioned that the videos were only helpful because they were comfortable with their team. A teacher in the fifth-grade focus group explained, “you’re more comfortable with your team, you spend more time with your team ... if you had videotaped me my first year here, and immediately shown it I would really feel intimidated and worry about what they were saying” (Focus group, December 10). Another fifth-grade teacher directly claimed,

Comfortability, [sic] I think, is probably the biggest thing. When you're with the entire staff, all types of different grade levels, different teachers who may not know you very, well you may not be so open to raise your hand and add to the discussion, especially if you're providing a suggestion. (Teacher interview, December 11)

One of her colleagues also suggested that comfort was influenced by the size of the audience when she affirmed,

I think in a small group you're probably more comfortable with at least two people in a small group. You know, you'd probably, for instance, if I were in a small group, and if I had fifth grade I'm pretty comfortable with two or three of those teachers so I would be more comfortable with that rather than just in the whole staff where there's a whole lot more people that I maybe haven't worked close[ly] with yet. (Teacher interview, December 12)

This same teacher later commented on how comfort increased over time when she averred,

I think in our team this year the teachers who didn't feel at first really comfortable have turned around and I don't think they feel like 'Wow, I'm going to jump at the first opportunity to say hey come see me,' but now they feel its not a threat. Now they know it's we're going to support each other and we are there to grow form each other. (Teacher interview, December 12)

A fourth-grade teacher suggested that comfort was important to being open to new learning when she explained,

I think you have to be willing to let go and admit things, and if you don't have that to grow, just like kids have to be able to admit I'm not good at this, so I need extra help and if that comfort level isn't there then you don't always let that go and get better at what you're doing." (Teacher interview, December 9)

However, letting go and trusting is not easy to do, in fact several teachers commented on the challenge of self-doubt. A fifth-grade teacher explained this when she maintained, "if you're not confident in your skill of course you're going to be doubtful when you watch it and you're doubting yourself" (Teacher interview, December 11). A fourth-grade teacher offered a similar statement when she claimed, "sometimes you go in and you think I don't even want to, because what if what I'm doing is bad" (Teacher interview, December 9). Additionally, a sixth-grade teacher maintained, "I say 'oh I should have done this, why didn't I do this,' you always have extra like you feel like you didn't do [the work to] your potential, you could have done better" (Focus group, December 11). The presence of self-doubt is further illustrated in the following exchange during the sixth-grade focus group.

Teacher 1: "Well of course you're always critical of yourself."

Teacher 2: "What you sound like? What you look like? Is your hair right? Did you spell something right on the board? You're critical of yourself more than other people I guess."

Teacher 3: "That's the only thing I guess for me watching it back [*sic*, reviewing it] is criticizing myself, not that other people criticize."

Teacher 4: "I think for me there is just that little bit of nervousness and I think it's because we all carry high standards for ourselves" (Focus group, December 11).

In some cases, teacher comments related to self-doubt or nervousness spilled over into stronger emotions of fear and intimidation. One fourth-grade teacher explained how exposure through the video led to these emotions when she acknowledged,

Having the video makes it even more [intimidating] because you can talk about something but you don't necessarily have to share all information but when you have video of it is all right there in black and white showing people what you're doing and how your doing ... you think are they judging me or what are they thinking and so that's definitely that [component of ] fear and intimidation.

(Teacher interview, December 9)

This concept of exposure leading to negative emotions was repeated in this exchange during the sixth-grade focus group.

Teacher 1: "I mean I have to admit you know being on film is a little nerve racking for me this is not the side of ...."

Teacher 2: "It is for everybody."

Teacher 3: "Yeah."

Teacher 4: "I have really felt like opening myself up and kind of let myself out there." (Focus group, December 11)

The quotes in the previous section showed how emotional states presented potential challenges to success with peer observation. In the final section, a second challenge to success with peer observation was explored – that of connecting to the video.

**Connecting to videos.** Assertion 4 - *The degree to which teachers were able to learn from a video was influenced by their perceptions of the video's authenticity and*

*similarity to their own classrooms.* Throughout the focus groups and interviews teachers often commented on the broader idea of learning new methods by watching videos. The common thread in these comments was that videos were most useful when teachers made a connection to the video. Teachers stated that this connection was often not present when they viewed external videos from YouTube or other outlets. For example, one teacher captured the essence of this issue about connecting to videos when she asserted,

I feel like with YouTube or you know TeacherTube or whatever it is that you're pulling up sometimes, I feel like, well they don't know my kids, you know, they can't relate to my kids or what I'm going through." (Focus group, December 11)

The concern that external videos were not easy to relate to was repeated several times. One teacher made the following comment while discussing a well known teacher trainer named Doug when she said,

I can watch Doug all day long and I'm going 'yeah Doug is doing a great job but he's at a totally different level and the kids are different and you know you go to a prep school in New York City its going to be completely different than our kids.' (Teacher interview, December 8)

Another teacher confided,

What I notice is a lot of times when we make the statement, 'well that's not our kids or oh my kids couldn't do that.' So to see another teacher at another school, we don't make that positive connection ... if I were to see any of you guys I would be like, 'okay I would probably be more successful implementing something you guys did because we all have the same demographic [group].'"

(Focus group, December 10)

One of her colleagues added, “It’s that connection, you feel connected, you feel more invested you have more background knowledge on maybe why the person is acting the way they’re action” (Focus group, December 10).

A fifth-grade teacher also shared her thoughts on professional development workshops, with adults modeling strategies on other adults when she declared,

I think watching somebody do it with a room full of adults doesn’t, the connection isn’t made, the relationship isn’t there ... So I think having us watch each other is really helpful and really, you brought in the team that’s really I think what set it over [*sic*] for everybody and made it successful. (Teacher interview, December 11)

Another challenge to making a connection to the video was overcoming teacher skepticism of the authenticity because this concern was present for external videos. One teacher put it this way, “You don’t know how rehearsed they are and you don’t know if its really true to form”(Teacher interview, December 8). Another stated, “On YouTube or TeacherTube or whatever, how many times was it rehearsed? How many times did they retake it?” (Focus group, December 11). Other teachers commented that even with videos of colleagues some skepticism remained. One teacher’s response captured this elegantly when she claimed, “Is this really you and is this really you teaching like this every day when [the principal] is not here with the camera or is this you putting on a show?” (Focus group, December 10). Another teacher admitted directly, “I will be honest. When you videotape, I know that I’m probably not exactly how I am when you’re not there. I use so much more humor in my classroom and I know that I don’t do that as much when you’re in the room” (Focus group, December 5).

These four assertions were presented to participants during a member checking process in January. Participants were asked to consider how each assertion matched their own understanding and opinion. In an anonymous survey, participants selected one of the following four options for each assertion—*Strongly Agree*, *Agree*, *Disagree*, or *Strongly Disagree*. Ten of the twelve original participants participated in this member checking process. All responses were either Strongly Agree or Agree. For the first assertion, seven selected Strongly Agree and three selected Agree. For the second assertion the responses showed eight were Strongly Agree and two were Agree. For the third assertion, the responses indicated six were Strongly Agree and four were Agree. With respect to the final assertion, there were five Strongly Agree and five Agree responses. Participants were given the option to add commentary explaining their opinion, but none choose to do so. Nevertheless, the results of this member checking process strengthen the authority of each assertion.

### **Summary of Results**

A repeated measures ANOVA showed a large effect size for all three constructs related to the PLC that were assessed in this study—professional development in a PLC, sharing tacit knowledge, and a community of supportive colleagues. Post hoc comparisons showed no differences between the scores obtained on pre- and post-test assessments of the constructs. On the other hand, post hoc comparisons showed that both the pre- and post-test scores differed from the retrospective-pre-test scores. This latter result showed there were substantial gains in the scores when retrospective-pre-test scores were taken into account.



Qualitative data produced four major assertions. Two assertions explained how peer observation positively influenced the (a) teachers as individuals and (b) PLC team. The other two assertions dealt with the (a) emotional and (b) authenticity challenges to peer observation that infringed on deriving benefits from peer observation and discussion in PLC groups. In the next chapter, interpretations and discussion of these results is presented.

## Chapter 5

### DISCUSSION

Three years ago my superintendent told principals to “make PLCs happen at your school” (J. Lee, personal communication, July 26, 2012). In this dissertation, I document my attempts to achieve this goal through evolving cycles of action research. In this chapter, I discuss results and personal reflections from the final cycle. I begin by showing how qualitative and quantitative data results are complementary and how these data can be integrated to answer the research questions. In the second section, I show how these results are aligned with previous research and established theory. This alignment allows me to confidently present a third section detailing the practical lessons I have learned for my specific context.

However, I balance this presentation with a fourth section in which I discuss the limitations with respect to generalizing my results. In the next section, I reflect on other worthy research topics that have come to my attention because of this dissertation. This leads into to a concluding section: my personal learning regarding leadership, innovation, action research, and the purpose of the doctorate in education.

#### **Complementarity and Integration of Quantitative and Qualitative Data**

For this research study, I used a mixed methods approach. The advantage to this is that it allows quantitative and qualitative data to complement each other in a manner that produces an enhanced, comprehensive picture of results (Greene, 2007). I believe this thorough approach is particularly useful for action research, which focuses on solving authentic problems in local contexts (Mills, 2011; Plano Clark & Creswell, 2010). Further, problems of practice contain nuances of context that defy description by

one type of data alone. Action researchers – embedded in that context and surrounded by its nuances – can best paint a picture of what they see by employing both a qualitative and quantitative paintbrush.

In my context, the problem of practice involved the formation of genuine professional learning communities. To address this problem, I employed the innovation of peer observation through video recordings. Subsequently, quantitative and qualitative data were gathered to find comprehensive answers to three research questions:

1. How and to what extent is the professional learning in a PLC meeting influenced by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
2. How and to what extent is the sharing of the tacit knowledge of teaching facilitated by video observations of a colleague's attempt to apply a new teaching strategy that was selected by the teacher team?
3. How and to what extent do video observations of a colleague create a community of teacher learners who help each other succeed with a particular teaching strategy?

The first research question addressed professional learning in a PLC meeting. Five items on the retrospective pre-, pre-, and post-intervention survey addressed this issue. Results showed a significant gain between the retrospective pre- and post-intervention surveys, but not between the pre- and post-intervention surveys. This is not surprising because a form of this innovation had been explored during two previous cycles of action research. This long-term change is also evident in the qualitative data. During focus groups and individual interviews teachers commented on the positive

changes they have seen because of this innovation. When they answered questions they would typically frame responses around a three-year reflection, rather than just a reflection over the last semester. Many of these comments addressed specific strategies they learned over the three years, reflections on personal practice, and increases in self-efficacy. When combined with the quantitative results, this produces complementarity that supports assertion 1.

The second research question addressed the topic of tacit knowledge sharing. Again, the three surveys assessed this construct with five items. Results were similar to the previous research question. Short-term difference was negligible whereas long-term change was significant. However, a closer examination of the qualitative data suggests that teachers have a different understanding of what tacit knowledge sharing entails. The survey items phrased tacit knowledge as being information that would be difficult to express in words. Teacher qualitative data offer varying definitions. As one teacher expressed, “I’m not even so sure that it’s real tacit so much that it’s just things that we kind of assumed people might know” (Teacher interview, December 8). In this context, tacit knowledge can be what teachers can’t explain, or what they don’t bother to explain. With this broader definition the data do provide complementarity to the idea that videos do help with tacit knowledge sharing. As the qualitative data were coded, tacit knowledge sharing emerged as a subcomponent of the overall, larger theme of personal learning. Thus the data produced for research question 2 supports assertion 1.

The third research question addressed the broad topic of creating a supportive community of teacher learners. The five items assessing this construct on the surveys produced similar data as the previous two research questions. Teacher responses at the

beginning of this cycle of action research indicated they already viewed their teams as supportive and collaborative. Nevertheless, results from a comparison of the retrospective pre- and post-intervention surveys showed a significant gain. This complements the qualitative data that painted a picture of the teacher teams being deeply engaged in pedagogical conversations, reforming perceptions of colleagues, collaborating on methods, and so forth. These themes formed the bedrock of the second assertion. Thus, research question three is associated with and informed by assertion 2.

Complementary qualitative and quantitative data paint a picture of these teacher teams as being supportive, collaborative professionals who help each other learn new teaching strategies. These behaviors are consistent with what we would expect to see in a well-functioning PLC. In the next section, I will comment on theory and research that explains these results.

### **Alignment to Previous Research and Theory**

Many participants' statements closely match the salient traits of a PLC as defined in chapter 2 of this dissertation. For example, a well-functioning PLC is characterized by teachers constructing professional knowledge through collaborative conversations (DuFour & Marzano, 2011; Harris & Jones, 2010; Hord, 2008; Horn & Little, 2009; Jacobs & Yendol-Hoppey, 2010). As posited in assertion 1, teachers learned new strategies by watching and discussing the videos. This assertion was supported by comments such as "we've reached that point... of being able to discuss, well you are really strong in this [strategy] so let's see what can we all glean from you" (Teacher interview, December 8). A second teacher expressed this sentiment when she said, "getting to see other people, how they teach and specific strategies they're using have

definitely increased mine and I think other peoples' teaching, but it has also opened up discussion for us" (Teacher interview, December 9) and a third noted, "we share ideas how we can be more successful with specific kinds of students and I think we all benefit from that, we all share and we learn from each other" (Focus group, December 11). Clearly, teachers demonstrate the knowledge sharing and knowledge creation behaviors that typify a PLC.

But a true PLC goes beyond opportunities to share and create professional knowledge. A PLC is not a thing to do, but a process to follow and become (DuFour & Eaker, 2002). It is the identity that a group takes on as they create new learning, which characterizes a PLC (Hord, 2008). Several teachers made comments in relation to evolving group identity. One teacher reflected on the positive changes in her team and stated that before they started the video sharing, "we did not ever connect as a team, we got along well, we liked each other but we very rarely saw each other... we weren't a real unit" (Teacher interview, December 9). As explained in chapter four, teachers also commented on how the videos led to more positive professional opinions of their colleagues' abilities. Several comments also are related to increased team cohesiveness. For example, one teacher averred, "the video was another reminder that, oh, that was the strategy we're focusing on as a team... and so I think it brought us closer as a planning group" (Focus group, December 12). These are the types of comments that supported assertion 2. Further, I posit that by frequently demonstrating the defining behaviors and characteristics of a PLC, teams are truly becoming PLCs.

In addition to illustrating the character of a PLC, these data also illuminate the theories behind how a PLC functions. In chapter 2 of this dissertation, a constructivist

lens was used to portray PLC behaviors. From that perspective, new knowledge is not something that is simply transmitted to a learner's head, rather new knowledge is the product of a social interaction (Vygotsky, 1978, 1986). Results from this study provide several examples of this theory at work. In one simple example, several teachers stated that the videos "sparked conversation" (Focus group, December 5). Teachers often stated these conversations frequently lead to new learning. The work of more recent constructivist theorists such as Malcolm Knowles, also provides insight into how PLC discussions produce adult learning. According to Knowles, adults learn when they work on self-directed, problem-solving projects that connect to their prior experiences and have immediate value and a clear purpose (Knowles et al., 2011). Teacher comments suggest the video observations initiated behaviors that are consistent with this theoretical framework.

The context of the PLC provides a forum for professional collaboration. The videos of colleagues stimulate deep, meaningful conversation. This social interaction leads to the sharing and creation of new professional knowledge. Clearly, constructivist mechanisms are at work in PLCs and lead to assertions 1 and 2.

Moreover, the data suggest a deeper cognitive facet to this learning process. Participants frequently make comments about engaging in personal reflection, which resulted in changes of opinion about themselves. Such comments would be predicted by a researcher who added an internal, cognitive component to the process of observational learning – Albert Bandura. As discussed in chapter 2, Bandura's early work focused on observational learning and social modeling, the process of watching others deal with a

particular task or situation (Bandura, 1977a, 1982). Many participants provided examples of this in their comments about direct learning from the video.

But as Bandura later argued, learning is more than just a process of watching and learning. Learning, and changes in behavior, result from observation combined with internal processes such as self-regulation and self-reflection (Bandura, 1986, 1993, 1997, 2001). The following quote shows how observation was a necessary, but not sufficient cause for change for one teacher when she indicated she had to reflect and revisit a professional conversation to benefit more fully,

We watched the video with the Read 180 and the centers...then I went back and implemented that with my group... and it did ok the first time but then I realized, oh I need to go back and talk to her, so it sparked more conversation and she was able to tell me... so it made me think ok now I need to go and talk more about that. (Teacher interview, December 9)

Self-reflection, not just social modeling, was needed to help this teacher succeed with this strategy.

Several other teachers also commented on self-confidence. When discussing the video of the teacher in the room next to her one teacher commented, “It makes me feel more confident, more effective...it’s nice to see it, [be]cause I see it with her, she’s my next door neighbor, yeah it did give me a little bit of a confidence boost” (Focus group, December 11). Another simply stated, “so that video was kind of a catalyst of like, oh my goodness, wow, I can do that” (Teacher interview, December 11).

Based on Bandura’s work, these results would be expected. His social cognitive theory predicts that social modeling has a powerful influence on increasing self-efficacy



(Bandura, 1977b, 1997). Bandura also argues that social modeling is a form of vicarious learning and as such, learning is strengthened by the degree to which a learner sees themselves as similar to the model (Bandura, 1997 ). This idea surfaces in many teacher comments related to assertion four, the importance of “connecting” to the video. For example, while discussing training videos from outside sources this teacher stated,

“It’s just more challenging to connect to it. It’s a bigger challenge. It’s not impossible so I’m sure if you had the right mindset and you were prepared and you really had something you wanted to learn from it then yes, but if you just came in and it was like ok here’s this teacher, watch and learn, it would be hard to connect to it.” (Focus group, December 10)

Taken as a whole, the results from this study are aligned to established theories of social and constructivist learning. The data also are aligned to current literature describing what well-functioning PLCs should look like.

### **Lessons Learned for Local Context**

For me, the paragraphs that follow represent a pragmatic section of this dissertation. The ultimate goal of this action research was to solve my own professional challenge: how to ensure the growth of authentic PLCs. Upon reflecting on my results, I believe that I have made progress towards this goal. Further, thoughtful reflection has caused me to articulate thirteen specific techniques, tools, and attitudes to consider as I continue to nurture PLCs in my context.

The first and most obvious tool is to continue sharing short video clips of colleagues during PLC meetings. Ongoing use of video clips is supported by results that show peer observation benefits personal learning and team dynamics, assertions 1 and 2.

Importantly, some of the results caused me to re-evaluate one of my assumptions. Previously, I suggested the videos would help teachers share the nuances and details of a teaching method they could not put into words, their tacit knowledge. In chapter 2, I presented a definition of tacit knowledge as being knowledge that is personal and difficult to formalize in a way that can be communicated (Snowden, 2002, Nonaka & Takeuchi, 1995) or knowledge that is internal and of which one may not even be aware (Alavi & Leidner, 2001).

My results caused me to reconsider my assumption. When I asked teachers to discuss this topic they often stated that it wasn't that they didn't know how to explain a strategy, rather, they just didn't think they needed to explain all the details. The lesson I learned was: avoid assumptions about teachers' communication skills. Teachers are not handicapped by tacit knowledge. They are perfectly capable of describing nuances; they just don't always know that they need to explain them. My subsequent attitude about sharing videos will reflect this understanding.

My future use of videos will also be guided by specific techniques that address the cautions reflected in the results. The fourth assertion described the importance of teachers making a strong personal connection to videos. My take-away lesson from this is to only share videos of colleagues from within a particular teacher team. External videos may be useful in a staff meeting or formal training, but videos with a personal connection offer the best leverage for nurturing personal learning and PLC growth with my staff.

Naturally, teachers do not immediately form collegial connections to new staff members. For this reason, I should not impose peer observation on any new staff

members until they have had one semester of PLC meetings to build collegial connections. Even with strong collegial bonds, experienced teachers still make comments related to nerves, anxiety, comfort, and fear. Such comments form the basis of assertion four and lead to recommendations that I only share videos showing successes; that I limit the length of the video to ten minutes; and that I only share the video in small groups. Teachers' comments suggest that these guidelines can reduce negative emotional reactions to sharing videos of themselves.

Comments regarding negative experiences with peer observation at other schools lead to another important recommendation. Video sharing should be balanced throughout the year so that all teachers have an equal chance to model. I must avoid the temptation to share multiple videos from a particularly stellar teacher. On the surface this would appear to be an effective method for sharing that master teacher's strengths. However teacher comments suggest that this would only seed feelings of favoritism and self-doubt.

I can also mitigate negative feelings by assuring privacy. Specifically, I will avoid the convenience of storing video clips on the school district's YouTube account. Despite assurances that videos published here can be kept private, teachers remain nervous about this method. They are leery of having strangers view their videos. Likewise, video files will not be emailed. All video files will be stored on my own computer and shared with teachers through the use of portable USB drives.

The use of a USB drive is also one of my logistical recommendations. Another is to use a laptop webcam instead of a more professional camera. An open laptop propped in the corner of a classroom is less obtrusive than setups using tripods, cables, and prominent video recording equipment. Although those devices produce higher quality

video, they also introduce hassle and complexity that slows down the overall process. PLC discussion is initiated by video content, not video quality. Likewise, the videos are best recorded in QuickTime rather than more advanced video software. Finally, for each video clip I must prepare notes on key features of the video and include the specific recording time of that feature. This allows me to fast-forward, rewind, and pause in a manner that keeps conversation going.

These thirteen techniques are summarized in Table 7 below.

Table 7

*Personal Recommendations for Continuing PLC Growth in my Context*

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1. During PLC meetings allow teachers to view short video clips of each other teaching.
2. Focus on sharing lesson details and nuances not typically shared during planning meetings.
3. Share videos of teachers with identical job descriptions.
4. Before sharing videos of a new staff member, allow her and her colleagues one semester to build collegial connections and trust.
5. Share teaching successes, not challenges or setbacks.
6. Limit length of video to ten minutes.
7. Limit size of the audience to the teacher team.
8. Balance the video sharing throughout the year so that all teachers on a team get an equal chance to share.
9. Do not publish videos online.
10. Share and store videos using USB drives. Do not email videos.
11. Use laptop webcams rather than more complicated recording equipment.
12. Record videos using QuickTime.
13. Prepare time notation of videos to allow for rewinding, fast-forwarding, and pausing as needed to facilitate conversation.

## **Limitations**

This research occurred in my personal and specific context. Anyone who attempts to generalize these results to another setting should consider the limitations that follow. First and foremost, I was the primary researcher as well as the participants' supervisor and evaluator. Thus, participants may have felt an obligation to please me by providing socially desirable responses.

I have served these participants as their principal for the past seven years. During this time I have created strong collegial bonds with many of them. This certainly has a positive effect easing the stress and anxiety of being recorded. If I were to move to a new school and try this same innovation during my first year as principal, I would most likely not find the same level of support.

Several of the teachers at this school graduated from a teacher preparation program that extensively uses video recording and group feedback. Thus, many participants were familiar with this format. This added a positive tone to early discussions of video recording plans during cycle one. This positive previous experience with video recording may not be present at other schools. Whereas, at this school it is a part of the culture of the school. Indeed, as discussed in chapter 1, this very concept of this innovation – peer observation through video recording – was devised by teachers as they were discussing ways to share teaching methods.

## **Future Research**

In this action research study, I explored knowledge sharing in the context of a school PLC. However, PLCs are not established at all schools. It would therefore be useful to conduct research on knowledge sharing structures that exist outside of schools

with formally developed PLC initiatives. The concept of *social capital* provides a useful framework for such research. In a school setting, social capital refers to the network of collegial connections a teacher can turn to for advice or resources while *human capital* refers to the training and professional development that individual teachers have had (Leana, 2011). In other words, human capital exists in teacher's individual expertise, whereas social capital exists in the social connections between teachers who share their expertise.

Many recent school reform initiatives have focused on the human capital of schools: fire bad teachers, provide training to make good ones better, make principals into instructional coaches and so forth, but few reform initiatives have been focused on developing social capital (Leana, 2011). Nevertheless, schools that focus on building social capital, in addition to human capital, have shown strong gains in student achievement (Leana & Pil, 2006). Additionally, in schools where principals focused on facilitating these social networks showed greater gains than schools where principals focused solely on human capital initiatives (Leana & Pil, 2006). This conclusion is consistent with an idea first discussed in chapter 1: a principal who leads the growth of a community of professional learners will have greater influence on student learning than a principal who focuses on more traditional methods of school improvement (DuFour & Marzano, 2009).

I believe that the PLC model provides one vehicle for capitalizing on social capital, but future research might focus on exploring other facets this topic. The existing research on social capital suggests that it is strongly connected to perceptions of collective efficacy (Sampson et al., 1999). As discussed throughout this dissertation,

peer observation and social modeling also influence collective and individual self-efficacy. Future research could expand upon the methods from this study and explore how social capital and social modeling work together to influence collective and individual self-efficacy in a school. This can be done at schools with or without established PLCs.

### **Personal Reflections and Closing Thoughts on the Action Research Dissertation**

My new interest in social capital as a theory informing future solutions reflects a change in my approach to school leadership. Prior to this action research project, I approached challenges with random solutions, but lots of enthusiasm. To be sure, this enthusiasm often lasted long enough for one of those random solutions to eventually work. However, I have since learned that a wiser course of action starts with careful observations. These observations may point to established theory or a plausible framework. And these theories or frameworks often have a plethora of previous research that can be used to design a more informed solution. A school leader needs to be a school researcher-scholar as well.

I still have much to learn as a school researcher-scholar. Some of my research assumptions may be premature. For example, I have recently questioned if my initial research problem – that teachers were spending too much time on logistical planning rather than deep pedagogical discussions – was really a problem at all? Was I discrediting the value of simple team planning time? I recently heard a colleague describe the planning time in Finland as lasting for several hours every day. Another colleague shared a story of her Chinese exchange student being incredulous with the lack of planning time provided for teachers in the United States. Perhaps I, and other school

leaders, need to reflect on the lack of ordinary planning time before we make assumptions on why team meetings are not always characterized by deep pedagogical discussions.

Here is another assumption. I assumed that I could help teachers feel comfortable with video observations by being friendly, positive, and overly complimentary. This certainly helped increase participation, but as the qualitative data show, there were still plenty of anxiety and negative feelings. As a school researcher-scholar I can add credibility to my methods and efforts if I can sharpen my ability to carefully first consider my assumptions.

I also see false assumptions and problems with research methods in much of the data used to guide public school policy. For example, I have seen school districts make decisions based on surveys that were given to favorably selected subgroups. In the current culture of school accountability “data” is often touted as the ultimate measure in high-stakes decisions on teacher, principal, and program effectiveness. This is all the more reason to ensure schools and school personnel are accurately and appropriately collecting and interpreting data.

I find myself presented with a challenge. I would like to guide public schools to use rigorous, valid, and reliable methods to collect and interpret data. However, I also wish to dedicate time to my many other roles as a school principal. I believe a solution to this time constraint lies in partnering EdDs in the field with PhDs in academia.

Such a partnership is in line with other literature discussing the future of the EdD. One perspective uses an analogy to the medical model. Just as a researcher with a PhD in biology produces knowledge that informs the practice of MDs in the field, so too can a



PhD in education inform the practice of EdDs at schools (Shulman, Golde, Bueschel, & Garabedian, 2006). Those associated with the Carnegie Project on the Education Doctorate espouse similar recommendations in stating that education doctorate programs should use “field-based opportunities to analyze problems of practice” (CPED, 2009) and create leaders who can combine practical and professional knowledge to “name, frame and solve” those problems (CPED, 2010).

As an EdD I look forward to future endeavors as an action researcher, a school leader, a PhD partner, and a solver of problems of practice. Just as MDs aspire to bring health and vigor to the patients in their office, I too hope to bring similar benefits to the students in my school.

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## APPENDIX A

### THE FOUR ESSENTIAL QUESTIONS GUIDING A PLC MEETING

1. What exactly do we want students to learn?
2. How will we know they learned it?
3. How will we respond to students who show mastery?
4. How will we respond to students who do not show mastery?

(DuFour & Marzano, 2011).



APPENDIX B

EXPLORATORY PLC SURVEY OCTOBER 2012

Timestamp	I am a...	By participating in this PLC I am a more efficient teacher.	By participating in this PLC I am a more effective teacher.	I learned new teaching strategies during this PLC.	To improve the PLC format we need...	What other thought, concerns or suggestions to you have regarding PLCs at Echo Mountain?
10/2/2012 14:06:51	Homeroom Teacher	strongly agree	strongly agree	strongly agree	to keep the current level of structure, forms and routines.	
10/2/2012 14:41:38	Homeroom Teacher	strongly agree	strongly agree	strongly agree	to keep the current level of structure, forms and routines.	I love PLCs and think they are making me a more effective teacher in all areas!
10/2/2012 14:45:40	Homeroom Teacher	strongly agree	strongly agree	strongly agree	to keep the current level of structure, forms and routines.	PLC's have been great for planning math instruction and getting ideas from other teachers. Love the interventions that are being provided.
10/2/2012 14:47:29	Homeroom Teacher	strongly agree	strongly agree	strongly agree	to keep the current level of structure, forms and routines.	
10/2/2012 15:35:48	Homeroom Teacher	strongly agree	strongly agree	agree	to keep the current level of structure, forms and routines.	This process seems to be working. I feel that planning together has really focused the grade level on the standards, and individual student attention.
10/2/2012 17:48:01	Homeroom Teacher	agree	agree	agree	to keep the current level of structure, forms and routines.	
10/2/2012 20:18:31	Homeroom Teacher	disagree	no opinion	agree	to keep the current level of structure, forms and routines.	

APPENDIX C

FOCUS GROUP TRANSCRIPTION - SIXTH GRADE/SPECIAL AREA TEACHERS

October 23, 2012

8 People in total

P – principal and facilitator of focus group

Teacher 1 – sixth grade teacher

Teacher 2 – sixth grade teacher

Teacher 3 – sixth grade teacher

Teacher 4 – sixth grade teacher

Teacher 5 – sixth grade teacher

Teacher 6 – special area teacher

Teacher 7 – special area teacher

Teacher 8 – special area teacher

P - How are the PLCs going? And, honestly we can change them. I want good feedback. The PLCs are supposed to be helping kids learn. Is that happening? How would you change the PLCs?

Teacher 1 - That's a bunch of questions all in one, is it working for me that's I don't know yet because as far as the test goes you know how they do tier 3 they are in tier 3 until they pass it so I have had kids in there for weeks upon weeks upon weeks until they pass the one thing so their grades on the report card are better than in years past because its not just you take it once and your done and you get what you get its you do it until you get it which I think is helpful but then I'm discouraged when I look at my 4sight scores and my SAMS scores and I don't see much growth

P - So it's not carrying over

Teacher 1 - From my data I don't think so

Teacher 6 - But the grades on the report card are they...?

Teacher 1 – They're good but...

Teacher 6 – you put in the grade after they've mastered it

Teacher 1 – if they get a 52% and then they go to tier and they master it and they get a 98, then they get the 98

Teacher 6 – Really?

Teacher 1 – because that's their knowledge

Teacher 3 – I think it has its pros and cons, I think the answer to your question is we don't have enough time to teach everything, like for the first quarter we are supposed to teach this objectives and standards, did we cover it, no, and I think that's why the kids did

not do well on their 4sight, because we are testing them on something we haven't taught them so its not a valid test

Teacher 6 – SAMS should be the most valid test

Teacher 3 – not even SAMS

Teacher 1 – because we haven't even, by the time I took SAMS we hadn't taught half of the stuff we were supposed to teach in first quarter

Teacher 6 – because of the PLC?

Teacher 4 – the pace of the PLC model

Teacher 3 – the CFAs will be the only valid test because we are teaching the material, the same material is taught by everybody, we are assessing them on the same material so far the only valid assessment is the CFA, neither SAMS nor 4sight because we didn't teach them the whole material

Teacher 6 – well 4sight wouldn't be valid until like May anyway

Teacher 1 – but you could see a trend

Teacher 6 – you could but its kind of too bad that since our whole district is going to PLC model and doing CFAs that SAMS is still required because you are not able to work at the pace of the curriculum map

Teacher 1 – yeah

Teacher 3 – see I think if we have somebody maybe um somebody who is really good at CFA can write the CFA for us that we can cover everything because I don't feel good when I'm testing my kids on something that I haven't taught yet, I feel guilty, if somebody else can plan the CFA for us and say ok this is what you have to teach this quarter maybe that would work better my only concern is that why am I testing them on this

Teacher 6 – I think we brought that up in leadership didn't we, about someone else making CFAs and we brought it up some other time and teachers were saying no I want to make my own CFA

Teacher 3 – umm

P – some of the research says it helps if teachers make it because then it is exactly what they are teaching but are you saying that's not the case?

Teacher 3 – if we can put everything in one quarter, timeline, because as we said we still have standards that we haven't covered yet

Teacher 2 – oh was S bringing this up and we said you could do more than one standard on one CFA

Teacher 3 –but then would the CFA be a pretest that would be accurate, if I am teaching them something that is coming how can I have my pretest on it,

Teacher 1 – I think I'm struggling too because I think for sixth grade math we all do it well I mean last year for AIMS we had 40% exceed so obviously what we were doing was working and I just hope for the same results I just think we're taking a noodle and flicking it one the wall and hoping it sticks, you know because we are not getting through what we need to get through

Teacher 3 – I like it but I will like it more if we can teach them everything that is planned for that quarter time period

Teacher 2 – how is the PLC stopping you from teaching everything in that time period or quarter?

Teacher 1 – because we are limited, I was thinking about this last night, lets say we have five standards in three weeks and some standards take a long time to teach and like this week I'm kind of on the edge because it is Thursday and there is still stuff I need to get in, right and there are some sets of three weeks for some CFAs that it seems that time is going on and I feel like I have three extra days and I'm like (whistle sound) which I want to move on but I can't, we talked about this before, we are ready to move on but we can't, because we haven't given the pretest you know what I mean, so it just depends on how our CFAs are made up

Teacher 5 – my two things positive that I see are that I really see, I like the grades I like the fact that we are not putting in low grades and the majority of our students are passing and doing very well because they are becoming very proficient in mastering these objectives through interventions however in having said that I'm also seeing that it is the same kids so as much as we don't want to call it a flex group it seems to be I would say the majority of the time it's the same kids and if we can separate that group technically we can kind of call it a flex group because that group of students always needs that slower pace or just more teaching on that objective so they are not doing well at this pace of the level that we are teaching these objectives they are just not doing well because they are constantly being pulled out again, tier 3 and tier 2 umm and within that same group I also see that there is a sense of laziness, for example there are certain students that can immediately call and say this student is just not making the effort, is not intentionally listening, is not intentionally working hard in class, is not intentionally doing the work because they know they will be pulled out of interventions and they will

Teacher 1 – sit with their friends

Teacher 5 – well not necessarily with their friends they will just get it differently because they don't work in a, they don't work well in a large group for whatever it may be, they feel more comfortable learning in this type of environment or that type of setting, that is what I am finding and its, I would say umm a good percentage of them that is constantly going out to that intervention, there's a good percentage that are just not putting the effort they're just simply not putting the effort in the class and that, I could say is where my frustration is, but um the, as far as the pace yeah I've ran in to that where we've all sat down at lunch and said well, you know we are kind of done and we'd like to do a few more objectives but we are afraid to move forward so there's that lapsed time and then there are times like this, these set of objectives that we're running into were we are like oh my gosh the test is this Thursday and I still haven't touched on this or I still haven't touched on that some are still going through interventions and they have not raised their grade then there's that pressure but the positive is that they are becoming proficient what I want to know is how proficient are they becoming they are being tested, what I'm seeing a lot with the intervention specialists is they are testing them over and over on the same test that was given them on the same quiz if we give them a whole different problem or just kind of throw them a left angle here I want to know how well they are doing are we training them just on based on what they are seeing every day every day or can we throw just a different objective, different number and say do it on your own can I, I want to see mastery there that's my biggest question

P – what about during the PLC meeting itself the theory is that it will be a good planning meeting but it will also be a learning experience or form of professional development are you learning anything or getting any new strategies during the PLC meeting times

Teacher 1 – I would say I feel hurried but we extend it 30 minutes to an hour beyond the PLC because we are always wanting to pick these exact right questions and make sure we have a variety and so sometimes I think we don't get to talk about that because we're talking about making the CFA that's what I think

Teacher 4 – well last time we did have time but I think the problem was we needed S to share with us what she was doing that, because she was so successful and it was difficult for her to articulate that to us and she said, "I don't know what I do maybe it would be better for you to just come in and observe" so I think it is sometimes difficult for a teacher that is having success to maybe articulate that to the rest of us, uhm because that's what we really need is to need is to know what you did that worked

Teacher 5 – because for them its such a natural thing that you do, its what you do everyday

Teacher 3 – oh so ok because I'm doing this for a good 32 years it was hard to articulate what I do I don't know what I do because I'm doing the same thing

Teacher 6 – laugh

Teacher 3 – the same thing for 32 years and it's easier for me if somebody comes and observes me and said, 'what are you doing?'

Teacher 6 – uhm-hmm

Teacher 3 – I was doing this for 3 decades I don't know I'm just teaching, nothing has changed with my teaching ethics or methods, it didn't take long because of that, it took longer, um err, PLC because we were more like, I don't want to say perfectionist, because other groups were doing there jobs very well as well as we were doing our jobs well, but we were like picky, I think we wasted our time, I think we waste our time during PLC id rather teach or come up with a better idea or sharing things like I don't know instead of just sitting there creating a CFA form, because everybody else is doing good job, it doesn't mean were the best one, if they finished it early we could have done it the same time , I don't agree that it was my fault or my problem that it lasted so long

Teacher 6 - From observing sixth grade because special areas, like we talked about it in the leadership meeting, we really just kind of sit there so from observing you guys I would say that a lot of time is spent on the CFA compared to other tables than sixth grade and I don't know why and I think it probably is because you team is so detailed and with other teams its like oh yeah we'll write this this and this which isn't wrong either but I think that you guys do spend a lot of time on your CFA form and kind of stress might be the wrong word but stress about it how it needs to be...

Teacher 4 – well that's why the team leadership meeting we clarified that we allowed to use something from the book so we're just going to use the one that is already made for us and toss out what we don't need but I don't think that that was the point unless I missed something before I came in my point was I think that its going very well and everything is, I don't think we are wasting our times al all I just feel kike when it came time to share ideas as to why some teachers were seeing more success than others we didn't get very far because it was you know I'm not sure what I'm doing so what we came up with was it would be nice to be able to come in and observe them but since we all teach math at the same time, in order to be able to, you know because that's the whole point of the PLC is to find out what people are doing that is successful and if it needs to be articulated or observed well then we need the time for that observation

Teacher 3 – I agree with that, somebody asked me if I was willing to go and teach other classes I said yes but then I thought it would be better if that teacher comes to my room and observes me or I can go to the other teacher's room and, well teach to her class..."

Teacher 6 - and if that's not available maybe videotaping like we did from that writing program



Teacher 4 - oh that's a good idea

Teacher 6 - Videotaping and then we can observe it and observe the details

Teacher 3 - that's awesome

Teacher 3 - the PLC time

Teacher 6 - exactly that way we're not taken away from our class and having to put a sub plan together or whatever it...

Teacher 3 - that's right

Teacher 4 - right

Teacher 3 - that's a much better idea

Teacher 6 - It can be much more detailed

P - great ideas, any thoughts from special areas?

Teacher 7 - (waved hands)

Teacher 8 - (smiled)

Teacher 6 - well the PLC is still a work in progress for special areas

## APPENDIX D

### GUIDING QUESTIONS FOR VIDEO DISCUSSIONS

1. How would you apply this strategy in your classroom?
2. What exactly did your colleague do to make this strategy work?
3. How is this different from the way you apply the POFS?
4. Can you think of a student who would benefit from this way of applying the strategy?
5. Will you change the way you apply the POFS after seeing this video?

APPENDIX E  
SURVEY OF PEER OBSERVATION

### Professional Learning in a PLC

1. I do not consider our PLC meetings to be a form of professional development.
2. At the end of our PLC meetings, I come away with ideas to try in my classroom.
3. During our PLC meetings, we tend to focus only on what to teach rather than on how to teach it.
4. During our PLC meetings, we discuss methods of classroom instruction connected to the student learning goals selected by our PLC.
5. My professional learning is not increased by participating in the PLC meeting.

### Sharing Tacit Knowledge

1. During the PLC meetings, I came to a better understanding about using our POFS strategy.
2. During the PLC meetings, I have re-examined strategies that I already knew about.
3. During our PLC meetings, I found it helpful to discuss what others did to make their lessons successful.
4. After a PLC meeting I have a better understanding of the *tacit* knowledge of teaching (tacit knowledge defined as the knowledge that is difficult to put in words.)
5. After a PLC meeting I come away with ideas, methods, tips or strategies that I can't describe in words, but that I am ready to try in my classroom.

### A Community of Supportive Teacher Learners

1. I am more successful using the new teaching strategies because of support I receive during the PLC meeting.
2. I view my team as a community of supportive teacher learners.
3. I would be just as successful as a teacher if I did not attend the PLC meetings.
4. I believe my participation in the PLC meeting has helped my colleagues improve their own methods.
5. As a grade level we help each other learn new methods.

APPENDIX F

PURPOSE STATEMENT FOR ACTION RESEARCH ON PLCS

This semester I will continue to research methods for improving PLCs at our school. This research will be incorporated into the dissertation I am writing for my doctoral degree at Arizona State University. During the course of this research I will ask for your input in the form of surveys, interviews or focus groups. It will be very important for you to provide honest feedback. Honest feedback will help improve our PLCs and ultimately will improve student achievement.

I realize that this may put you in an awkward position. In addition to being the primary researcher for this project I am also your supervisor and evaluator. Please know that feedback you provide will in no way effect your evaluation or position here at Echo Mountain. Also, know that my dissertation will be judged based on the quality of the research methods, not on whether or not I prove any particular point. Put another way, if all the data shows that my intervention did not work, but I can show that I collected the data in a rigorous and scientific manner, I will still pass.

So please be honest with all feedback – positive or negative. It all helps us understand what works, and what doesn't work, when trying to create genuine professional learning communities.



APPENDIX G  
INSITUTIONAL BOARD APPROVAL



EXEMPTION GRANTED

Ray Buss  
Division of Educational Leadership and Innovation - West  
602/543-6343  
RAY.BUSS@asu.edu

Dear Ray Buss:

On 8/22/2014 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	From Doing to Being: Nurturing Professional Learning Communities with Peer Observation
Investigator:	Ray Buss
IRB ID:	STUDY00001457
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"><li>• consent.docx, Category: Consent Form;</li><li>• HRP-503a - TEMPLATE PROTOCOLSOCIAL BEHAVIORAL BMackinney 082114 (1).doc, Category: IRB Protocol;</li><li>• cabinet approval MacKinney research.pdf, Category: Off-site authorizations (school permission, other IRB approvals, Tribal permission etc);</li></ul>

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (1) Educational settings on 8/22/2014.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Sincerely,