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Leading Professional Learning: A Case Study

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Leading Professional Learning: A Case Study

by

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ABSTRACT

The purpose of this case study was to investigate the relationship between instructional leadership and teaching practice when a specific professional discipline-based inquiry-oriented learning model was implemented in an urban elementary school. As both an instructional leader and the researcher, I conducted nine semi-structured interviews with the teachers from my school. The first research question asked, what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? Based on the analysis of the data, three findings emerged: establishing a clear vision; instructional leader involvement in the professional learning model; and encouragement of teacher professional learning based on relational trust. A conclusion drawn was that precise focused actions of the instructional leader are effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. The second research question asked, how does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning? Based on the analysis of the data, three findings emerged: the learning model facilitated teacher collaboration; the learning model built teacher capacity; and the learning model accentuated teacher use of educational research and evidence to inform practice. A conclusion drawn was that the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning positively impacted teacher professional learning.

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Last, I would like to thank the committed teachers at the school who I had the pleasure of working with for this research and as part of my professional work. Thank you for sharing your stories of your professional learning. I am privileged to have you in my professional life. Your students are very lucky to have all of you.

DEDICATION

This dissertation is dedicated to my husband, Danny Cooper, who continually supports my dreams and ambitions.

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CHAPTER 1

INTRODUCTION TO THE STUDY

Introduction

As the principal and instructional leader of a kindergarten to grade six elementary school located in a large urban school district, I was responsible to ensure all students had ongoing access to quality teaching and learning opportunities (Alberta Education, 2007). As such, I was also responsible for the appropriate and effective pedagogic practices of the teaching staff and was directly engaged in the professional learning of the educators in order to ensure teachers were able to improve their teaching capacities so the school's students received constantly improving instruction. My work with teachers in the school prompted me to wonder how instructional leaders best lead teacher learning and development. Further, my doctoral research brought together my attention as an instructional leader engaged with teacher practice, and a specific professional learning model designed to support a discipline-based, inquiry-oriented approach to teaching and learning.

Given its prevalent role in school improvement discourse and the diverse ways it is conceptualized in various contexts, it is important educational leaders understand the complexity of teacher professional learning in schools. This inquiry addressed a significant leadership trend of importance to my life-world as an instructional leader and researcher, to understand the problem of how instructional leaders best lead teacher professional learning when a professional learning discipline-based inquiry-oriented model was introduced to an urban elementary school. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teaching practice. The inquiry utilized case study methodology.

This chapter begins with an overview of the context and background framing this inquiry. The problem statement, the statement of purpose, and accompanying research questions are then articulated. Next, the research approach, my perspectives, research methodology, the outcomes and methods used, and my assumptions are explained. The chapter concludes with a discussion of the rationale and significance of this research study and definitions of some of the key terminology used.

Context of the Study

Research knowledge about leadership, teacher practice, and teacher professional learning is continually growing (Blase & Blase, 1998; Blase & Blase, 1999; Elmore, 2006; Friesen & Lock, 2010; Hattie, 2009; Leithwood & Riehl 2003; Levin, 2010a; Levin, 2010b; Marzano, Waters & McNulty, 2005; Robinson, Lloyd, & Rowe, 2008; Sheppard, 1996; Wahlstrom, 2012). Education is in a "time of transition in which older models of teaching and learning live side-by-side with new understandings of how people learn, new curricula, new knowledge, new pedagogies and new technologies" (Friesen & Lock, 2010, p. 2). Friesen (2009b) suggested recent research into learning urges educators to create new learning environments for the 21st century learner. Students in this millennium need to be able to work creatively and constructively with real-world ideas and problems to generate new knowledge. Mulford (2008) proposed that in the current realities of education, students need to develop attitudes and skills for handling the speed of change, making wise choices, adapting to continuous learning opportunities, and understanding how to harness socially oriented technologies while being responsible citizens of the globe.

Recently, Alberta Education, the Provincial Ministry of Education in Alberta, released the document, *Inspiring education: A dialogue with Albertans* (2010). This document was based

on public dialogue with Albertans regarding their expectations for education in the 21st century (Alberta Education, 2010). Albertans voiced their vision for education through specific outcomes, summarized as *the Three E's* of education for the 21st Century. The kindergarten to grade 12 (K-12) system should strive to help students reach their potential as engaged thinkers and ethical citizens with an entrepreneurial spirit, endeavour to build engagement and personal excellence in the learning journey, employ literacy and numeracy to build and communicate understanding, and discover, develop, and apply competencies across subject and discipline areas for learning, work, and life (Alberta Education, 2013).

According to the *Inspiring education: A dialogue with Albertans* (2010) report, Albertans see the role of the teacher "changing from that of a knowledge authority to an architect of learning – one who plans, designs and oversees learning activities" (Alberta Education, 2010, p. 7). Other than families, Albertans see the teacher as the "single most important contributor to learner success" (Alberta Education, 2010, p. 7). As such, teachers are expected to be inspiring, motivating, passionate, and positive.

The research conducted by Barber and Moushed (2007) concurred with the attitudes and beliefs projected by Albertans in the *Inspiring education: A dialogue with Albertans* (2010) document, specifically related to the role of the teacher and the teacher's potential impact on learner success. The available evidence suggested the "main driver of the variation in student learning at school is the quality of the teachers" (Barber & Moushed, 2007, p. 12). As Figure 1.1 demonstrates, analysis of test data from their examination of Sanders and Rivers' (1996) research in Tennessee shows "teacher quality affected student performance more than any other variable" (Barber & Moushed, 2007, p. 12). Further, and as illustrated in Figure 1.1, "on average, two students with average performance (50th percentile) would diverge by more than 50 percentile

points over a three year period depending on the teacher they were assigned" (Barber & Moushed, 2007, p. 12).

Figure 1.1. The Effect of Teacher Quality

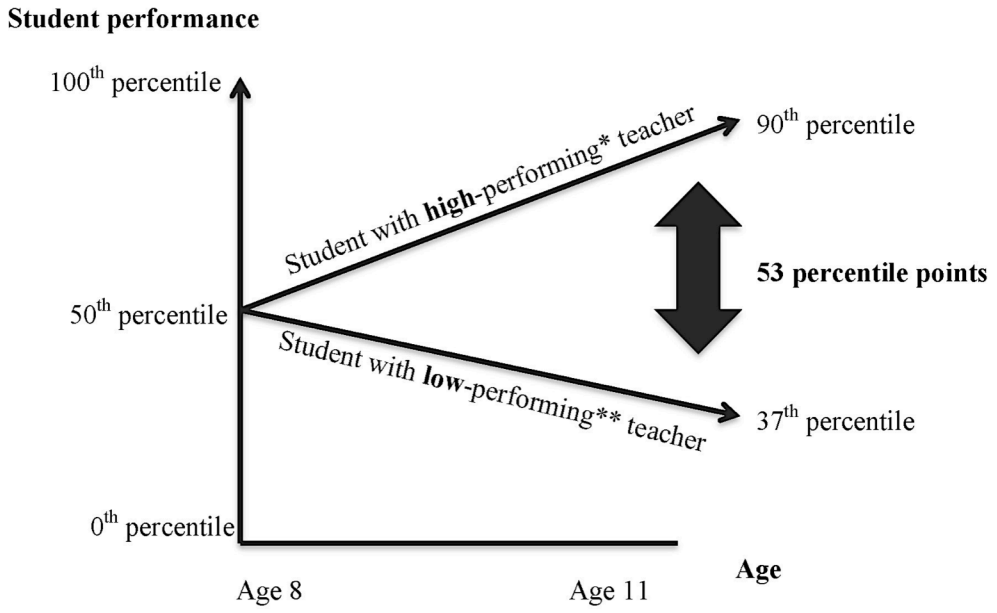

Figure 1.1. The effect of teacher quality. The main driver of the variation in student learning at school is the quality of the teachers. If two average eight-year-old students were given different teachers, one of them a high-performing teacher (* among the top 20% of teachers), the other a low-performing teacher (** among the bottom 20% of teachers), the students' performance would diverge by 53 percentile points within three years. Adapted from Barber, M., & Mourshed, M. (2007). *How the world's best-performing school systems come out on top.* McKinsey & Company, p. 13.

Barber and Moushed (2007) concluded high performing school systems maintain a strong focus on improving instruction because of the direct impact it has upon student achievement and the "quality of the outcomes for any school system is essentially the sum of the quality of the instruction that its teachers deliver" (p. 34). Therefore, improving educational practices and learning about learning will make a difference to school improvement (Hopkins, Harris, & Mackay, 2010). In essence, the challenge for schools is to have high quality teaching practice.

As the principal and instructional leader of a kindergarten to grade six elementary school located in a large urban school district, I was directly engaged in the professional learning of the teaching staff to ensure teachers were able to improve teaching in order to safeguard the school's students received constantly improving instruction. My work with teachers led me to wonder how instructional leaders lead teacher learning and development. As a principal and instructional leader, I know individual teachers have a profound influence on student learning; consequently, quality practice yields quality results (Marzano, Pickering, & Pollock, 2001). Hattie (2003) suggested leaders should "focus on the greatest source of variance that can make the difference – the teacher" (p. 3). Therefore, I believe instructional leaders need to direct attention to high quality teaching. As a result, the school had partnered with external experts and a learning coach to help teachers design authentic, meaningful tasks for students, focusing on knowledge creation and formative assessment through an emphasis on discipline-based inquiry. The main theory of action (Elmore, 2006) at my school was that if teachers embraced discipline-based inquiry and were designers of authentic tasks, then both teachers and students would be more engaged, resulting in increased student academic achievement.

My doctoral studies research brings together my intentions as an instructional leader engaged with teacher practices and a specific professional learning model designed to support a

discipline-based inquiry-oriented approach to effective teaching and learning. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher learning when a professional learning model was brought into an urban elementary school.

Statement of the Research Problem

From my experience, teacher professional learning occurs on a designated workshop day, or after a day of teaching, part of a staff meeting, or on weekends. Teachers gather and sit and listen to an expert describe a new methodology, approach, or instructional material they should use in their classrooms with the promise to *make them better teachers*. However, there is a question of relevance. This *one-size fits all* approach to teacher professional learning typically leaves teachers wondering how they can relate the learned material to their classroom situations or their teaching styles. Additionally, how do teachers know their professional learning is coming from a place of good research? Further, what is the role of the school's instructional leader: Facilitator? Participant? Organizer? Writer of the cheque? Does she even attend the workshop?

Research has demonstrated the importance of the teacher on student learning (Barber & Moushed, 2007; Hattie, 2012). Further, school leadership is second only to classroom teaching as an influence on pupil learning (Leithwood, Harris, & Hopkins, 2008). To help teachers incorporate highly effective instructional strategies into their classrooms, an endless number of professional learning workshops are offered each year by educational corporations, universities, unions, and local school districts (Richards & Skolits, 2009). However, despite these opportunities to improve practice, many classrooms are still teacher-centered and passive

learning strategies remain the norm (Friesen & Lock, 2010). Why does this research-to-practice gap persist?

Additionally, the quality of professional learning is a critical issue as researchers continue to know very little about what teachers learn from professional learning (Fishman, Marx, Best, & Tal, 2003). Moreover, "if we are to learn more about how leadership supports teachers in improving student outcomes, we need to measure how leaders attempt to influence *the teaching practices that matter*" (Robinson, et al., 2008, p. 669, emphasis in original).

Given its prevalent role in school improvement discourse and the diverse ways it is conceptualized in various contexts, it is important educational leaders understand the complexity of professional learning. Therefore, I planned to understand the problem of how instructional leaders best lead teacher professional learning when a discipline-based-inquiry-oriented professional learning model was introduced to an urban elementary school.

Purpose of the Study

Within schools, the principal as an instructional leader is in a unique position to influence and affect the overall quality of teacher professional learning. My work with teachers led me to wonder how instructional leaders best lead teacher learning and development. The purpose of this case study was to investigate the relationship between instructional leadership and teacher practice when a specific professional learning model was implemented in an urban elementary school. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher professional learning.

Research Questions

In seeking to understand the research problem, two questions framed this inquiry:

1. What leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning;

2. How does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning?

Research Approach

For this case study, I conducted nine semi-structured interviews with the teachers from my school. The interviews attempted to gather data around the reciprocal relationship between the professional knowledge learned from the professional learning model implemented in the school. I attempted to gather information to understand how the teachers transferred their professional learning to their classroom practice and the role of instructional leadership in implementing the professional learning model. I used interviews to look at the work, then wrote descriptively to analyze if something was learned. At the time of the interviews, there were twenty-three teachers on the teaching staff of the school. Of that, seventeen teachers met the eligibility criteria to participate in this inquiry. Nine of those eligible teachers (52%) volunteered to participate.

The school had been working with the professional learning model and the learning coach from the educational organization since September of 2011. However, not until post-candidacy (January, 2014) and ethical clearance (University of Calgary and school district) did I engage in the study. At that point, I inquired into my instructional leadership practices and the professional learning model to date reflexively, and then engaged both my practice and the professional learning model in real time. Any historical documents, (lesson plans, leadership documents, and minutes from team-planning meetings, staff meetings, professional development

days, and Professional Learning Community meetings meeting minutes and agendas) served as support documents for triangulation purposes.

Since I was the principal of the school where the study was taking place, as a researcher, I was in an excellent position to have conversations with teachers about their professional learning. Further, I was able to support the professional learning model and assess its effectiveness within the school. The reflections gained from the teachers in this study were rich data contributing to both a principal's understanding of instructional leadership, but also to the understanding of teacher professional learning.

Researcher Perspectives

At the time of the research, I was a principal in an elementary school in a large city. I had over 18 years of formal and informal leadership experience at the elementary and middle school levels. As an instructional leader at my school, I worked with the teachers to create initiatives focused on academic success, starting with an emphasis on discipline-based inquiry as a framework for teaching and learning.

I brought to the research process practical experience as a leader in a school, having both knowledge and understanding of the environmental context. As the school principal in question, I was in a unique situation to explore the context as part of the research process and its influence on both instructional leadership and teacher professional learning, thus contributing to the literature. I expected, by not separating my research from my professional life, I would be afforded major sources of insights, hypotheses, and trustworthiness checks that would not be apparent to an outside researcher. The subjectivity I have as a researcher is the basis for the story I am telling and is a strength, not a detriment. In writing about myself in the capacity of being a participant researcher, I adhered to the protocols necessary for case study methodologies

to be ethically, professionally, and pedagogically conducted. I was implicated in the research space, and I reflexively investigated my *implicated-ness* before, during, and after the research study.

Researcher Assumptions

There are several important assumptions in relation to this study. As the researcher, my first assumption was that teaching and learning occurs in school settings. Second, I assumed that teacher professional learning was able to occur in school settings. In this inquiry, the learning coach was involved in a professional learning model designed to support a discipline-based inquiry approach to teaching and learning at the school. Third, as the researcher, I know instructional leaders may or may not hold formal leadership roles in a school, however, for this inquiry, it was assumed the primary instructional leader to be the school principal. Fourth, a key assumption was that the teachers would be agreeable to participate in the study, be open to be interviewed and respond to questions honestly (i.e., not behaving differently than they would were they not participating in a research study). Fifth, the concepts under investigation (instructional leadership and teacher professional learning) were researchable. Last, the use of a case study methodology, the research questions, and the research methods (purposeful sampling, interviews, use of physical artifacts), were appropriate to the problem being addressed and the purpose of the study.

Rationale and Significance

Ideally, conclusions from this study could be relevant for leaders in schools interested in developing effective teaching practices when a professional learning inquiry-oriented model is introduced to an urban elementary school. Additionally, this research provides an outline of what an instructional leader should do if he/she wants to implement a similar professional

learning model in his/her school. Findings include implications for instructional leaders in the areas of structure, processes and supportive conditions for teacher professional learning.

The knowledge generated from this inquiry affords new insights and so informs the instructional leadership and teaching practices in schools. This research confirmed what exists in the academic literature, further defines and expands the criteria for instructional leadership and teaching professional learning, and suggests new understandings of the conditions for instructional leadership and teacher professional learning, thus adding to the research. This inquiry contributes to the understanding of instructional leadership and teacher professional learning, and has practical applications to instructional leaders and teachers in schools.

There is a gap in the literature related to teacher professional learning this inquiry helps to close. The quality of professional development is a critical issue as educators continue to know very little about what teachers learn from professional development, let alone what students learn as a result of changed teaching practices (Fishman et al., 2003). According to Timperley, Wilson, Barrar, and Fung (2007), while there is extensive empirical evidence relating to children's learning, specifically what advances it, and what limits it, the empirical evidence relating to the professional learning of teachers is sparse. In their research analysis, they developed their own theoretical framework as a basis to analyze studies of teacher professional learning. They concluded their framework "proved useful but cannot be considered adequate as a theory of professional learning. More work is needed" (Timperley, Wilson, Barrar, & Fung, 2007, p. 228). The evidence collected as part of this inquiry adds to the research on professional learning.

Additionally, there exists in educational research literature a tradition of participatory research with a focus on school-based inquiry (Edwards, 2002; Mercer, 2007; Swoboda, 2007).

The last twenty-five years has seen an exponential rise in the amount of practitioner research in education (Mercer, 2007). However, there was a gap in the research literature this study addressed; there was a pressing need to investigate not only insider research by teachers in general, but especially insider research by academic leaders occupying positions within the power hierarchies of their places of work (Mercer, 2007).

Finally, this knowledge is a guide for leadership practice, policy, and research. This inquiry provides a starting point for dialogue with diverse audiences about the future of instructional leadership and teacher learning.

Definitions of Key Terminology

A number of key terms are defined specifically for the purposes of this inquiry. These terms are listed below.

1. **Case-study**. A case study is a research methodology that is an empirical inquiry investigating a contemporary phenomenon in depth and within its relation to the environment (Flyvbjerg, 2011; Yin, 2009).
2. **Discipline-based inquiry**. An investigation into a worthy question, issue, problem or idea. It is the "authentic, real work that that someone in the community might tackle…. inquiry involves serious engagement and investigation and the active creation and testing of new knowledge" (Galileo Education Network, 2013, p.1). For example, students are encouraged to work in distinct ways of thinking, acting, and engaging with core concepts in the same ways as scientists, mathematicians, historians, ecologists, etc. authentically undertake, in order to make meaningful connections and build deep understandings as learners.

3. **Instructional Leaders**. According to Leithwood and Riehl (2003), instructional leaders are those persons, in a school, whom exert influence and provide direction in order to achieve the school's teaching and educational goals. For the purposes of this study, the instructional leader was defined as the school principal.
4. **Professional Learning Model**. For this study, the use of the term *professional learning model* is centred in the work of the Galileo Educational Network (Friesen, 2009a; Jacobsen, 2001; Jacobsen, Clifford, & Friesen, 2002). This university based research group offers a professional learning coach to the school to provide on-site professional learning and on-line support to teachers to facilitate the design of authentic tasks for students, focusing on knowledge creation and formative assessment through an emphasis on discipline-based inquiry.
5. **Professional Learning Coach**. A professional learning coach is an expert teacher "sent into the classroom to observe and provide one-on-one coaching in terms of feedback, modelling better instruction, and in helping teachers to reflect upon their own practice" (Barber & Moushed, 2007, p. 28). This external expert had the ability to work with teachers to present them with possibilities, challenge assumptions, question existing norms of practice, or re-direct focus back to students and their learning (Robinson, 2011).
6. **Quality Teaching**. Quality teaching occurs when "the teacher's ongoing analysis of the context, and the teacher's decisions about which pedagogical knowledge and abilities to apply result in optimum learning by students" (Alberta Education, 2006, p.1).
7. **Successful Teacher Professional Learning**. Timperley, et al. (2007) suggested teacher professional learning is an intentional, ongoing, and systematic process. Teachers work together to solve problems of practice; knowledge is "shared, 'big questions' about

classroom practices are discussed, and the identification of problems and solutions requires a combination of information from student assessments and the shared professional knowledge that teachers and administrators bring to the table" (Anderson, Leithwood, & Seashore Louis, 2012, p. 231). For the purposes of this study, successful teacher professional learning was designed to promote learning for teachers, resulting in "changes in the knowledge, beliefs, and attitudes of teachers that lead to the acquisition of new skills, new concepts, and new processes related to the work of teaching" (Fishman et al., 2003, p. 645).

8. **Student Learning**. The relationships among literacy, numeracy, competencies, and subject/discipline areas as children in schools acquire new, or modify existing, knowledge, behaviours, skills, values, or preferences, and synthesize different types of information (Alberta Education, 2010).
9. **Student Achievement**. In Alberta (Alberta Education, 2010), students realize achievement when they can demonstrate the attitudes, skills, knowledge, and values required for life-long learning (core competencies). These core competencies include the ability to: know how to learn; think critically; identify and solve problems; manage information; innovate; create opportunities; apply multiple literacies; communicate well and cooperate with others; demonstrate global and cultural understanding; and identify and apply career life skills.
10. **Teacher Capacity.** As Leithwood and Mascall (2008) suggested, capacity includes the declarative knowledge (understanding) and procedural knowledge (skills or how-to) required to accomplish work-related tasks. For the purposes of this study, teacher capacity is demonstrated when teachers feel they have the knowledge and skills to

effectively teach in the classroom and have ownership for developing their knowledge and skills based on opportunities for professional learning.

11. **Teaching Practice**. Hattie (2012) proposed teaching practice to be deliberate performance by a teacher with students aimed at obtaining mastery of educational goals; when there is feedback given and sought between the teacher and the student; and when both teacher and student are actively participating in the act of learning.
12. **Teacher Professional Development**. As Timperley et al. (2007) established, professional development involves the delivering of some kind of information to teachers in order to influence practice.
13. **Theory of Action**. A set of rules individuals use to design and implement their own behaviour as well as to understand the behaviour of others (Argyris, 1991).

Organization of the Dissertation

This chapter began with an overview of the context and background framing this inquiry. The problem statement, the statement of purpose, and accompanying research questions were articulated. The research approach and research methodology, the outcomes and methods used, and the researcher's assumptions were then explained. The chapter concluded with the rationale and significance of this research study, the researcher's perspectives, and definitions of some of the key terminology used.

The next two chapters of this dissertation continue to set up the study and thus constitute the inquiry's framework. Chapter two is comprised of the literature review and provide a more detailed conceptual framework. Chapter three outlines the research methodology chosen for this study, outlining further the demographic data in the study, issues of trustworthiness, and addresses the study's limitations and delimitations.

Chapters four through six discuss how I have addressed the data collected as part of this inquiry. Chapter four presents the research findings. Chapter five is the analysis, interpretations, and synthesis of the findings. Chapter six presents conclusions and recommendations based on the findings.

CHAPTER 2

LITERATURE REVIEW

Introduction

Given its prevalent role in school improvement discourse and the diverse ways it is conceptualized in various contexts, it is important educational leaders understand the complexity of teacher professional learning in educational organizations. This inquiry addressed a significant leadership trend of importance to my life-world as an administrator and researcher, to understand the problem of how instructional leaders best lead teacher learning when a professional learning discipline-based-inquiry oriented model was introduced to an urban elementary school.

To conduct this inquiry, it was necessary to complete a critical review of current literature. This review was ongoing throughout the data collection, data analysis, and synthesis phases of the study. This critical review explores the interconnectedness between instructional leadership and teacher professional learning. Two major areas of literature were critically reviewed: (a) instructional leadership in relation to leading professional learning, and (b) teacher professional learning as understood by the characteristics of effective professional learning. Both are addressed within the context of the study. A review of the literature on instructional leadership provides an understanding of the vision, organization of learning opportunities, and attention to structural and technical issues necessary for those learning opportunities to occur. Examining the characteristics of teacher professional learning provides an understanding that teacher professional learning needs to be actively focused with opportunities for application, evidence based, collective and collaborative, while utilizing authentic Professional Learning Communities and external expertise.

To conduct this literature review, I used multiple information sources including books, dissertations, Internet resources, professional journals, and periodicals. These sources were accessed through ERIC, Google Scholar, ProQuest Theses and Dissertations, Theses Canada, Review of Educational Research, Review of Research in Education, and any relevant handbooks.

Throughout this review, I attempt to point out important omissions or gaps in the literature when it is apparent. As well, contested issues or controversies are discussed as appropriate. Further, research implications are examined when applicable. Woven throughout the literature review are my interpretations of how the literature has informed my understanding of others' research and how that research contributes to the ongoing development of this inquiry's conceptual framework.

Conceptual Framework

A conceptual framework seeks to "identify 'presumed relationships' among key factors or constructs to be studied" (Ravitch & Riggan, 2012, p. 10). To assist in answering my two research questions, I formulated a conceptual framework to frame my inquiry and established a guide for the literature review (Figure 2.1). My first research question asked, what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? My second research question inquired, how does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning? The conceptual framework was a significant aspect of my inquiry. It was formed based on my research problem, my two research questions, concepts, assumptions, expectations, beliefs, and theories informing my study. It was a model for my research and investigation, and was the frame for this literature review.

Figure 2.1. Instructional Leadership and Teacher Professional Learning

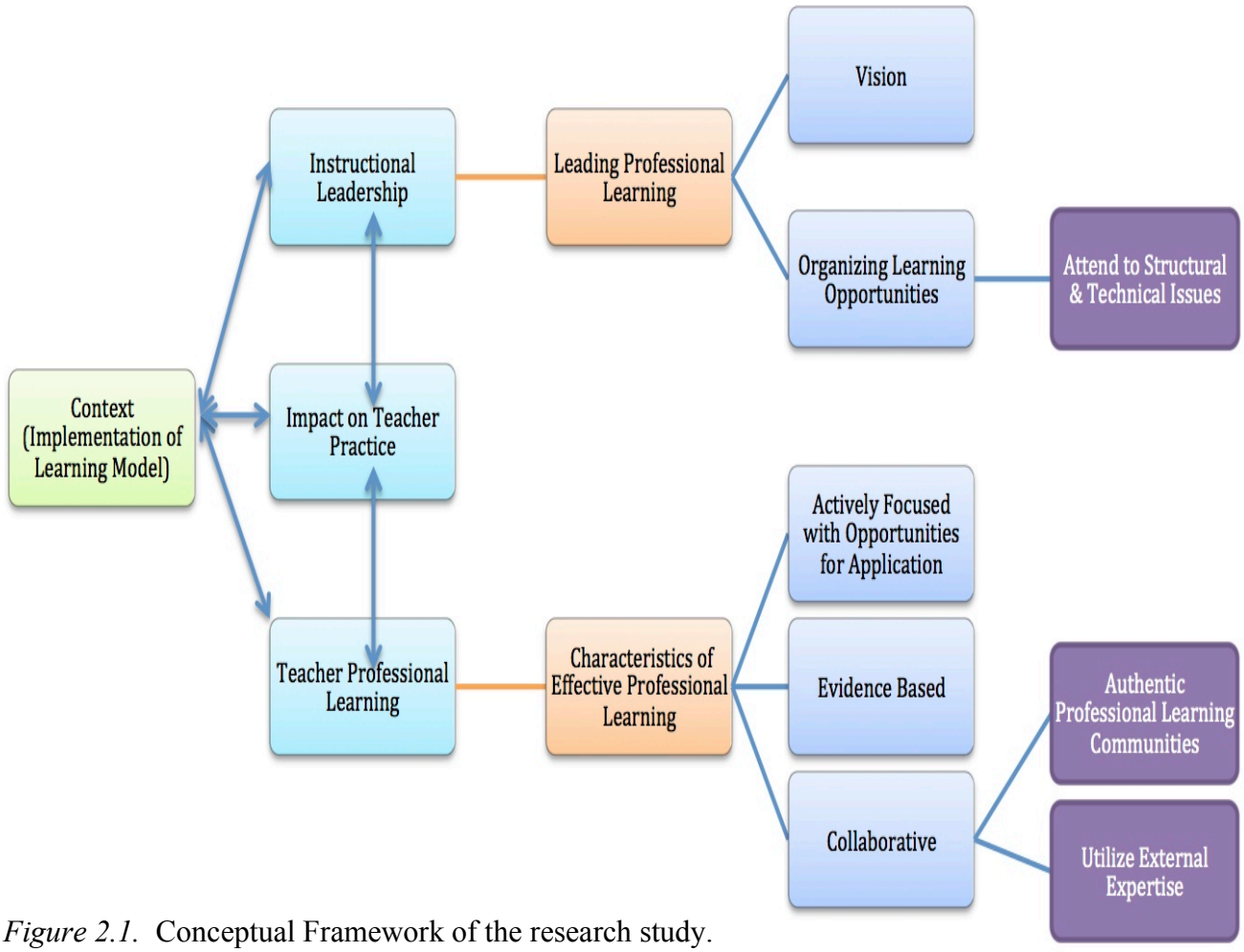

Figure 2.1. Conceptual Framework of the research study.

Context

Context refers to the influence of history, school culture, community values, school structure, school size, socio-economics of the students, teacher experience, and politics, on how the leaders and teachers move the work of the school forward (Mourshed, Chijioke, & Barber, 2010). Further, the role context plays allows principals to adjust their performance to the changing needs of the situation they find themselves in. Thus, leaders are influenced by their context and, in turn, the context determines how they exercise their leadership. My own experiences and research support this notion. The contexts of the schools I have led had an effect on my leadership and, consequently, I've tried to shape them. For this study, context influences and is influenced by, instructional leadership and teacher professional learning and is affected by the implementation of a professional learning model. All have an impact on, and are impacted by, teacher practice.

Levin (2010b) proposed some sobering and pragmatic advice when considering the role of context. He states, "teaching is a contextual activity; what professional activity is not? Even in dealing with non-animate tasks such as constructing a building, each building site is different, each pattern of use is different, each climate is different" (p. 306). Therefore, even though I put context as the start of my conceptual framework, I was careful it did not become all the inquiry focused on. Additionally, as an instructional leader, I knew I needed to consider and understand the context, but be cautious not to let the context drive all leadership and professional learning decisions I made in my school.

Context of the Study – The Role of the Researcher

As mentioned above, context plays a central role in this inquiry. The specificity of the research site – an urban elementary school, created a unique opportunity for understanding the

influence context had on teacher professional learning and principal instructional leadership. As Goldschmidt and Phelps (2010) suggested, a study such as mine was warranted, as there are a limited number of studies designed to examine "teacher knowledge and its growth or seek to examine the effects of professional development on teacher learning" (p. 2). Further, since I was the participant researcher who conducted the study, and an instructional leader in the school, I understood the context better than an outsider would. I was in a unique situation to explore the context as part of the research process and its influence on both instructional leadership and teacher professional learning, thus contributing to the literature. By not separating my research from my professional life, I was afforded major sources of insight and trustworthiness checks that would not be apparent to an outside researcher. Further, as Glesne (2010) argued, my subjectivity and knowledge of the context equipped me with the perspectives and insights shaping my work as a researcher, from the selection of topic through to the emphases I had selected for my conceptual framework.

Partnering to Implement a Professional Learning Model

The school was partnered with external experts, the Galileo Educational Network (Friesen, 2009a; Jacobsen, 2001; Jacobsen, et al., 2002), to help teachers design and implement authentic tasks for students, focusing on knowledge creation and formative assessment through an emphasis on discipline-based inquiry. As a staff, we worked collaboratively with a learning coach from Galileo to create meaningful, genuine tasks for students. This direct connection helped build commitment in our school to incorporate research-based knowledge as well as subject it to discussion and examination. The Galileo learning coach provided combinations of onsite, ongoing research-informed supports as she worked in collaboration with teams of teachers to design authentic discipline-rich inclusive tasks for all students that embodied the

following characteristics: authenticity, academic rigor, appropriate uses of technology, active exploration, connecting with expertise, and assessment (L. Cooper, personal communication: Galileo contract, August 15, 2013).

The Galileo Educational Network was established in 1999 with a vision to design and support 21st century learning and leadership by "creating researched images of instructional practices and teacher and student learning through the four pillars of (1) leading and learning, (2) capacity building, (3) effective infusion of technology, and (4) research and development" (Friesen, 2009a, p. 7). The Galileo learning coach responded to the unique culture of the school to help teachers to create classrooms that were engaging and reflective. The approaches of Galileo are grounded in educational research. Galileo learning coaches work within the school, with the staff providing on-site professional development and off-site on-line support. The learning coach helped teachers design learning environments to aid students to build knowledge through discipline-based inquiry while assisting teachers to design lessons with formative assessment strategies. Additionally, the learning coach provided mentorship in gathering evidence of student progress of what was working and what was not in order to guide teacher planning. Finally, she supported me, as an instructional leader, to look at both teacher and student work to inform leadership practice (L. Cooper, personal communication, August 15, 2013). As the leader of the school, the learning coach helped me work with my staff to create new images of teaching, appreciate student capabilities, and develop meaning together as a community of learners.

The context of this study afforded a unique opportunity to address some gaps in the literature. First, based on my examination of the research, there is little current published research on specific schools that have engaged in research with the Galileo Educational Network.

Based on information from the Galileo Educational Network website (Galileo Educational Network), researchers from Galileo Educational Network are currently conducting research at Forest Lawn High School (2013). Further, from 2007-2010, research was conducted across southern Alberta at Red Deer Lake School, Heritage Heights School, Dr. Morris Gibson School, and Calgary Science School. However, the most recent published studies of research at one school site were Glendale Elementary School (McKinnon, 2005) and Andrew Sibbald School (McKinnon, 2004). I believe given this limited examination of individual schools, my research contributes to both the Galileo Educational Network literature and the published research on specific schools that have engaged in research with the Galileo Educational Network.

Second, most of the published research presented by the Galileo Educational Network relates to either teachers in the classroom (LaGrange, Clifford, Jardine & Friesen, 2001), is about the elements of classroom inquiry (Bastock, Gladstone & Martin, 2006; Clifford & Marinucci, 2008; Collison, 2005, Friesen, 2010; Friesen, Martin, & Johnson-George, 2007), or focused on the role of technology in teaching (Clifford & Friesen (nd); Clifford, Friesen, & Lock, 2004; Jacobsen, 2001; Jacobsen et al., 2002; Jacobsen, Clifford & Friesen, 2002, 06). As such, I have yet to find a study or published research examining the role of the instructional leader during a Galileo Educational Network professional learning intervention. Since I was not a Galileo Educational Network researcher or learning coach, I brought to the research process a different perspective, that of an instructional leader. This inquiry was a case study, wherein I was both an instructional leader and the researcher. Although I was facilitating the professional learning of the teachers, the provider of the professional learning was a learning coach from the Galileo Educational Network who had expertise in terms of discipline-based, inquiry-oriented learning, and teaching practices. For this case study, I endeavoured to gather information to understand

how the teachers transferred their learning to their classroom practice and the role of the principal, as the instructional leader, in implementing the professional learning model. I believe since this study was designed to be a case study, it offered a unique insight into a school participating with the Galileo Educational Network.

Context and Instructional Leadership

Hallinger (2003) suggested school context has an effect on the type of instructional leadership exercised by principals. He contended it is "virtually meaningless to study principal leadership without reference to the school context. The context of the school is a source of constraints, resources, and opportunities that the principal must understand and address in order to lead" (p. 346). Overall, an effective leader will respond to the changing needs of the context. As Leithwood et al. (2008) proposed, the ways in which leaders apply these basic leadership practices, not necessarily the practices themselves, demonstrate responsiveness to, rather than direction by, the contexts in which they work. Without doubt, "successful leaders are sensitive to context, but this does not mean they use qualitatively different practices in every different context. It means, rather, that they apply contextually sensitive combinations of the basic leadership practices" (p. 31). Brandon (2008) suggested instructional leaders must modify their approach in response to the strengths and needs of individual teachers. The context drives the practice. As such, instructional leaders must differentiate "instructional direction and support according to the pedagogic styles, developmental stages and learning needs evident in the community of professional practice" (Brandon, 2008, p. 17). Similar to Brandon (2008), Robinson (2006) argued that theories of educational leadership should be grounded in our best evidence about effective teaching, for example, teaching which has positive impacts on students.

The next step involves identifying the context: the classroom, school, and policy contexts that enable or inhibit effective teaching.

Successful school leaders respond positively to the challenges created by the contexts in which they work (Leithwood & Riehl, 2003). Conversely, instructional leaders who ignore the context could find their efforts to improve instruction unsatisfied. Successful instructional leadership includes attention to classroom instructional practice, but also to the other factors critical to the ongoing welfare of the school as a whole (Leithwood, 2012).

Context and Teacher Professional Learning

Timperley (2008) suggested teacher professional learning is strongly shaped by the context in which the teacher practices. Professional learning does not occur in a vacuum, but in the context of teacher practice; this is usually the classroom, which, in turn, is strongly influenced by the wider school culture, the community, and society in which the school is situated. Teachers' daily experiences in their context shape their understandings, and their understandings shape their experiences. Further, Timperley (2008) argued context-specific approaches uphold teaching practices that align with the "principles of effective teaching but also systematically assist teachers to translate those principles into locally adapted applications. By developing this kind of knowledge teachers can better solve identified issues about student outcomes in their particular teaching situations" (p.10). Robertson (2011) suggested teacher professional learning requires a context that fosters dialogue about the learning experience. She argued professional learning does not just happen; these learning spaces need to be creatively designed, practised, and then modelled by those facilitating learning opportunities. Specifically, new professional learning needs to be "generative and responsive to the context and requires inquiry, critical reflection on practice and on the process of change" (p. 219).

Instructional Leadership

If we consider the traditions and beliefs about leadership, it is simple to make a case that leadership is important to the success of a school. For centuries, people have assumed leadership is vital to the success of any institution (Marzano, et al., 2005). Perspectives of leadership abound in educational literature. Regardless of the theory used to explain it, leadership has been linked to the effective functioning of many organizations throughout the ages. According to Leithwood, Harris, and Hopkins (2008), school leadership is second only to classroom teaching as an influence on pupil learning. Given this statistical importance, it is no surprise an effective principal is thought to be a necessary requirement for an effective school. How should successful leaders lead their schools? According to the research, a focus on instructional leadership is an appropriate strategy. This section attempts to answer the question, *what is instructional leadership*?

According to Hallinger (2003) models of instructional leadership first emerged in the early 1980s based on research on what constitutes an effective school. The importance of the role of the principal was inferred from studies examining schools that were successful at teaching children in poor urban communities. Scholars conducting research "consistently found the skillful leadership of school principals was a key contributing factor when it came to explaining successful change, school improvement, or school effectiveness" (Hallinger, 2003, p. 331). Early formulations of instructional leadership assumed it to be the responsibility of the principal as these schools typically had strong instructional leadership, including a learning climate free of disruption, a system of clear teaching objectives, and high teacher expectations for students (Robinson, et al., 2008).

These early models of instructional leadership emphasized the principal managing and controlling others to move towards goals established at the top of the organization. In this classic instructional leadership model, "the principal actually seeks to limit uncertainty. S/he does this through the increased coordination and control of curriculum and instruction, even if it may reduce opportunities for exercising voice among others" (Hallinger, 2003, p. 340).

This view of the principal's role shifted in the 1990's, suggesting principals would need to become greater instructional leaders, with a balanced emphasis on the managerial role of the position (Wahlstrom, 2012). At the start of the new millennium, the model shifted again to focus on the improvement of learning and teaching (Hallinger, 2003). As the models have altered, so too has the research about the construct, and similarly, as Blase and Blase (2004) suggested, until recently, little knowledge of what behaviours comprise good instructional leadership has been available in the literature.

Currently, educational researchers are starting to ask specific questions regarding how instructional leadership affects instruction. As Seashore Louis and Wahlstrom (2012) emphasized, research shows that "consistent, well informed support from the principal makes a difference" (p. 30). The emerging research about the importance of instructional leaders highlights the leader's role in shaping a school's culture, principal-teacher relations, establishing trust, sharing leadership, and ensuring the quality of instruction.

However, there are still controversies in the literature about what specifically defines instructional leadership. Southworth (2002) suggested instructional leadership requires individuals to be highly competent in a number of knowledge and skill areas. These include comprehension of "curricula, pedagogy, student and adult learning and skills in change management, group dynamics and interpersonal relations and communications. Also, certain

personal qualities and individual attributes may be important, such as high energy levels, resilience, determination, empathy and optimism" (pp. 85-86). Some researchers emphasized leadership's central purpose is to improve teacher performance (Leithwood et al., 2008). Others focused on the instructional leader as providing direction and exercising influence (Leithwood & Seashore Louis, 2012). Some examined the role of the instructional leader's behaviours and linked them to teachers' commitment, professional involvement, and innovativeness (Blase, & Blase, 2004). Still, others proposed educational leadership involves not only building collegial, cohesive teams, and sharing an inspirational vision, it also includes focusing relationships on the pedagogical work (Robinson et al., 2008). Further, some suggested the role of the principal is to improve instruction by developing improved learning and innovation contexts for teachers (Seashore Louis & Wahlstrom, 2012).

It seems leaders need to develop a cohesive culture, have strong and open communication with staff, students, and the community, and monitor and evaluate instruction, while doing all of these things in a way to improve teaching and learning. What type of knowledge is needed to lead such instructional improvement? Is it realistic to expect a school leader to have all of these attributes? Can one individual meet this challenge alone? As an instructional leader, I know I cannot carry the burden of leadership unaided – I am no hero. However, I still consider myself an instructional leader. Is this just a difference in the definition of instructional leadership as we evolve and create knowledge around its meaning?

Robinson et al. (2008) cautioned against going to extremes when discussing leadership. If we exaggerate leadership's importance and influence more than is reasonable or realistic, we create these notions of heroic leadership. Therefore, there needs to be a balance when viewing the role of the instructional leader in name, definition, and practice. Robinson et al. (2008)

suggested one should not expect a school leader to demonstrate a high level of capability in all areas of instructional leadership. Such an interpretation "would reinforce the highly problematic heroic approach to school leadership—an approach that has, among other things, discouraged many teachers from taking up more senior leadership roles" (p. 668). What matters is the understanding that schools at different stages, and in different contextual realms, will need different leadership emphases.

Further, if we are to learn more about how leadership supports teachers in improving learning, we need to measure how leaders attempt to inspire the teaching practices that make a difference (Robinson et al., 2008). The "source of our leadership indicators should be our knowledge of how teachers make a difference to students rather than various theories of leader–follower relations" (Robinson et al., 2008, p. 669).

The evidence in the research suggested when leaders promote and participate in teachers' professional learning, it has twice or more the effect size of any other aspect of leadership in terms of the link with student outcomes (Robinson, 2011). As a result, I decided for the purposes of this study to define *instructional leader* as understood from the role of the school principal; specifically relating to how the school's principal influences the instructional program in the school through leading teacher professional learning and development.

Leading professional learning. As Friesen and Lock (2010) submitted, educational leaders today are "called upon to invent new learning environments, new education systems to address our contemporary society" (pp. 3-4). Leaders need to understand 21st century learning and teaching so they can encourage and develop it to ensure there is a high degree of innovation in teaching practices (Hopkins, et al., 2010). This work requires the school leader to be deeply

involved in the school's instructional development (Hallinger, 2003; Leithwood, 2012; Mulford, 2008).

In her analysis of high performing schools, Wahlstrom (2012) noticed high scoring principals are actively engaged in providing direct instructional support to teachers. They have an "acute awareness of teaching and learning in their schools" (p. 76). Additionally, these leaders have frequent and direct involvement with their teachers. For example, the principals in her study visited classrooms regularly, provided teachers with formative observations, and offered feedback of the witnessed teaching and learning.

Instructional leaders are interested in developing people in order to enable students to become active learners and to create schools as professional learning opportunities for teachers (Hopkins et al., 2010). Robinson's (2011) fourth dimension of student-centered leadership called for instructional leaders to lead teacher learning and development. Robinson (2011) proposed that effective leadership of teacher professional learning "involves using evidence about student learning to inform decisions about what professional learning is needed, whether it is working, who it is working for, and when it should end" (p. 109). Sheppard (1996) synthesized the research and confirmed a positive and strong relationship between effective instructional leadership behaviours exhibited by principals and teacher commitment, professional involvement, and innovativeness. Similar to Robinson (2011), Sheppard (1996) learned promoting teachers' professional learning was the most influential instructional leadership behaviour.

Vision. To effectively lead professional learning, instructional leaders need to build a shared vision with their staff, foster group goals, create performance expectations, and translate this vision into whole school curriculum (Hopkins et al., 2010; Leithwood, 2012; Mulford,

2008). Setting direction enables learners and teachers to reach their potential. An instructional leader must work with educators to ensure "the school has clear, measurable goals that are focused on the academic progress of its students" (Hallinger, 2003, p. 332). Successful leaders do not impose goals on the teachers in the school; rather they work with teachers to create a shared sense of purpose and direction to help establish the conditions to enable each other to be effective (Leithwood & Riehl, 2003). Therefore, establishing a vision to explore possibilities is best done through everyday activities, not decontextualized declarations, or obscure vision statements. For example, Timperley (2008) advocated for the use of success stories to embed high teacher expectations of students as this involves "developing a realistic vision—based on alternative possibilities—of better student outcomes, more meaningful curriculum content, or different pedagogical approaches" (p. 22). A vision of this kind can act as a powerful stimulus for teachers to engage in new learning, devise specific goals for their learning, or reflect on their practice. Instructional leaders have influence in this regard as they shape the purposes of the school with this work. In Brandon's (2008) research, it was observed that each leader in his study took this role very seriously and had a "well articulated plan to support and enhance teacher growth in the school" (p. 19).

Wahlstrom (2012) suggested setting direction encompasses "instructional ethos" (p. 76). In her research, principals in high performing schools established a vision for the school centred on student achievement, emphasizing the value of research-based strategies. Similarly, Robinson et al. (2008) observed the evidence of the importance of generating goals and expectations. Leadership makes a difference to students through the degree of emphasis on clear academic and learning goals. Goal setting has "indirect effects on students by focusing and coordinating the work of teachers and, in some cases, parents" (Robinson et al., 2008, p. 659). Further, Robinson

et al. (2008) recommend educational researchers need to examine the research-based strategies associated with setting the direction, "not just leaders' motivational and direction-setting activities but on the educational content of those activities and their alignment with intended student outcomes" (p. 660).

Organizing learning opportunities. Robinson et al. (2008) studied how leaders plan, coordinate, and evaluate teaching and the curriculum. Their research showed this type of leadership has a moderate impact on student outcomes (ES = 0.42). Similar to the Wahlstrom (2012) study, high performing leaders in their inquiry "distinguished from their counterparts in otherwise similar lower performing schools by their personal involvement in planning, coordinating, and evaluating teaching and teachers" (Robinson et al., 2008, pp. 661-662). Additionally, teachers in higher performing schools reported their leaders were actively involved in collegial discussion of instructional matters, including how instruction impacted student achievement. Teachers in such schools reported their leaders set and adhered to clear performance standards for teaching, made regular classroom observations to help them improve, and utilized test results for the purpose of program improvement (Robinson et al., 2008).

For leaders, effective leadership of teacher professional learning is both knowledge and skill-based. The leader needs to know what students need, what teachers need to know to meet the students' needs, what evidence-based content is necessary to learn, and how to best integrate theory and practice. The leader needs skills in having "open-to-learning conversations" (Robinson, 2011, p. 38), skills at using relationships with teachers to discuss practice, and skills at asking the right questions at the right time. Success was more likely where people were empowered, involved in decision-making through a visible supportive structure, and were trusted, respected, encouraged, and appreciated (Mulford, 2008). As Robinson (2011)

pronounced, a "powerful difference can be made by teachers and leaders learning together on the job about how to achieve their student learning goals" (pp. 13-14). Robinson suggested this dimension of leadership goes beyond organizing and resourcing the professional development program in the school. In order for this dimension to be successful, leaders need to participate in the learning, either in the role of leader, learner, or both.

Additionally, Leithwood and Jantzi (2012) proposed teachers feel the effects of instructional leaders' active development because they created the conditions in which teachers were able to perform well in their classrooms. Further, Leithwood et al., (2008) indicated leaders did this work "indirectly and most powerfully through their influence on staff motivation, commitment and working conditions" (p. 32). Brandon (2008) determined successful instructional leaders were proficient at establishing supportive relationships with teachers. These leaders connected with staff members in ways that built trust and support while focusing on high expectations. When instructional leaders were attempting to develop people, they aimed to increase capacity building, which was "understood to include not only the knowledge and skills that staff members need to accomplish organizational goals, but also the disposition that staff members need to persist in applying such knowledge and skills" (Leithwood, 2012, p. 60).

Attend to structural and technical issues. Organizing learning opportunities for teachers requires both technical and human skill sets on the part of the instructional leader. Together they are valued in moving the work of the school forward. The technical aspect of connecting the organization suggests instructional leaders should protect instructional time, maintain high visibility, provide incentives for teachers, build curriculum diversity, access district resources, ensure an orderly and supportive environment, organize professional supports, resource strategically, and promote a positive school-learning climate (Brandon, 2008; Hallinger, 2003;

Hopkins et al., 2010; Mulford, 2008; Robinson, 2011). Conversely, the human knowledge aspect of connecting the organization encourages instructional leaders to build and structure collaborative cultures, connect the school to the wider community, and establish workplace conditions to allow staff to develop their motivations and capacities (Leithwood, 2012).

As Timperley (2008) promoted, "schools do not thrive on visions alone, so leaders must ensure that professional learning opportunities are well managed and organized and that appropriate conditions are in place for the extended engagement that in-depth professional learning requires" (p. 22). If instructional leaders expect their teachers to engage in professional learning, it is important to emphasize these activities are a part of the core business of the school. Further, the leaders must create the infrastructure to support them (Timperley, et al., 2007). Therefore, leaders need to understand that moving the work of the school forward is complex; as such, it is necessary to reduce competing demands accordingly. In this regard, a leader needs to act as a filter, ensuring other innovations taking place in the school are consistent with the new learning. When this is the case, professional learning can be deepened, not compromised. One of the "greatest threats to comprehensive school reform is the introduction of competing reforms that lead to fragmentation of effort" (Timperley, 2008, p. 23).

Teacher Professional Learning

Improving pedagogical practices and learning about learning will make a difference to school improvement (Hopkins, et al., 2010). We will fail to improve schooling for children until we "acknowledge the importance of schools not only as places for teachers to work but also as places for teachers to learn" (Timperley, et al., 2007, p. 1). The need for ongoing learning exists because teaching is not a static endeavor. The continual evolution of students, including changing demographics, developmental progressions, cultural, linguistic, and emotional

sequences, suggests teachers must have current evidence about how best to meet the learning needs of their students. Teachers need to continually learn discipline knowledge, new curricula, assessment information, theoretical frameworks, and conceptual tools to be successful in the classroom (Timperley, et al., 2007).

Individual teacher competence is necessary for effective classroom practice. Teachers "must be able to integrate knowledge of students, subject matter, and teaching context in planning units and lessons, carrying out instruction, assessing student work, and reflecting on practice" (Youngs & King, 2002, p. 644). Timperley (2008) suggested teachers who are engaged in effective professional learning take greater ownership for the learning of all students. Further, as they "take more responsibility, and as they discover that their new professional knowledge and practice are having a positive impact on their students, they begin to feel more effective as teachers" (Timperley, 2008, p.9).

Bredeson and Johansson (2000) defined professional learning as "opportunities that engage teachers' creative and reflective capacities to strengthen their practice" (p. 387). Timperley et al. (2007) suggested professional learning is an intentional, ongoing, and systematic process. Guskey (1998) viewed professional development as the processes and activities designed to enhance teachers' professional knowledge, skills, and attitudes so as to improve the learning of students.

For the purposes of this study, I wanted to articulate and differentiate between the terms *professional learning* and *professional development*. As Timperley et al. (2007) established, over time, "the term 'professional development' has taken on connotations of delivering some kind of information to teachers in order to influence practice whereas 'professional learning' implies an internal process through which individuals create professional knowledge" (p. 3).

The two, however, are linked, for without professional learning, professional development is unlikely to have any impact. Thus, any well-designed professional development opportunity should be designed to promote learning for teachers.

Additionally, as a researcher, I had to be careful when judging the success of professional development or professional learning. As Guskey (1998) suggested, a common measure used is "teacher satisfaction" or "happiness quotients" (p. 5). I was not interested in the entertainment value of professional learning opportunities; I did not wish to further promote the development of a closed understanding of what constitutes quality professional learning where adult preferences become the criteria for success. To determine the quality of the professional learning experience, I was careful not to ask questions in my interviews requiring answers related to teacher satisfaction with the professional learning model. I asked questions specifically related to my conceptual framework and within my working definition of quality teaching.

Finally, there is a gap in the literature related to teacher professional learning I hoped my research could help to close. The quality of professional development is a critical issue as we continue to know very little about what teachers learn from professional development, let alone what students learn as a result of changed teaching practices (Fishman et al., 2003). According to Timperley et al. (2007), while there is extensive empirical evidence relating to children's learning, specifically what advances it, and what limits it, the empirical evidence relating to the professional learning of teachers is sparse. In their research analysis, they developed their own theoretical framework as a basis to analyse studies of teacher professional learning. They concluded their framework "proved useful but cannot be considered adequate as a theory of professional learning. More work is needed" (Timperley et al., 2007, p. 228). It was my hope

my conceptual framework or the evidence collected as part of this inquiry added to the research on professional learning.

Characteristics of Effective Professional Learning

To help teachers incorporate highly effective instructional strategies into their classrooms, an endless number of professional development workshops are offered each year by educational corporations, universities, unions, and local school districts (Richards & Skolits, 2009). Unsuccessful professional development is seen as too conventionally taught, too top-down, and too isolated from school and classroom realities to have a significant impact on practice; it fails to take teachers' existing knowledge, beliefs, and attitudes into account (Buczynski & Hansen, 2010). Additionally, reforms that expose teachers to best practices through workshops or written materials without making this knowledge precise enough for them to understand how to apply it in their own classroom will fail (Barber and Mourshed, 2007).

Teacher professional learning should be "about teacher learning: changes in the knowledge, beliefs, and attitudes of teachers that lead to the acquisition of new skills, new concepts, and new processes related to the work of teaching" (Fishman et al., 2003, p. 645). Further, it seems obvious "if we are to learn more about how leadership supports teachers in improving student outcomes, we need to measure how leaders attempt to influence *the teaching practices that matter*" (Robinson et al., 2008, p. 669, emphasis in original).

According to Timperley et al. (2007), the content of the professional learning opportunity is essential to effective professional learning. The programs or activities offered need to clearly deepen professional understanding and extend teachers' skills in ways that will positively impact their students. The design of the learning opportunity must begin with a clear idea of what preferred knowledge and necessary skills are to be developed by the teachers. Similar to

planning for students in a classroom, "a key question when deciding on the resources targeted in the professional learning situation is: 'What is it that the designers, or those providing the learning opportunities, want the participating teachers to learn?'" (Timperley et al., 2007, p. 27). Therefore, it is not the programs offered or activities that work (or do not work), but the underlying purpose that the programs or activities offer to participants to change what they are already doing.

Additionally, teacher professional learning needs to occur in school environments characterized by both trust and challenge as changing practice involves emotions as well as knowledge and skills (Timperley, et al., 2007). Changing teaching practice in order to significantly affect student outcomes is not simple. Change involves risk. However, before teachers assume risk, they need to trust their efforts will be supported. For example, anticipations of change can be upsetting to teachers if taken as commentary on their competence or challenges to their professional identity. Furthermore, change appears to be "promoted by a cyclical process in which teachers have their current assumptions challenged by the demonstration of effective alternative practice, develop new knowledge and skills, make small changes to practice, and observe resulting improvements in student outcomes" (Timperley, et al., 2007, p. 18). As a result, teachers then learn to expect more of their students, and the cycle continues; changing practice followed by improvements in student outcomes.

Furthermore, ongoing challenge of this kind requires purpose. Teachers need to be motivated by a problem with student outcomes, which teachers and leaders have assumed some responsibility for and which they believed they have the capacity to change (Timperley, et al., 2007, p. 225). Context-specific problems assist teachers to translate those difficulties into context-specific solutions. By developing this kind of solution-focused knowledge, teachers can

better solve identified issues about student outcomes in their particular teaching situations (Timperley, 2008).

Research shows promoting teachers' professional learning is the most influential instructional leadership behaviour at the elementary school level (Sheppard, 1996; Timperley, 2008). It is important leaders are actively involved and establish conditions that are receptive to the ways teachers learn (Timperley, 2008). Further, "facilitative, supportive actions by principals as instructional leaders have powerful effects on classroom instruction" (Blase & Blase, 1998, p. vii). This work requires the school leader to be deeply engaged in teachers' professional learning (Hallinger, 2003; Leithwood, 2012; Mulford, 2008).

Actively focused with opportunities for application. Like students, teachers need many opportunities to learn, integrate, and apply new learning. Therefore, significant efforts to allow teachers to develop a sense of comfort with the new strategies through modeling, practice, and instructional support are necessary components of effective teacher professional learning (Richards & Skolits, 2009). Furthermore, teachers need to view the strategy as worthy of their instructional time "based on factors such as improved student learning and positive student response to the strategy (Richards & Skolits, 2009, p. 50). Additionally, teachers need to understand the educational theory behind new instructional strategies and be provided with skills to discuss the strategy as it relates to their current pedagogical practices.

Moreover, teachers must believe in the engagement in their own learning as "self-regulated learners" (Timperley et al., 2007, p. 225). Teachers who ask, "'Where am I going?' 'How am I going?', and 'Where to next?....consider the impact of their teaching on the learning of their students" (Timperley et al., 2007, p. 225). The question *Where am I going?* is framed in terms of curricular content, problem solving, or understanding student comprehension. *How am*

I going? is an analysis of how effective their teaching has been in helping their students' progress toward their goals. The *Where to next?* question asks what is needed for supplementary understanding of assessment and curricular content.

Further, teachers need to have time and opportunity to engage with key ideas and integrate them into workable solutions for their classrooms. Based on her analysis of the research, Timperley (2008) proposed it typically takes one to two years for teachers to appreciate how their existing beliefs and practices are different from those being fostered, to next build the required pedagogical knowledge, and finally to change practice. Given that "teachers engaged in professional learning are simultaneously maintaining a teaching workload, and that many of their existing assumptions about effective practice are being challenged, it is not surprising that so much time is required" (Timperley, 2008, p. 15). However, as mentioned above, teachers also need to be supported as they make changes and experience the challenges that come with shifting practice.

Evidence based. In traditional teacher professional learning models, teachers may be provided with information about research findings, however, "these efforts, laudable as they are, are clearly insufficient. A consistent finding in the literature is that simply providing information about research findings and implications does not change people's behavior" (Levin, 2010b, p. 308). Further, Robinson (2011) proposed effective understanding of teacher professional learning "involves using evidence about student learning to inform decisions about what professional learning is needed, whether it is working, who it is working for, and when it should end" (p. 109). It is the use of evidence, I believe, which enhances the individual and collective responsibility all educators have for student learning. The primary argument for the importance

of greater data use and increased use of research in schools rests on its prospective effectiveness in improving student outcomes (Anderson et al., 2012).

Links to learning are created when the instructional leader and the educators use the data to inform decisions. The use of formal data by teachers and principals is not "an isolated activity; rather, data use occurs in the context of other ritual activities, such as developing consensus around clear targets for improvement and developing the capacities for the professionals in the school to act on both the data and improvement goals" (Anderson et al., 2012, p. 163). However, principals need to participate with teachers to effectively use data. One of the most powerful means of gaining teacher commitment is to "provide proof, obtained through monitoring, of improved student progress towards identified goals. Leaders need to find ways to demonstrate such progress" (Timperley, 2008, p. 22). Examining data needs to be a collective endeavour between the instructional leader and the teachers. As Anderson et al. (2012) suggested, principals typically assume the role of "data use 'enablers' rather than direct data users themselves. Teachers are usually 'street-level' users" (p. 171). For example, principals may be giving teachers access to data, providing opportunities to help collect or interpret the data, and holding teachers accountable by requiring them to use data to justify recommendations for student improvement, yet may not directly engage in the process of data analysis and use themselves. This is an oversight. Instructional leaders must use evidence to inform and improve the practice of all staff, including themselves.

Moreover, using evidence from research adds to the professionalism of teaching. As Levin (2010b) articulated, "where there is strong evidence, there cannot be a professional right to use a practice known to be ineffective" (p. 306). He further suggested a real profession would seek out and support valid research. If teachers and administrators expect to be regarded as

professionals, they need to embrace the opportunities in research to help improve practice (Levin, 2010b).

Collaborative. Teachers in many schools work alone. In a number of the top systems examined by Barber and Mourshed (2007), teachers have moved beyond the individuality traditionally associated with teaching and are participating together in authentic professional learning opportunities. They "work together, plan lessons jointly, observe each others' lessons, and help each other improve. These systems create a culture in their schools in which collaborative planning, reflection on instruction, and peer coaching are the norm and constant features of school life" (p. 28).

Robinson (2011) suggested a "powerful difference can be made by teachers and leaders learning together on the job about how to achieve their student learning goals" (pp. 13-14). Collaborative practice involves professionals working together to develop "effective instructional practices, studying what actually works in classrooms, and doing so with rigorous attention to detail and with a commitment to not only improving one's own practice but that of others as well" (Mourshed, et al., 2010, p. 75). Hattie (2009) concluded the "remarkable feature of the evidence is that the biggest effects on student learning occur when teachers become learners of their own teaching" (p. 22). Southworth (2011) found that professional learning is collaborative as well as an individual endeavour. As professionals, we all have a responsibility of one another's learning, as well as our own. Hence, collaborative practice will determine pedagogy, as teachers will make their practice public, sharing responsibility for student learning. Furthermore, Robinson (2011) articulated that leaders need to participate in the learning, either in the role of leader, learner, or both.

Blase and Blase (1999) noticed effective instructional leaders promoted teachers' professional growth in collegial conversations about teaching and learning. These leaders enhanced the collaborative community in their schools by supporting the development of coaching skills and reflective conversations among educators and worked to provide time and opportunities for peer connections among teachers. Blase and Blase (1999) concluded that educators appreciated these opportunities as it elevated teachers as thoughtful, responsible, growing professionals as well as demonstrating the belief that growth and development are most likely to occur with open, mutual, critical dialogue among professionals.

Authentic professional learning communities. Professional Learning Communities (PLCs) are focused on collaborative learning to enhance teacher effectiveness in order to improve students' learning and achievement (Southworth, 2011; Stoll, 2011). In effective PLCs, members take collective responsibility for the learning of students, share norms and values, collaborate with each other, and critically engage in reflective dialogue (Robinson, 2011; Mulford, 2008). Teachers work together to solve problems of practice; knowledge is "shared, 'big questions' about classroom practices are discussed, and the identification of problems and solutions requires a combination of information from student assessments and the shared professional knowledge that teachers and administrators bring to the table" (Anderson et al., 2012, p. 231). Further, PLCs appear to support sustainable improvements because they build the capacity that helps schools continually progress (Stoll, 2011).

School principals' leadership in the area of teacher professional learning is critical to the creation and success of a school learning community (Anderson et al., 2012; Bredeson & Johansson, 2000; Robinson, 2011). Success in a PLC occurs when people are empowered to examine the data with their colleagues and are trusted by the leaders in the school to make

informed decisions about teaching and learning (Stoll, 2011). The most powerful way leaders can promote PLCs is to provide professional learning opportunities incorporating theoretical principles and practical applications. When the focus is on data use and the combined responsibilities of all staff for learning, it results in a "strong, albeit indirect, relationship to achievement scores" (Anderson et al., 2012, pp. 164-165).

As successful as Professional Learning Communities can be, the evidence of links between PLCs and student learning outcomes is somewhat unexceptional (Stoll, 2011). The key to increased student achievement seems to be learning communities with a persistent focus on student learning and achievement by the teachers in the learning communities (Stoll, 2011). As well, the opportunity to process the meaning and implications of new learning with one's colleagues appears to be fundamental to the change process (Timperley et al., 2007). If teachers focus on analyzing the impact of teaching on student learning and process new understandings and their implications for teaching, then the PLC can positively impact student learning. Timperley et al. (2007) found a quality of effective PLCs focused on analyzing the impact of teaching on student learning through teachers' examination of artifacts; these included student work, understandings and reactions, test results, and videos of teaching practice.

Additionally, while improving teachers' practice is a major goal of Professional Learning Communities, and there is a general impact on teachers' classroom work, it is "more difficult to find specific changes to teaching practice as a result of participation in a professional learning community" (Stoll, 2011, p. 107). Timperley et al. (2007) suggested if PLCs do not impact teachers' practice, one possible culprit is the double-edged sword of collegial support; collegial interactions can support maintenance of the status quo. In the studies examined by Timperley et al. (2007), challenges to assumptions held by community members typically did not happen,

"either because there was no one in the group with the necessary expertise, or because challenges were perceived to be counter-cultural (threats to existing group norms)" (p. 203). Overall, simply giving teachers' time to talk is not enough to promote either their own learning or that of their students.

Conversely, in effective PLCs, alternative perspectives introduced by external experts served to deepen teachers' understandings. In the cases examined by Timperley et al. (2007), not only were external experts able to introduce new perspectives, they were not constrained by existing conversational norms. Involving someone with expertise external to the immediate community was a condition connected with effectiveness and with more challenging dialogue.

Utilize external expertise. As Barber and Mourshed (2007) suggested, all top systems know and understand if instructional leaders want quality teachers, then quality teachers need to train them. These top educational systems know which "interventions are effective in achieving this – coaching classroom practice, moving teacher training to the classroom, developing stronger school leaders, and enabling teachers to learn from each other – and have found ways to deliver these interventions throughout their school system" (Barber and Mourshed, 2007, p. 35). Expert teachers are "sent into the classroom to observe and provide one-on-one coaching in terms of feedback, modelling better instruction, and in helping teachers to reflect upon their own practice" (Barber and Mourshed, 2007, p. 28). External expertise may be in the form of a learning coach, a researcher, or an external consultant. The external expert has the ability to work with teachers to present them with possibilities, challenge assumptions, question existing norms of practice, or re-direct focus back to students and their learning (Robinson, 2011; Timperley, 2008). Experts need to know relevant curricula and what teaching practices make a difference for students. Additionally, they need to be able to "make new knowledge and skills

meaningful to teachers and manageable within their practice contexts, to connect theory and practice in ways that teachers find helpful, and to develop teachers' ability to use inquiry and assessment data to inform their teaching" (Timperley, 2008, p. 20). Robertson's (2011) research on coaching has shown partnerships with experts provide opportunities for learning and reflection on practice. The coaching element is designed to "support the inquiry-minded focus of the academic course of study. The coach became the critical friend, the challenge, questioner, guide and conscience" (Robertson, 2011, p. 219).

The school leader is vital to ensuring the success of use of external experts in a school. First, the leader must be supportive of the partnership, ensure the staff are ready to be involved in risk-taking, have access to reliable technology, ensure time for on-going teacher professional dialogue, and communicate leadership efforts to the larger community (Jacobson et al., 2002). Additionally, as these experts offering professional learning are not present in the school on a continuing basis (as is the case for the Galileo Educational Network), it means it falls to the instructional leaders to help teachers translate their new understandings into practice and to sustain the professional inquiry process (Timperley, 2011). Overall, it is the responsibility of the instructional leader to advocate for the successful use of external experts in the school. The principal must promote and facilitate teacher participation in the professional learning model. This important part of the school organization cannot be left to professionals from outside of the school.

However, as Timperley (2011) discovered in her analysis of the research, even when external experts are brought in to work with teachers over a period of time, success cannot be guaranteed. First, the experts need to arrive with a shift in thinking in terms of professional development to thinking in terms of a more intentional, systemic process of professional learning

(Timperley, 2011). External experts who expect teachers to implement their preferred practices were typically less effective than those who worked with teachers in more integrated ways, involving them in discussion and the development for understanding of their classroom contexts (Timperley, et al. 2007). Second, in their research, Timperley, et al. (2007) acknowledged while they were able to identify the qualities of effective professional learning experiences in the research, they were unable to learn about the qualities of effective external professional learning providers, as the research does not usually examine it. As they expressed, "until we have a well-developed theory of teacher professional learning, we will be left with relatively undeveloped theories about the qualities needed by providers, and the training they require in order to be effective" (p. 228). Finally, since funding is often used for the purpose of engaging external expertise (as is the case for the Galileo Educational Network), it is essential the right external expertise be selected. Because new learning involves requiring teachers to grasp new content and skills and to think about their existing practice in new ways, it is doubtful any group of professionals would be able to manage this level of new learning without support and challenge from someone with expertise in the area (Timperley, et al., 2007). While the provision of a service is required and it is understandable there are expenses attached to it, instructional leaders need to acknowledge the payment for the services of external expertise does not guarantee improved instructional practice.

Summary

It is important educational leaders understand the complexity of teacher professional learning in educational organizations, given its prevalent role in school improvement discourse and the diverse ways it is conceptualized in various contexts. To conduct this inquiry, it was necessary to complete a critical review of current literature. This critical review explored the

interconnectedness between instructional leadership and teacher professional learning. Two major areas of literature were critically reviewed: (a) instructional leadership in regards to leading professional learning, and (b) teacher professional learning as understood by the characteristics of effective professional learning. Both were addressed within the context of the study. This review of the literature on instructional leadership provided an understanding of the vision, organization of learning opportunities, and attention to structural and technical issues necessary for those learning opportunities to occur. Examining the characteristics of teacher professional learning provided an understanding that teacher professional learning needs to be actively focused with opportunities for application, evidence based, collective and collaborative utilizing authentic Professional Learning Communities and external expertise.

Throughout the review, I attempted to point out important omissions or gaps in the literature when it was apparent. As well, contested issues or controversies were discussed when appropriate. Further, research implications were examined when applicable. Woven throughout the literature review were my interpretations of how the literature informed my understanding of others' research and how that research contributed to the articulation of this inquiry's conceptual framework.

CHAPTER 3

METHODS AND METHODOLOGY

Introduction

Within schools, the principal as the instructional leader is in a unique position to influence and affect the overall quality of teacher professional learning. My work with teachers led me to wonder how instructional leaders best lead teacher learning and development. The purpose of this case study was to investigate the relationship between instructional leadership and teacher practice when a specific professional learning model was implemented in an urban elementary school. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher learning.

Given its prevalent role in school improvement discourse and the diverse ways it is conceptualized in various contexts, it is important educational leaders understand the complexity of teacher professional learning. As Goldschmidt and Phelps (2010) suggested, a study such as mine was warranted, as there are a limited number of studies designed to examine "teacher knowledge and its growth or seek to examine the effects of professional development on teacher learning" (p. 2). Further, since I was the participant researcher conducting the study, and an instructional leader in the school, I was in a unique situation to explore the context of the specific professional learning model as part of the research process and its influence on both instructional leadership and teacher professional learning, thus contributing to the literature. Therefore, the purpose of my study was to understand the problem of how instructional leaders best lead teacher professional learning when a professional learning inquiry-oriented model was introduced to an urban elementary school.

In seeking to understand the research problem, two questions framed this inquiry. First, what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? Second, how does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning?

This chapter describes the study's research methodology and includes a discussion of the research context and the rationale for the methodological approach. The methods used will be explained next, including a detailed description and justification of the participant sample and the specifics about how, when, where, and by whom the data were collected. Then, a detailed account and justification for the methods and tools used to analyze the data is offered. An explanation of the coding process used is provided, followed by a brief summary of and rationale for how data were analyzed. Afterward, the measures taken to establish trustworthiness will be discussed followed by the study's limitations and delimitations. Finally, the ethical considerations of the inquiry will be presented.

Research Context

As the principal and instructional leader of a kindergarten to grade six elementary school located in a large urban school district, I was responsible for successful student learning outcomes. As such, I was also responsible for the appropriate and effective pedagogic practices of the teaching staff. Thus, I was directly engaged in the professional learning of the teaching staff in order to ensure teachers were able to improve their learning, teaching, and assessment capacities to ensure the school's students received constantly improving instruction. Therefore, my doctoral research brought together my focus as an instructional leader engaged with teacher

practices, and a specific professional learning model designed to support a discipline-based inquiry-oriented approach to teaching and learning.

For this case study, I conducted nine semi-structured interviews with the teachers from my school. The interviews attempted to gather data around the reciprocal relationship between the professional knowledge learned from the professional learning model implemented in the school. I attempted to gather information to understand how the teachers transferred their learning to their classroom practice and the role of instructional leadership in implementing the professional learning model. I used interviews to look at the work, then wrote descriptively to analyze whether something was learned. The school was already involved in working with the professional learning model and the learning coach from the educational organization since September of 2011. Therefore, not until post-candidacy (January, 2014) and ethical clearance (University of Calgary and school district) did I become engaged with the study. At that point, I inquired into my instructional leadership practices and the professional learning model reflexively, and then engaged both my practice and the professional learning model in real time. Any historical documents served as support documents for triangulation purposes.

Education scholars use the term *practitioner research* when insiders to the context are the researchers (Herr & Anderson, 2005). The term *practitioner researcher* places the insider at the centre of the research (in this case, the school). It was my hope by conducting the research at my own site I would gain insight not only into my role as an instructional leader, but also into teacher professional learning. The practitioner-researcher is not an ethnographer; instead, the researcher is an active participant in the phenomenon studied (Alvesson, 2003). Alvesson (2003) suggested the practitioner researcher belongs to the research in some capacity. This belonging helps the researcher more accurately understand participants in the sense of *we* instead of *they*.

As Flyvbjerg (2011) asserted, the most advanced form of understanding is achieved when researchers place themselves within the context being studied; researchers are able to understand the viewpoints and the behaviour that characterized the participants. Thus, the condition to describe social activity is to participate in it; it involves a form of mutual knowledge shared by the researcher and the participants. The challenge was combining practitioner research and observation to jointly understand the model as an insider while creating a description of the phenomenon for outsiders.

Since I was the principal of the school where the study was taking place, as a researcher, I was in an excellent position to observe changes as they occurred and have conversations with teachers about their professional learning. Further, I was able to support the professional learning model within the school and assess its effectiveness within the school. The reflections gained from the teachers in this study became rich data to contribute to both a principal's understanding of instructional leadership, but also to the understanding of teacher professional learning.

Rationale for Qualitative Research Design

Qualitative research locates the observer in the world, making the world visible (Denzin & Lincoln, 2011). Therefore, qualitative researchers study objects and people in their natural setting, attempting to make sense of or interpret phenomenon in terms of the meanings people bring to them. Qualitative researchers emphasize the socially created nature of reality, the familiarity between the researcher and what is studied, and the situational limitations shaping inquiry (Denzin & Lincoln, 2011).

As Merriam (1998) suggested, context is key to a qualitative inquiry focus. Research focused on understanding and discovery from the perspectives of those being studied offer the

pronounced promise of making substantial contributions to the knowledge base and practice of education (Merriam, 1998). The goal was not to generalize to a population, but to develop an in-depth exploration of an essential phenomenon (Creswell, 2012). Thus, qualitative researchers are interested in understanding how people make sense of their experiences in their world. As such, the key of qualitative research is gaining an understanding of the participants' (in this case, the teachers' and principal's) perspectives in order to create a descriptive account of a phenomenon (Merriam, 1998).

Therefore, since this inquiry's goal was to elicit understanding and meaning of a phenomenon (the relationship between instructional leadership and teacher practice when a specific professional learning model is implemented in an urban elementary school), the researcher (myself) was the primary instrument of data collection and analysis, and I planned on using fieldwork to inductively analyze findings; reporting them in a descriptive fashion. Therefore, it was necessary I utilized a qualitative research approach.

Rationale for Case Study Methodology

A research design describes a flexible set of guidelines connecting theoretical paradigms to both strategies of inquiry and to methods for collecting empirical material (Denzin & Lincoln, 2011). This research methodology was a case study. The case study is an ideal methodology when a holistic, in-depth investigation is needed, as a case study is an empirical inquiry investigating a contemporary phenomenon in depth, and within its relation to the environment (Flyvbjerg, 2011; Yin, 2009). For researchers, the closeness of the case study to real-life situations is important for the development of the view that human behaviour cannot be meaningfully understood in simplistic ways; and a case study is important for the researcher's own learning in developing the skills needed to conduct sound research (Flyvbjerg, 2011). If a

researcher wants to understand a phenomenon in any degree of thoroughness, detail, richness, or completeness, then a case study is the method to employ (Flyvbjerg, 2011; Merriam, 1998). The advantage of a case study is that it can focus on real-world situations and consequently test perceptions directly in relation to phenomena as it unfolds (Flyvbjerg, 2011).

Since the case study methodology is considered appropriate when a researcher wishes to investigate a contemporary phenomenon in depth and within its relation to the environment (Flyvbjerg, 2011; Yin, 2009), this methodology was appropriate for this inquiry as I wanted to gather data around the reciprocal relationship between the professional knowledge learned from the professional learning model implemented in the school.

However, the limitations of a case study must be considered when discussing the methodology. For example, as a researcher, I need to reinforce that this case study was only for a defined period of time in one urban elementary school. It did not take into account all the history before the research began, nor could it accurately predict exactly what would happen at the school after the research was completed. Additionally, the quality of this case study was limited by my abilities, sensitivities, and integrity as a researcher. Since I was the primary instrument of data collection and analysis, I was "left to rely on [my] own instincts and abilities throughout most of this research effort" (Merriam, 1998, p. 42). As a researcher, I was able to bring a construction of reality to the research situation, which then mixed with other people's interpretations of reality, and culminated in further interpretations by myself of other's perceptions filtered through my own viewpoints (Merriam, 1998).

Furthermore, I would argue the question of subjectivism and bias toward verification applies to all methods, not just the case study. In qualitative research, the primary instrument is human, all observations and subsequent analysis are filtered through that human being's

worldview, values, and perspectives (Merriam, 1998). In other words, subjectivity, once acknowledged, permits the researcher to contribute to the data he or she is collecting. Further, formal generalizations, be it on the basis of large samples or single cases, are overrated as the main source of scientific progress; knowledge may be transferable even when it is not formally generalizable (Flyvbjerg, 2011).

Research Sample

Merriam (1998) concluded the most significant characteristic of case study research lies in defining the case. The case is a unit around which there are boundaries; the researcher *fences in* what is studied. In this inquiry, the case was a specific professional learning model implemented in an urban elementary school by teachers under the instructional leadership of the principal. By concentrating on a single phenomenon, I was aiming to uncover the interaction of significant factors characteristic of the phenomenon, particularly in relation to instructional leadership and teacher professional learning. As Yin (2009) observed, the case study design is suited to situations in which it is impossible to separate the phenomenon's concepts from their context. In this inquiry, the context was central to understanding the phenomenon. Specifically, this case study was a heuristic case study (Merriam, 1998). This case study intended to illuminate the understanding of the phenomenon under investigation. A heuristic case study could explain why an innovation (implementation of a professional learning model) worked or failed to work. Further, this case study was designed to understand and describe the process of the phenomenon under investigation; it was an inquiry into the process by which the implementation of a professional learning model had the effect it did.

In this inquiry, the sampling strategy utilized was non-probabilistic, or purposeful sampling. Purposeful sampling is based on the assumption that the investigator wants to

ascertain, comprehend, and advance insight; therefore he or she must select as sample from which the most can be learned (Merriam, 1998). Further, criteria for selecting the individuals to be interviewed, what to observe, and which documents to analyze had been established. The criteria for selecting the interview sample of nine teachers were as follows. Participants would:

- be school-based teachers who were employed on continuous contracts,
- have worked with more than one principal in their teaching career,
- have participated in the implementation of the professional learning model for at least a year,
- represent a range of ages and teaching experiences, including across grade levels and in various subject areas,
- not be selected who are, or may be evaluated by the researcher (temporary contract teachers and probationary contract teachers).

Because I was both the researcher and the school principal in this study, my supervisor first contacted the potential participants. To avoid any possible feelings of coercion to participate, the letter of initial contact was from the researcher's supervisor and a copy of the interview questions was included in the letter of initial contact. It was anticipated this would put less pressure on the teachers to feel the need to participate.

In consultation with the researcher's supervisor and both the Conjoint Faculties Research Ethics Board of the University of Calgary and the school district, a process was devised to protect the identity of participants who had given informed consent until after the interviewing was completed. The researcher made available the research questions (and then subsequently interviewed) any teacher in the school who wished to answer the interview questions; however, only the interview answers of the participants with signed consent forms would be available to

be used by the researcher, and these interview answers would only be available after all the interviews had been completed. The researcher's supervisor distributed and collected consent forms; yet the teacher's identity as a consenting participant was not revealed to the researcher until all of the interviews had been completed. In other words, the researcher did not know who consented to participate until interviews were concluded.

Artifacts used included lesson plans, leadership documents, and minutes from team-planning meetings, staff meetings, professional development days, and Professional Learning Community meetings.

Data Collection Methods

This case study was based on methodologies devised by Merriam (1998) and Yin (2009). This inquiry employed a number of different methods of data collection and analysis in order to achieve trustworthiness, breadth, and depth. This case study had three stages: planning and conducting the case study; analyzing the case study evidence; and developing the conclusions, recommendations, and implications.

Planning and conducting the case study. The first stage of this case study involved planning and conducting the case study. I employed Creswell's (2012) suggestion for conducting my semi-structured interviews. Informed consent occurred before the interview started. The study was subject to approval through the Research and Innovation Department of the school district and the Conjoint Faculties Research Ethics Board of the University of Calgary. A letter of introduction is outlined as Appendix A.

After receiving approval to conduct the research, and before starting the interviews, it was conveyed to the participants the purpose of the study, the time the interview would take to complete, the plans for using the results from the interview, and the availability of a summary of

the study when the research was completed. In no way did any participant feel coerced to participate in the inquiry; additionally, their participation (or not) in no way negatively affected their position (current or future) in the school or in the organization. My consent form is provided as Appendix B.

I used purposeful sampling to select the interviewees. I believed this type of interview would best allow me to learn the participant's views and answer each research question. The questions asked were based on definitions and criteria from the conceptual framework in the literature review. These questions are included as Appendix C. I conducted the interviews in a location free from distractions and in one that offered itself to digital recordings. Digital recorders were used to ensure the answers given could be captured accurately. During the interviews, I took brief notes. Taking notes on an interview-protocol form ensured accuracy should a mechanical failure occur. To help interviewees provide more information, I utilized probes to seek clarification or expansion on ideas. My interview protocol is outlined in Appendix D. During the interviews, I would stick to the questions, however, I was flexible should the interviewee decide to expand on answers. No interview lasted longer than one hour.

I utilized member checks (Merriam, 1998) to ensure my assumptions were sound. By taking the data and my tentative interpretations back to the teachers, I hoped to find out if my conclusions were plausible. Therefore, once interviews were completed and transcribed, the participants had the opportunity to review their interview transcripts and, if they chose, make additions, corrections, or deletions to the record of the things they had said. The participants had the right to withdraw no later than the beginning of the analysis of the data collection.

Physical artifacts were gathered as supplemental evidence. Artifacts included documents from meetings and professional learning days, teachers' written reflections (some teachers

provided additional written answers to the research questions), video clips from Professional Learning Community meetings, and research documents the teachers referenced in the interview. As Merriam (1998) suggested, since many case studies are at the program level, it was "particularly important to seek out the paper trail for what it can reveal about the program – 'things' that cannot be observed, 'things' that have taken place before the evaluation began" (p. 114). The artifacts used supplemented data gathered through interviews and observations. However, like other sources of data, physical artifacts have limitations I had to consider. For example, their authenticity may be difficult to ascertain or they may not necessarily match the conceptual framework of the inquiry. Since physical artifacts were a product of the context of the study, they provided relevant information to the research process (Merriam, 1998).

Additionally, my thoughts as the researcher and instructional leader, including observations and reflections, were recorded in a journal. As suggested by Merriam (1998), my observational field notes, beyond recording basic information of the observation (time, place, purpose of observation, names of participants) involved looking for and writing down key words during teachers' conversations (the key words come from the conceptual framework), direct quotes, and my observer's comments (put in the margins and identified by my initials when written).

Analyze case study evidence. Merriam (1998) and Yin (2009) suggested that data analysis is a process, not an event. In other words, data analysis did not begin when data collection ended. Rather, data collection and data analysis occurred in tandem with each other. As Merriam (1998) proposed, "[data] collection and analysis is a *simultaneous* activity in qualitative research" (p. 151, emphasis in original). As I began to collect data, especially in the context of this study's conceptual framework, research questions, and research problem, I

organized and documented the collected information. Coding of the data involved assigning designations to various aspects of the data so it could be easily retrieved in order to identify information about the data, and assist in interpreting themes related to analysis (Merriam, 1998).

Further, categories and subcategories were constructed to "reflect the *purpose of the research*. In effect, categories are the *answers* to your research question(s)" (Merriam, 1998, p. 183, emphasis in original). The data were sorted into categories that had something in common and subjected to scrutiny to ensure it revealed information relevant to the study while remaining interpretable within the broad understanding of the context of the inquiry.

"Data analysis consists of examining, categorizing, tabulating, or otherwise recombining the evidence to draw empirically based conclusions" (Yin, 2009, p. 126). As suggested by Miles and Hubermen, (1994, in Yin, 2009), I also grouped the data in different ways (e.g. by role, by years in role, by years teaching, degrees held, grades taught). All types of relevant documents were added to the database, as well as textual materials, narratives, and other notes.

Computer software, specifically Dedoose, was used to assist in the data analysis process. Dedoose is an encrypted Internet computer application used for analyzing text data (analyzing qualitative research). Its software interface allowed me to analyze qualitative research data from the interviews (Dedoose, 2014).

Develop conclusions, recommendations, and implications. Moving beyond basic descriptions involved constructing categories or themes that captured reoccurring patterns observed across the data (Merriam, 1998). The categories created as part of data analysis not only described the data, but offered interpretations of the data allowing for the development of conclusions and recommendations. The analysis of the case study was carried out by building an explanation of the case. Therefore, utilizing the study's purpose, my orientation to the research,

knowledge of the context, and my documentation of the meanings made explicit by the participants assisted me to develop conclusions for this inquiry.

However, it must be stressed the situated, relational, and textual structures of the qualitative research experience will allow no single interpretive truth (Denzin & Lincoln, 2011). As such, I endured to create plausible interpretations from the data. I was careful to ensure the that conclusions demonstrated all relevant evidence was utilized, all rival explanations were applied, the analysis addressed the most significant aspect of the case study, and that my knowledge and experience were used to maximum advantage in the study. As mentioned earlier, the use of member checks (Merriam, 1998) was one way to ensure my conclusions were sound. By taking the data and my tentative interpretations back to the teachers, I hoped to find out if my conclusions were plausible.

Coding for Understanding

The findings for this study came after First Cycle, Second Cycle, and Third Cycle coding (Saldaña, 2013). As coding is an interpretive undertaking, it reflected the original constructs and concepts that structured this study. As Saldaña (2013) observed, coding is a cyclical act; each level linked, managed, filtered, and highlighted the significant features of the qualitative data record in order to grasp at meaning. In an endeavour to understand how the teachers transferred their learning to their classroom practice and the role of instructional leadership in implementing the professional learning model, I coded data from the nine transcribed semi-structured interviews with the teachers from the school. Additionally, I coded the physical artifacts, my researcher journal, and my researcher memos in an attempt to paint a holistic, triangulated picture of the case. I thought it was important to include the researcher's field notes as I had the dual role of participant and researcher in this study. I felt my notes merited codes as they may

have provided important understandings and offered further analytical insights. As I was coding the data, I kept a record of my codes, their descriptions, inclusion criteria and exclusion criteria in my journal.

Using Dedoose software (Dedoose, 2014), my First Cycle of coding logged information about the demographic characteristics of the participants for the purpose of future management and reference. Specifically, I coded the ages of the participants, their primary teaching assignments, their educational background, the number of years they had been teaching, the number of years they had taught at this school, and the number of years they had been involved in the Galileo Educational Network learning model.

My Second Cycle of coding primarily used Structural coding as a filter for reviewing the data. Again, I used Dedoose software in this cycle of coding. As Saldaña (2013) attested, Structural codes apply a conceptual framework representing a topic of inquiry to a segment of data to both code and categorize the data. Structural codes supplied a foundation for further detailed coding. In this case, my conceptual framework (Figure 2.1) provided the coding categories. I chose to use this coding method as the research literature suggested Structural coding was particularly appropriate for exploratory studies utilizing multiple participants and semi-structured interview protocols and transcripts (Saldaña, 2013). Further, since my conceptual framework was linked to the research questions and the literature review related to the study, employing this form of coding seemed appropriate. However, I was cautious in using this type of coding method to analyze my data. As Saldaña (2013) advised, "be careful: If you go looking for something, you'll find it" (p. 146). As a result, I continually reminded myself to be aware of my preconceptions of what to expect upon examining the data as I did not want to distort my interpretive observations, nor did I want to force my qualitative data into a set of

codes or categories that may not be applicable in answering my research questions. I reminded myself of my role as a researcher to be open to ambiguity while being flexible when examining my data.

Additionally, my Second Cycle of coding included the use of Subcodes and Simultaneous coding (Saldaña, 2013). As Saldaña (2013) suggested, a Subcode is a second order tag assigned to a primary code; Subcodes are useful as they may offer details to enrich the entry. A Subcode is an extension of a *parent* code; in some instances, there was more than one Subcode to a parent code, or *siblings* in the hierarchy. For example, a parent code used was *Collaborative*, while a Subcode used was *Authentic Professional Learning Communities* and a sibling to that Subcode was *Utilize External Expertise*. Additionally, Simultaneous coding is the application of two or more different codes to a single qualitative data set. Simultaneous coding is appropriate when the data's content suggests multiple meanings that necessitate and justify more then one code. For example, I coded data as both *Teacher Professional Learning* and *Collaborative* when I interpreted the data to infer dual meanings.

The primary goal of my Third Cycle of coding was to develop a sense of thematic organization from my First and Second Cycles of coding. In essence, I was looking to see if I could gain a perspective in interpreting the data to answer my research questions. At this stage, I employed Pattern coding (Miles et al., 2014) to assist in this endeavour. Pattern codes are explanatory or inferential codes used to identify an emergent theme, configuration, or explanation. Pattern coding is considered an appropriate way to search for explanations in the data (Saldaña, 2013). Using Pattern coding allowed me to pull material from the previous cycles of coding into meaningful units of analysis. Using Microsoft Word, I pulled material according to how I had coded it in the Second Cycle of coding. From there, I used the *review* tool to go

through the coded data, highlight text and record my observations in the margins of questions I had, highlight quotes from the participants I thought were insightful, or record outliers as I saw them. I then opened another Microsoft Word document to record any patterns I observed based on the notes I had created in the margins of the previous documents. Based on this document, I was able to cluster the information into patterns I felt were meaningful in answering my research questions. Last, I utilized member checks (Merriam, 1998) in an effort to find out if my conclusions were reasonable.

Trustworthiness

The value of this case study depended on the trustworthiness claims I could place on my study, and the status these claims obtained in dialogue with other contexts (Flyvbjerg, 2011). Triangulation increased the dependability of the data and the process of gathering it (Denzin, 1984); however, it must be understood, in qualitative research, that in my attempt to secure an in-depth understanding of the phenomenon in question, objective reality could never be completely captured (Denzin & Lincoln, 2011). Further, I challenge the concept of *expert knowledge* as an adequate and legitimate model of the social scientist. Additionally, the adequacy and legitimacy of the researcher stance has been contested (Erickson, 2011). Many researchers are allying themselves as advocates with the people who are studied, or working researchers, such as myself are "coming from the ranks of the 'studied'. Thus, the roles of 'researcher' and 'researched' have been blended in recent work" (Erickson, 2011, p. 54). As the school principal in question, I was the primary participant or principal investigator in the case study, which meant I was the subject of the research and also the object of the research. In writing about myself in the capacity of being a participant researcher, I adhered to the protocols necessary for case study methodologies to be ethically, professionally, and pedagogically conducted. I was implicated in

the research space, and I reflexivity investigated my *implicated-ness* before, during, and after the research study.

Part of the trustworthiness needed for this inquiry was that of being "interpretively rigorous" (Lincoln, Lynham, & Guba, 2011, p. 120). I needed to ensure the findings were sufficiently authentic. Further, I needed to continually question if my findings could be trusted to provide insight into teacher professional learning and instructional leadership. In other words, the question was "not *whether the findings will be found again but whether the results are consistent with the data collected*" (Merriam, 1998, p. 206, emphasis in original).

Limitations

I selected my own school as the site for this inquiry. This site presented me with a compelling opportunity as a researcher and educator. The decision to examine my own school, like any purposeful sampling decision, presented opportunities and limitations. Limitations are the external conditions that restrict or constrain the study's scope or may affect its outcome (Creswell, 2012). I will discuss the advantages and disadvantages here.

Because I was the school leader at the research site, there were some limitations to this method of inquiry. First, since the principal has formal authority and the power accompanying the position, teachers may have felt the need to tell me what they thought I wanted to hear. Efforts to lessen bias included having conversations with the teachers before the interviews about the importance of accurately describing the current situation at the school. Further, no interview participants were selected who were or may be evaluated by the researcher (temporary teachers and probationary teachers); only continuous contract teachers were able to participate. Third, the researcher had positive relationships with the interviewees and wanted them to succeed. As a result, I was aware that I might be predisposed to look for positive findings. Conversely,

teachers may have agreed to be interviewed because they thought their participation would please the principal.

In practitioner research, I was not able to *exit* the site (Alvesson, 2003). My obligation to report accurate findings required me to address taken-for granted assumptions, examine inferred knowledge, and incorporate self-reflection strategies to help me ensure the data I was collecting was accurate. Therefore, asking the participants to check the data for accuracy was vital in this inquiry.

Other limitations of the study existed. For example, not all the eligible teachers in the school would choose to participate. As a result, this limited the scope of candidates for any interviews and further contributed to the potential to reduce the trustworthiness of this study's results by way of limiting my ability to draw descriptive or inferential conclusions from the case study. Additionally, as some respondents may not have answered with honesty, it is possible data collected and results obtained may be inaccurate. Finally, constraints of time and the restrictions of the research to one instructional leader in one school may limit the generalizability of the findings.

Delimitations

The delimitations of a study are the conditions or parameters I intentionally imposed to limit the study's scope (Creswell, 2012). This inquiry attempted to address the problem of how an instructional leader best leads teacher professional learning when a discipline-based inquiry-oriented model was introduced to an urban elementary school. The first delimiting step was the choice of, and definition of the problem itself. However, other delimitations of the study existed. For example, the choice of a case study as a methodology was a delimitation. Further, since only one elementary school in an urban, public school district was examined; this was a delimiting

factor in the inquiry. Additionally, other influences beside the instructional leader may influence teaching practice; these possible factors were not examined as part of this study. Furthermore, other professional learning influences besides the learning coach may influence teaching practice; these possible factors were not examined as part of this study. Finally, as this inquiry utilized perceptions of the participants from within a particular point in time, it was dependent on the context of the study at that point in time.

Ethical Considerations

The "ethics of social and behavioural research is about creating a mutually respectful, win-win relationship in which important and useful knowledge is sought, participants are pleased to respond candidly, valid results are obtained, and the community considers the conclusions constructive" (Sieber, 2009, pp. 106-107). In case studies, ethical awareness is the consideration of how human action affects other humans. Ethical researchers understand their actions have the potential to cause harm, or the potential to promote good for others, for the profession, for society, or for education. As a researcher, there were specific responsibilities in the role. A researcher must seek to promote good when possible, while always, at a minimum, choose actions that do not cause unjustified harm. Sieber (2009) suggested ethical research practices require thorough planning and clear communication, reduction of risk, and creation of benefits, as these issues pertain to the stakeholders in the research.

For this study, informed consent described the nature of the inquiry as well as the level of involvement of the participants. Informed consent was obtained before interviews were conducted. A sample is included as Appendix B.

I do not believe the criteria for judging either *reality* or *validity* are absolute; therefore, ideally as part of this research, I would seek out "community consensus regarding what is 'real':

what is useful and what has meaning (especially meaning for action and further steps) within [this] community, as well as for [this] particular piece of research" (Lincoln, et al., 2011, p. 116). In other words, I wanted to engage in the meaning-making activities of the teachers in my study. However, in doing this, anonymity of the individual is difficult to assure when a case study of a group is read by its members (Miles, Huberman, & Saldaña, 2014). Therefore, as a protective measure to the teachers interviewed, I made every effort to prevent anyone from connecting individual subjects with their responses. Further, while confidentiality could not be guaranteed, participants were informed of this and consented.

While participation in this study offered no direct benefits to the teachers I was interviewing, the generalizable benefits to the field of education outweighed the potential risks to the participants. In other words, this study was not considered *high-risk*. Professional learning was already an embedded part of teacher practice; as such, it was a normal and acceptable exercise to provide feedback to colleagues. In the daily business of teaching, teachers regularly had conversations with their peers about their practice (Edwards, 2002).

Additionally, there existed in educational research literature a tradition of participatory research with a focus on school-based inquiry (Edwards, 2002; Mercer, 2007; Swoboda, 2007). The last twenty-five years has seen an exponential rise in the amount of practitioner research in education (Mercer, 2007). However, there was a gap in the research literature this study hoped to address; there was a pressing need to investigate not only insider research by teachers in general, but especially insider research by academic leaders occupying positions within the power hierarchies of their places of work (Mercer, 2007).

As a principal, I promoted and facilitated meaningful professional development for teachers by working alongside them in professional learning (Alberta Education, 2009). As

Edwards (2002) suggested, interviewing teachers in one's own school offered three benefits: it helped with their professional development; it had positive advantages for pupils; and where the work was professionally transforming, it had the potential for helping more systemic changes. Further, from Mercer's (2007) observation, teachers involved in research were glad to have the chance to have a conversation about their practice, to tell their real stories; within which teachers as educational practitioners could reveal what was real for them. While I may be considered a novice researcher, I am an expert in the field of education. Since I was already *in the work*, all I was doing was allowing colleagues to share aspects of their work with each other.

Additionally, an ethic of care in qualitative research is giving voice to the unheard. Since I was an insider to the context, it had been my experience from participating in professional learning alongside the teachers that they would benefit from and enjoy the opportunity to discuss their professional learning journey.

Reflexivity, as the process of reflecting critically on the self as researcher (Lincoln, et al., 2011), was a critical part of this inquiry for me. Ethically, I had to come to terms with those with whom I engaged in the research process, but also with myself and the multiple identities I brought to the research process. As Lincoln, et al. (2011) articulated, researchers have many selves they bring to the process: the research-based selves, brought selves, and "situationally" (p. 124) created selves. Since my research was situated in the context of my school, and involved my role in the school, I had to continually reflect on who I was as a researcher and an educational leader.

Further, an ethical consideration to be attended to was the perception of a potential power difference between me (as an instructional leader and researcher) and the participants (the teachers in the school). Power-based dynamics are inherent in any and all research; as such,

power is something not only to be aware of, but something to negotiate in the research process (Merriam, et al., 2001). Whether it is the power of the researcher/professor from the university while the researched are colonized, the feminist scholar seeking an empowering relationship with the reader of the research, or the teacher participating in an action-research study with the students in her class, power is a factor that cannot be ignored in qualitative studies (Merriam et al., 2001). Therefore, an ethical consideration attended to in this study was the perception of a potential power difference between the researcher (as the school principal) and the participants (the teachers in the school).

As the principal of the school being examined, it may have been seen as a disparity to interview the teachers in the school. To address this potential imbalance, I had considered how I could mitigate this in my data collection. First, in this research, although I was the school's instructional leader engaged in facilitating the discipline-based inquiry-oriented professional learning model to improving teachers' practices, the actual facilitation was conducted by an external learning coach coming to the school. In a sense, although I was the school's instructional leader engaged in facilitating the inquiry-oriented professional learning model, an educator from outside of the school conducted the actual facilitation. Second, utilizing case study methodology enabled me to engage in researching and studying the teaching practices of the teachers as a result of our participation in the professional learning model. Third, in no way did any participant feel coerced to participate in the inquiry; additionally, their participation (or not) in no way negatively affected their position (current or future) in the school or in the organization. Finally, because participants may have feared voicing their ideas may lead to judgment from others, I had an ethical obligation to protect their information from unauthorized reviewers. Therefore, I limited the review of gathered data to myself. During the initial

interviews, I shared the steps I would take to protect data. It was my hope that the teachers would benefit from participation in this study and would enjoy the opportunity to discuss their professional learning journey.

The study was subject to approval through the Research and Innovation Department of my school district and the Conjoint Faculties Research Ethics Board of the University of Calgary.

Summary

This chapter described the study's research methodology and included a discussion of the research context and for the rationale for the research approach and research sample. The methods used were explained next, including a detailed description and justification for all data collection methods, including how, when, where and by whom the data will be collected. Then, a detailed account and justification for the methods and tools used to analyze the data was offered. An explanation of the coding process used was provided, followed by a brief summary of and rationale for how data were analyzed. Afterward, a discussion of measures that were taken to establish trustworthiness were offered; followed by the study's limitations and delimitations. Finally, an outline of the inquiry's ethical considerations was presented.

CHAPTER 4

FINDINGS

Introduction

The purpose of this case study was to investigate the relationship between instructional leadership and teaching practice when a specific professional learning model was implemented in an urban elementary school. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher professional learning. In seeking to understand the research problem, two questions framed this inquiry: (1) What leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? (2) How does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning? For this case study, I conducted nine semi-structured interviews with the teachers from the school. Additionally, I gathered physical artifacts as supplemental evidence and kept a researcher journal. Through the interviews I attempted to gather data about the reciprocal relationship between the professional knowledge learned from the professional learning model the school was implementing. I wanted to understand how the teachers transferred their learning to their classroom practice and the role of instructional leadership in implementing the professional learning model.

This chapter begins with an overview of the case. This summary of the data includes a discussion of the findings organized according to the research questions and conceptual framework. Then, as part of the presentation of the findings, narrative data is synthesized and connected to the problem, research questions, and research design. Where appropriate,

inconsistent or unexpected data are noted and discussed. Based on the analysis of the data, three findings emerged constructed from the first research question: establishing a clear vision; instructional leader involvement in the professional learning model; and encouragement of teacher professional learning based on relational trust. Three findings emerged from the second research question: the learning model facilitated teacher collaboration; the learning model built teacher capacity; and the learning model accentuated teacher use of educational research and evidence to inform practice. The chapter concludes by using the findings to offer a link to the final two chapters.

The Case

Case study research should involve a detailed description of the setting followed by analysis of the data for themes, patterns, or issues (Bloomberg & Volpe, 2008). In this inquiry, the case was a specific professional learning model implemented in an urban elementary school by teachers under the instructional leadership of the principal. By concentrating on a single phenomenon, I was aiming to uncover the interaction of significant factors characteristic of the phenomenon, specifically in relation to instructional leadership and teacher professional learning.

I want to briefly describe the setting in which I was the principal and where the research took place. At the time of the interviews, I was about to complete my fourth year as principal of this school. It was my first principal position. The school was a kindergarten to grade six elementary school located in a large urban centre. It served a highly diverse, multicultural and mobile community. Within the school's population of approximately 400 students, over 80% of students received special programming or additional support. These programs included 63% of students in English as a Second Language, 14% in Special Education, and 7% Aboriginal, First Nations and Metis. Over half of the students began the kindergarten program with very limited

or no preschool experiences. The families spoke over 20 different home languages. According to city statistics (City of Calgary, 2010), the median annual family income in this community was $61,388 (2005), while the median for the city was $67,238 (2005). Further, 18.7% of the people in this community lived in low-income households, compared to 14.2% for the city (City of Calgary, 2010).

The school could be characterized as a school facing challenging circumstances. As Mulford et al. (2008) pronounced, common features of successful leadership in schools such as this one include "a core belief that all children can learn and achieve irrespective of context or background, staff development, and community building" (p. 465). It was the belief in the abilities of our students that had shaped my leadership and subsequent actions at the school. As the school's instructional leader, I worked with the teaching staff to organize professional learning opportunities for the school's educators with a focus on improving pedagogical practices and learning about learning. In September of 2011, we created a partnership with external experts from the Galileo Educational Network (Friesen, 2009a; Jacobsen, 2001; Jacobsen, et al., 2002), who provided a model for teacher learning aimed at helping teachers design authentic tasks for students, focusing on knowledge creation and formative assessment through an emphasis on discipline-based inquiry. Specifically, as a teaching staff, we were working collaboratively with a learning coach from Galileo with a goal to create meaningful, genuine tasks for students. Our Galileo learning coach, who was on site for two days every two months, provided one-on-one coaching in terms of offering feedback, modelling better instruction, and assisting teachers to reflect upon their own practice. The learning coach had the ability to work with teachers to present them with possibilities, challenge assumptions, question existing norms of practice, or re-direct focus back to students and their learning. Our Galileo

learning coach responded to the unique context of the school to help teachers create classrooms that were engaging and reflective. As the principal of the school, the Galileo learning coach helped me to work with my staff to create new images of teaching, appreciate student capabilities, and develop meaning together as a community of learners. Further, the learning coach was available to teachers and myself via email or by Skype should we have any questions or concerns in the time between her visits.

Presentation of Findings

The following is a discussion of the findings with details to support and explain each finding. The findings are built from the problem, research questions, and research design. Where appropriate, the findings are presented in clear narrative form using verbatim quotations in order to provide an opportunity to better understand the reality of the research participants. Narrative data are connected and synthesized through explanatory text. The emphasis was on allowing participants to speak for themselves; as such, quotations taken from interview transcripts were attempting to portray multiple participant perspectives and capture some of the complexity of the subject matter. Where appropriate, inconsistent or unexpected data are noted and discussed. Each research question, and its related findings are presented separately.

Research Question One. My first research question asked, what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? Based on the analysis of the data, three findings emerged: establishing a clear vision; instructional leader involvement in the professional learning model; and encouragement of teacher professional learning based on relational trust.

Finding 1.1: Establishing a Clear Vision. Leithwood and Reihl (2003) suggested that an effective leader does not impose goals on the teachers in the school; rather he or she works with teachers to create a shared sense of purpose and direction to help establish the conditions to enable each other to be effective. Further, Timplerley (2008) advocated for the use of success stories and the sharing of everyday activities as a way of establishing vision to explore possibilities. A vision of this kind acts as a powerful stimulus for teachers to engage in new learning, devise specific goals for their learning, or reflect on their practice. Therefore, as the researcher, I looked for evidence from the teachers and the artifacts of success stories and sharing of activities as a way of establishing vision in this case study. I found evidence of vision in several ways.

First, combined with evidence from the nine participant interviews and through examination of minutes from staff meetings and professional development days, there were clear examples of teachers who shared success stories and examples of everyday activities. Further, it seemed sharing was considered a part of professional learning, but also a part of culture of the school. For example, every staff meeting started with the topic, *Celebrations and Thank You's*. Teachers voluntarily thanked other teachers who had helped them out recently, or verbalized success stories (or occasionally failure stories). For example, from a staff meeting, "Lisa thanks her PLC for the awesome session" (L. Cooper, staff meeting minutes, January 24, 2014). In reading through the archived minutes, most often, teachers used this time to thank other teachers (for covering preparation time, helping with a field trip, etc.); occasionally, there was a story told, "Jodi wants to celebrate one of her students: he has had some good work done since the break" (L. Cooper, staff meeting minutes, January 24, 2014). Further, these meetings were scheduled immediately after a PLC meeting; therefore, built into the agenda of these meetings

was a recapitulation of each PLC meeting. For example, Zoe communicated what Terry was discussing in her PLC meeting, "Terry was sharing the greenhouse project, research questions, wonderings in their research books, blueprinting out their structure for plants, field trips, making connections with math, social, art ideas" (L. Cooper, staff meeting minutes, January 24, 2014). Another teacher said, "Heather presented social studies, interactive map, project idea is a book, kids are engaged, working with poetry, link it with a newspaper (get a journalist in), link it with experiences from the eco-conference, photography" (L. Cooper, staff meeting minutes, January 24, 2014). Or, another teacher pronounced, "Lisa presented classroom chemistry (what happens when you mix things together?), link to environmental change, working with… a chemist, explore a hot button issue (pollution, hormones in food, bias), science symposium" (L. Cooper, staff meeting minutes, January 24, 2014).

As an instructional leader, I purposefully designed the agenda this way for two reasons, so teachers' work was made public and to create whole school continuity. My belief was if sharing occurred during a meeting, people would then learn what others were doing. This format for teacher meetings with this public sharing of practice can be traced back four years. Additionally, teachers sharing practice was built in as part of professional development days. For example, on May 16, 2014, Nancy verbalized how she and her team partner used *Google Docs* with their students, Christine disclosed how her and her team partner recently used *Web 2.0 Tools* in their classroom, and Terry showed the teachers how she used *SMART Technologies* to have her students collaborate in the classroom. Further, at the end of that day's professional learning session, teachers were asked to reflect and answer this question, "How do I design, build and create a task, based on the knowledge gained today to promote higher order thinking skills amongst my students by the end of June?" (L. Cooper, agenda: professional development day,

May 16, 2014). Each teacher openly shared his or her responses in front of the other teachers. Most of the responses involved teachers articulating what technological tool they wanted to learn, and whom on staff they were going to approach to learn it from. For example, as Christine expressed:

> Technology doesn't always have to be an elaborate end of inquiry project, it can also be used along the way to answer and generate questions. Students create Wordles and share their thoughts in blogs. I can learn more from a student's response to an open-ended blog question than I ever could by sending home a worksheet for homework. The use of Web 2.0 tools is exciting and the interactive programs students can use provides a whole new realm of possibilities. (L. Cooper, professional development day minutes, May 16, 2014)

Further, in the interviews, nine of the nine [100%] participants shared success stories, either as part of their professional learning or with their students' learning. For example, Brenda provided an example of a conversation in her PLC:

> Heather was talking about her Map of Canada. And I think it was David who said, 'why don't you do this?' because Heather was struggling and she was trying to figure out how she was going to sort of tie it in, or like it felt like kind of loose pieces to her. And just by people, asking her questions, or asking her, 'what did you want to do?' Then it was like she changed or she added what she was doing.

Christine told a story about how Jodi helped her by providing her with feedback related to an assessment problem she took to her PLC:

> The question I asked was, 'well how do I know when they're ready to move on?' I think it was Jodi that told me, 'well they'll let you know when they're ready to move on'. I thought, 'okay, let's give this a try'. So they did all their independent jot notes and sure

> enough, as we're doing jot notes and more jot notes, they started to ask, 'okay Mrs. Bloom what are we doing with these jot notes? We've done all these jot notes, there has to be a purpose'. So I was like, 'okay they're giving me feedback that they know how to do this let's move on to the next task. You guys were right, they told me they know how to do jot notes and I need to introduce the next task'.

Two of the nine teachers [22%] told very specific success stories about students who were traditionally not very accomplished in school, but who, in their opinion, were achieving success now due to the teacher's involvement in the professional learning model. For example, Nancy spoke of her student, Kris:

> The other aspect of assessment that has changed is not always having the same standard for every kid. For example Kris can do many things and understand many things but he will not be able to do what someone else will be able to do….He's picking stuff up, he's not doing a lot of the writing or reading at all but he's part of the group, he's contributing. He stands, he presents. He gets asked questions. He's putting things on the board. He's raising his hand during large group discussions to participate - which to me is great.

Brenda, shared how she's observed another teacher, Heather, support one of her students, Colleen:

> I think teachers are more aware of making sure that when they're grouping the kids because of a lot of the projects that they're doing is quite collaborative. So that they make sure that those kids are either in a group, say of similar peers, but they have someone working with them so they're still working on their project even if it's more an adapted modified kind of model, like Colleen when she did the pipeline. And so she actually did something and she could present her case. So even though she had sort of

> the learning issue, she was able to do that….She could speak to her work, which was really interesting because I don't think you would see that if you weren't doing like an inquiry kind of approach where she was able to take like a real world problem and speak to it.

Interestingly, seven of the nine teachers [78%] specifically mentioned *parents* as part of their interview. The topic of the conversation for the teachers who cited *parents* was whether the parents *got it*. In other words, if the parents understood the work they were doing with the children as a result of their involvement in the professional learning model. However, of further interest to me as an instructional leader, just three of these seven teachers had supportive or neutral comments to say about parents. Some teachers offered suggestions as to why a parent would *get it* or not, while others shared frustration:

> It takes longer I think for parents who have come up through a different system and what they seem to sort of value. And it's hard I think to change that it's not what you can memorize, but what you can communicate and talk about. And I think what the Celebration of Learning has done though is from the feedback of some of the parents who talked to us, it's like they're blown way with what the kids can do and what the kids know and how they can talk about things. (Brenda)

> I've had a parent during our last student led conferences, came in, spent at least an hour with his daughter and she went through everything, showed him everything, walked to the board, talked this. She walked through all of our displays. She was able to show, she built, she created, she did all this stuff and he was just very passive watching and going through. And the last station was always myself, 'if you had any questions afterwards or

concerns' and he said, 'that he brought his kids to this country for them to be better than what he had and that they could have a better life and he said that what we were giving was beyond what he thought they would get'. (Nancy)

I did have an interesting chat with a father and he's a recent immigrant. And he gets it. He's doing his education upgrading and he said, 'we worked together, we asked good questions, we're team players, we solve problems together'. And it was nice to hear because usually it is, 'I want homework'. 'Well, what kind of homework?' 'Times tables.' ' But your son already knows times tables.' So they don't often know what they need but they just want something. And if I'm going to send homework home, I'd rather have it be directed at what the child needs to do, something meaningful. (George)

It's hard to always have parents kind of questioning your practice. We have the parents that were asking us, 'well do you use D2L shells, do you give homework? Are you going to put homework up on a website? Where is the workbook?' And then, it's almost like having to defend yourself that, 'yes I know what I'm doing. I am teaching your child. I'm trying to better them. I'm trying to educate them so that they can function in the world, not just in my classroom, and connect to the outside world'. I think that negativity sometimes is hard because when you were giving out the worksheets and you were giving 99% on the quizzes, they were giving you a pat on the back because you're the best teacher in the world but now when you're doing these blog questions and you're doing these Web 2.0 tools, they're all going, 'what is my child learning here' or, 'if my child doesn't get all fours on the report card, we're taking them to a new school'. But I'm

> working so hard that you just can't see it. If the parents could see the amazing work that their kids are doing….That feedback is coming but I think they need more opportunities to come into the school, see what we're doing, talk to the students, see what's happening. (Christine)

Intriguingly, George also expressed a concern with the political landscape of education in this province. His outlier comment suggested he recognized that our school's educators were steadfast in teaching utilizing a discipline-based inquiry approach; however, he expressed anxiety that political changes in the Alberta government, and subsequently, Alberta Education may hamper the efforts of the teachers. As he said, "the fear is for me, if we stop this, it is all for not, we have to…I know our school is committed, but I'm thinking there could be outside changes influencing what we have to do in the future".

Second, combined with evidence from the nine participant interviews, through the examination of minutes from staff meetings and professional development days and the researcher's journals, I found evidence of vision articulated when expectations for teacher professional learning were shared (8 of 9 [89%]). Specifically, I looked for evidence pointing to whole school continuity and consistency or a common curriculum focus. For example, Christine saw a visual continuity in our school, "our walls, and our displays, and our students, speak volumes about the meaningful inquiry journey they've been on and if you talk to the grade sixes that have been here for the four years, you could see tremendous growth". She went on to say:

> Because they've been exposed from grade one, grade two, grade three and now grade four, they can tell you when it's not rigorous. If they're bored, they're not on task and they're asking, 'can I move on to the next thing?' When a task is rigorous, I find that it's almost like a buzz in the classroom. Everyone is engaged, they're talking about the task,

they're building things, they're asking further questions and it's just a different environment.

Additionally, George, Heather, and Zoe talked about the importance of whole-school continuity:

> The advantage of doing Galileo school-wide is that as the years go on, well I can tell already the difference in the kids when it comes to research. And I know from talking to teachers in the higher grades about what they're doing, we're all on the same page so I'm really big believer in the continuity at schools. And if everyone's working the same directions or the same beliefs, then it just gets easier for everyone every year. (George)

> I think you need that buy-in otherwise it's not going to work as well. Well, it won't work because you're going to see two completely different things like two completely different celebrations of learning if you don't have an entire staff that are doing the same program (Heather)

> I think that having Galileo as kind of an overall focus for our school really shows that the idea of inquiry is supported by our admin team. In the past, I have had times where I felt like what I was doing wasn't supported and that it was – that my ideas around teaching didn't necessarily correlate with somebody else's but I do feel that right now that because that Galileo is the whole school focus. (Zoe)

Further, I observed evidence of clear vision when teachers described how they used the Program of Studies (curriculum). Nine of the nine teachers interviewed [100%] discussed how they have changed their use of the Program of Studies in their practice. To me, this was an important indicator as both the learning coach and I had repeatedly focused conversations with

teachers (both formally [staff meetings, professional development days] and informally [conversations]) about utilizing the *big ideas* or the *general outcomes* of the programs of study rather than *covering* each *specific outcome* in the Alberta Education Program of Studies (Alberta Education, 2014a). This could not have been pronounced any better than by Jodi, who stated, "You know what's the expectation right now? To try something new and to go beyond the jot notes or the bullet points in the curriculum". Additionally, other teachers said:

> Earlier on in my practice where we would look at curriculum and we would say, 'okay we've got all these little bullets to cover', now of course we don't do that in our practice. We look at the big ideas: Okay, what is this Science curriculum asking us to teach? What is this Language Arts curriculum asking us? What are the big ideas here and how can I help students understand what they need to understand in order to be successful with this big idea? (Lisa)

> I don't feel that pressure from the curriculum and having to check off A to Z that we've completed it because I'm thinking they're getting a deeper understanding from approaching the task through inquiry and their knowledge is transferring through to everything. (Christine)

> To change that teaching practice, as we've said many times to let go of the shore… and its – my teaching now is far more- it is inquiry based. It is taking direction more from the students than from the curriculum. Covering the curriculum but with student input rather than me doing a unit and the kids suffering through it. (Heather)

> When we started we were looking at, 'how do we engage the kids? How do we give that 'hook'?' and they sort of realized…the teachers are more like the designers of the learning. They're looking at what do they want the kids to know and I think some of the teachers are starting to trust their observations from what they see in conversations with kids instead of relying on that end test to see whether they sort of can regurgitate information. (Brenda)

Last, as part of the interview process, participants were asked, "In what ways do you feel supported in relation to improving your professional learning? Can you provide any examples or instances?" Each teacher (9 of 9 [100%]) could express a time when he or she felt supported in his or her professional learning, thus communicating evidence of a common school vision – of utilizing different pedagogical methods, more holistic curriculum content, or imagining better student outcomes (Timperley, 2008). Teachers cited encouragement from their colleagues, the learning coach and from the instructional leader in answering the question. For example, Heather verbalized:

> Nobody says to me, 'you can't do that, or you have to follow this'. So I feel supported as a professional. People (like for yourself as admin), nobody is saying to me, 'you should be doing this or you should be doing that'. It's constructive suggestions but I can go whatever direction I want, not feeling, if they [administration] come in here and see what I'm doing they're not going to, 'like what I'm doing?' So it's supported in the fact that we're treated as professionals who know our work, know the curriculum, know what we need to do and allowed to do that without somebody saying, 'you sure you should be going in that direction?'

I don't feel like I'm being watched or that we're being graded as to how well are we doing with Galileo concepts in the classroom - if there's a hierarchy of who seems to be getting it. There are staff members who are way better at the jargon and throwing out this word and that word into conversations and there are some more people who are way more comfortable with it but I'm not feeling judged and I'm happy about it. (Nancy)

I think that we're given a lot of freedom to explore and try new things and that failures are not seen - failure being a relative term - are not seen as detrimental to your profession. It's seen as a learning challenge, something you want to change next time. (Lisa)

I don't feel the pressure from the admin to say that yes, you have to do well with your PATs [Provincial Achievement Tests]. They do matter and there's a reason for them. However, I don't feel like I have to teach to the test, that I can go ahead and do the robotics with the students and bring in more the inquiry in it. (Jodi)

It's okay to try something new. It's okay to share your story of how well it went or how well it didn't go and I think that everybody is encouraging each other because we have that kind of common focus. You're not worried about bringing something forward that didn't work well or that you need help with because everybody is pretty supportive of helping you too as well. I feel that from my personal experience is that the admin team and Galileo [learning coach] both support me. (Zoe)

Specifically, teachers reflected on how the support they've received in their own professional learning has, in turn, supported their students as learners. As George pronounced, " the biggest

aha for me has been not to rush, look at where the kids are, plan for what they need and work towards developing a really in-depth understanding of a topic instead of just a quick glossing over". Further, as Nancy explained:

> I know we're doing something right because the kids are learning, they're learning well, they're engaged, they want to learn, they're excited. They're going beyond the class. They come back from the weekends, they're telling you about what they've done.

Finding 1.2: Instructional Leader Involvement in the Professional Learning Model. Sheppard (1996) suggested promoting teachers' professional learning was the most influential instructional leadership behaviour and confirmed a positive and strong relationship between effective instructional leadership behaviours exhibited by principals and teacher commitment, professional involvement, and innovativeness. Similarly, Robinson's (2011) fourth dimension of student-centered leadership called for instructional leaders to lead teacher learning and development. Therefore, as the researcher, I looked for evidence from the teachers and the artifacts of involvement of the instructional leader in the professional learning model. I found evidence in several ways.

First, utilizing evidence from the nine participant interviews and through examination of minutes from staff meetings and professional development days, inspection of artifacts, and the researcher's journal, it is evident the instructional leader needed to support the teachers as learners in a way symbiotically that facilitates the learning they were receiving from the learning coach as part of their professional learning model. In order to do this effectively, as a leader, I participated as a learner with the learning coach alongside the teachers. For example, I sat in the planning meetings between the learning coach and the teachers, was an active participant in professional development sessions offered by the learning coach with the teachers, booked my

own *planning times* with the learning coach to receive feedback about next steps, and Skyped with, and emailed the learning coach when I had a question. In my researcher journal (L. Cooper, personal communication, May 12, 2014), I articulated I hoped my participation in the learning model was a form of *role-modeling* for the teachers; that if I was involved as a learner, they would see this and be encouraged to participate as a learner as well. A sample of my researcher journal is included as Appendix E.

Furthermore, as an instructional leader, I was responsible for the professional learning of the teachers at the school. In the interest of continuity, I attempted to utilize the same research literature in professional development sessions as was used with the learning coach: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric*, Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). When I led professional development sessions in the absence of the learning coach, I attempted to ask similar questions and use similar resources as the learning coach would. For example, on the May 16, 2014 professional development day, an excerpt from the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.) framed the conversation related to technology (L. Cooper, agenda: professional development day, May 16, 2014). Or, on the May 17, 2013 (L. Cooper, agenda: professional development day, May 17, 2013) professional development day, teachers were asked to identify *success indicators* related to the principles of Friesen's (2009b) *Teaching Effectiveness Framework and Rubric*. Additionally, while I was aware I had a supervisory aspect to my role the learning coach did not employ; as much as I could, I attempted to streamline the professional learning work. Most of the professional learning of the teachers was

designed to be job-embedded within their existing problems of practice. My attempts did not go unnoticed by Brenda, who said:

> I think our focus has been sort of the Galileo and we haven't tried to take on too much, that that's been a priority.....This has been a real commitment. There is teacher buy in because the teachers can see the difference I think in their kids, in their practice.

As well, I encouraged teachers to participate in professional learning outside of the school (related to the Galileo Educational Network or otherwise). I offered both financial and human support (substitute teacher release time) to them to pursue professional learning beyond the walls of the school. Jodi, Zoe, Heather, Terry, Lisa, and Brenda (6 of 9 [67%]) discussed professional learning outside of the school in their interviews. As Zoe shared, she valued being introduced to "new sources of PD, conferences, workshops, as well as building the connections with people, whether they work for Galileo or are connected with Galileo, and being able to follow them on social media, or going to visit other blogs". She continued:

> I think one of the biggest take-away would be to see how important it is to connect with other people, not only the people in our school, or with my team, but I think with seeing what other people are doing is inspiring for me, not necessarily like, I'm going to take that idea back to my room and do it, but oh, if I change that into this way for my classroom. I think it would be great so I think it's that connection to other people and to other people who are also doing the inquiry.

Yet, as she perceived, even though professional learning opportunities were offered to all teachers, Zoe detected that not everyone participated:

> I don't think as an entire staff, everybody is taking up on that opportunity. I can think of a few other teachers who I know have applied for funding to go to a separate opportunity

that wasn't covered through the district or the school but I don't see it happening with I would say the majority of teachers.

Second, the instructional leader needs to manage and organize many aspects of professional learning. Combined with other technical and human aspects related to instructional leadership, a complexity emerged when an outside agency was involved in the school. For example, I needed to budget and allocate financial resources to pay for the services of the learning coach, organize the contract outlining the services, plan the days for the learning coach to be on site, organize Skype times and ensure its associated technology was functional, and plan calendar events related to both the schedules of the learning coach and the needs of the school. Further, as an instructional leader, I established and prioritized the timetable for the school: times for Professional Learning Community (PLC) meetings, team planning meetings, professional development sessions, student and parent conferences, and individual planning times.

When asked in the interview, "Do you feel you have enough time or resources to learn, adapt, and implement suggestions gained in the Galileo professional learning sessions? Please support your answer with any examples", each participant laughed and suggested as an educator there was never enough time. However, Brenda acknowledged my efforts as the leader to provide teachers with as much professional learning time as possible, and suggested further that change in teacher practice may not have happened without it. She communicated, "the gift of time is something that's really hard to give them. But you sort of embedded that gift of time in our calendar and without that I don't think there would have been a change". Furthermore, Jodi shared she liked "the support for time to collaborate with my teammates so there's the planning

sessions or the planning Friday afternoons that we have to sit down and plan and actually hash out ideas and share ideas". However, Zoe provided a suggestion for improvement. She said:

> I think I would like to have maybe more time sharing within the team and within the school of some of the things that we're doing. I know we're given team time, and I feel like just with my team anyway, I feel like there's a lot of kind of housekeeping things that get done and we don't necessarily have time for each person to share some of the things that we're doing.

Third, utilizing evidence from the nine participant interviews, the instructional leader not only needs to be involved in the professional learning model; teachers need to feel that she actively supports it. A majority of the teachers (8 of 9 [89%]) interviewed recognized that, as the leader, my support and promotion of the work of the learning coach ensured they could support the work as well. As George and Nancy shared:

> We've got a great staff, great administration and you wouldn't dare do something different if you didn't think you were supported. Like I would be, 'well, this used to work and I think I better stick with this.' But when you have support from administration and you're encouraged and you're given the PLC time, the meeting times, the planning times, Skyping with Dianne, Dianne dropping in, I feel supported. (George)

> Admin is great in that if you got a question you approach them, you ask, you get your feedback. I feel that I can come in any time. I'm not worried about not knowing the vocab or looking like I'm not knowing what I'm doing because it's all a work in progress. (Nancy)

Jodi provided three specific examples of how she felt actively supported by the school leadership as part of her participation in the professional learning model. First, she said:

> that admin helped me out by actually individually conferencing with my students. If they were not supportive of it [the learning model], I don't know whether they would've taken the time, meaning you, would've taken the time to sit down with my students to individually conference with them.

Next, she discussed how she felt at being encouraged to share her work at a district workshop:

> The next step being invited to present to the Open Minds, to show our whole project as a whole, having the support from admin and excitement from the admin, of 'hey guess what, you guys just got invited, I'm excited for you', and me having the hesitation of not being willing to public speak, and I never once felt forced to do it but I also never felt once to decline it either. Like, 'it's in your court, you decide what you want to do, I'm behind you whatever you decide'. So that was a huge support. And even having the cheerleader of 'you did it Jodi, right? You were able to successfully do this.'

Last, she shared how she felt progressing to present her work at a large conference:

> And then even going to the next step of presenting the ideas or making that proposal to the IDEAS Conference, and having the feedback given on that proposal and working with a leader to help me work with that too.

Additionally, I had communicated with the staff I was sharing the professional learning work we were doing at two separate conferences in spring of 2014. This did not go unobserved by Heather, who recognized that I validated their work since I was publically sharing their work with educators outside of the school setting, "you [the principal] presented at that conference. People from more than just our area, more than just Prairie Fields School, more than our city, are

seeing the work and that makes a big difference". Terry recognized the district's involvement with learning coaches from the Galileo Educational Network. As she verbalized:

> I know people have worked directly with Galileo now and they're doing amazing things. I think they continue to set the standard on what inquiry looks like. I love that they're getting involved with the district and more district schools are bringing Galileo into the schools and getting that jump that they need if they want to work towards inquiry.

Interestingly, several teachers (5 of 9 [56%]) as a part of their interviews discussed what they perceived would happen if they were in a situation where discipline-based-inquiry was either not supported by the school's leadership, or if they were in a new situation without the learning coach. For example, Nancy, Zoe, Brenda, and Terry talked about if they were to move to a different school:

> If I was leaving I would want to continue it myself. I would try very hard. Again I've been in teaming situations for almost every year of my career. It's just way deeper now than it's been. I would want to continue doing that and hopefully I would find someone of like mind and of course a principal and administration of like mind because I know there are those who are more focused on scores and achieving and where are they rather than giving it that time. I had one principal in particular who would have us look at our curriculum throughout the year and cross off what's been covered, which was good but it missed those bigger idea parts of the curriculum. It was always based on the little bullet of how much was covered. (Nancy)

> I think support from staff and support from admin would be a very big either promoter or deterrent if you move to a school that didn't think this was a valuable way to learn then I

think it would be hard to speak your mind up and be vocal about it, and you would definitely need to have those leadership skills to be able to encourage people on your team or encourage your staff to investigate or learn about planning inquiry. (Zoe)

I don't think they [the teachers] would let inquiry go. And depending on the individual, I think that they might find themselves being more of a leader than they think. And maybe slowly changing practice in another school. I mean depending on of course where they were, but even with a group of teachers, I could see some teachers for sure right away they would just sort of get other teachers on board. And even if it wasn't as much them sort of being outwardly trying to change, other teachers will be looking and going what are they doing? And seeing what kids could do, they'd want to buy in. (Brenda)

Even if I stay here for ten years, I think I'm still going to keep moving forward in my practice. I think that will keep going if I move to a different school even if they're not as a whole school pushing inquiry, I still think I'll be able to find support where I needed in developing – you know, like when you go to school, you develop connections and networks. (Terry)

Jodi offered an insight as to what she would do if a new instructional leader came to the school:

By all means, come in, see it in practice. This is what we're doing and communicate with them that if they're curious enough to ask questions, by all means let me share with you. If they are hands up, then you know what, I'm not going to step on toes, right? They are admin. Yeah, I'll still do what I'm doing and I might end up having to close the door and kind of do my own thing. But I don't know if I would be strong enough to push it on to

them if they're nonbelievers. And then consider leaving to a school that has the same beliefs so that I can open my door again and have the conversations again.

Finding 1.3: Encouragement of Teacher Professional Learning Based on Relational Trust. Timperley, et al. (2007) suggested teacher professional learning best occurs in school environments characterized by both trust and challenge as changing practice involves emotions as well as knowledge and skills. Relational trust, according to Bryk and Schneider (2003) is defined as the interpersonal social exchanges that take place in a school community. Relational trust is built on four criterion: respect, competence, personal regard for others, and integrity. Regardless of how much formal power any given role has in a school community, all participants remain dependent on others to achieve desired outcomes and feel empowered by their efforts. Before teachers assume the risk of changing their practice, they need to trust their efforts will be supported. Therefore, as the researcher, I looked for confirmation from the teachers' interviews and in the artifacts indicating that the instructional leader was encouraging teacher professional learning built on a foundation of relational trust. I found evidence in several ways.

First, in the interviews, each teacher said he or she felt opportunities existed to engage with key ideas and integrate them into workable solutions for the classroom. As Timperley et al. (2007) pronounced, teachers must believe in the engagement in their own learning as "self-regulated learners" (p. 225). As an instructional leader, I often articulated that I believed, just as our students come to us at different levels, teachers come to professional learning from multiple entry points. Each teacher in this research study (9 of 9 [100%]) provided examples of how he or she engaged with his or her own professional learning:

I think that seems to be the best way to approach things, the same thing that we teach to the kids. What works for you might not work for them. So, when we need to think about what's – what we need to help ourselves learn the best. (Terry)

It's creating those authentic and rigorous tasks so always asking, 'is this task going to deepen their understanding of the topic?' And if it doesn't, it's not a good task; and that's been kind of difficult in the sense of making sure that it's authentic and rigorous. So for me, my approach has been: nothing is like a filler. (Christine)

Previous to working with Galileo, I would say my teaching practice has been more about covering curriculum and finishing units and moving on so we can fulfill our obligation to complete our Program of Studies. Now, I find that everything has been more student focused. Are the students understanding? I find that the time allotment allowed for students to engage in assignments or projects, allows for deeper understanding of projects. I would say I don't feel as stressed about covering curriculum as I feel now about do students understand curriculum? Do they understand what I'm trying to teach them? (Lisa)

I would say that it has [professional learning model] made a big change to the teachers on staff. Looking at them before Galileo and then watching them evolve through it and how their practice has changed. I would say from one of where kids were sort of vessels that they were filling and I would say maybe, it is not fair but like more assessment practice

would be based on tests, and the test was at the end of a unit, which is old practice, to them actually looking at kids, being involved in their learning. (Brenda)

Of interest to me, five of the nine teachers [56%] mentioned adult *buy-in* in their responses. In other words, they provided their opinions as to how much they thought the teachers believed in the practice they were participating in. For example, Brenda shared her impressions:

> And I mean if you think of our teachers, and I mean even within the classroom, there are people who buy in right away, but you know everybody has bought in. Everybody has bought in and some people's comfort level, it took them longer but they bought in. There isn't anybody who is saying 'I'm not doing that'. And they weren't ever felt that they had to. They might have been resistant, but in their time, they've come in, right? But if I think of the other PD that I've had - and you're just thinking why are we doing this? I don't see the benefit to me or to the kids and it was something that you had to do, and there wasn't the time or the conversation, or perhaps even the expert to come in....that's probably the first in my career to where it's been a total buy-in but it's because they've seen the difference.

Heather suggested a connection between continuity and teacher buy-in:

> It has to be everybody and I've heard there are schools where half the staff is on board and the other half are still doing what they wanted and it's impossible to bring the two together because people are saying, 'no, I'm not doing this I'm going to stick with what I've always done'. It's not going to be as successful as everybody participating, everybody buying-in.

Conversely, both Jodi and Zoe suggested that without the learning coach or the instructional leader's support, some teachers would not remain committed to the professional learning model:

> The teachers that are fully immersed in it [professional learning model] and I want to say that they believe in it and they have bought into it, yeah I do think that they would keep doing it. Teachers who are hesitant, no, I think that they'll go back to their old ways, if they didn't have the support or the attitude or even the expectation. (Jodi)

> I think that there are other people that feel that they would continue this work without having Galileo [learning coach] here. I think there's some that think that if Galileo wasn't here they would be okay. And then I think there's also people that think if Galileo wasn't here that they would probably not be as focused on the assessment piece and using the discipline based inquiry rubric. (Zoe)

Second, for teachers to change their practice, they must assume a level of risk. Teachers need to trust the instructional leader supports their change efforts. For example, it can be upsetting to teachers if the instructional leader criticizes their efforts with a commentary on their competence or challenges their professional identity. As a result, as an instructional leader, this is one area where I really tried to "walk the talk" (Robinson, 2011, p. 35). I encouraged risk-taking amongst the staff and verbally included myself in conversations about risk-taking (L. Cooper, staff meeting minutes, June 20, 2014). Additionally, I tried to make connections with the teachers that since we encourage our students to take risks, as such, we should too. Further, I promoted that these efforts are supported by our school district. For example, I shared with the staff at a professional development day on January 31, 2011 (L. Cooper, agenda: professional development day, January 31, 2011), the message I had received from the district:

> No longer is it sufficient to hold most of the work still and to change just one thing, to get it stable, and then change some other thing. In a networked and integrated world each

> thing touches another, each thing is integrated with another, and progress requires change from many directions at once. Our system direction of personalizing learning for each student so that all students can participate, progress and achieve, is a transformation that requires change from many directions at once. It is fast. It is challenging. It requires perseverance and it requires understanding that our network, our system, is at work all at once in creating this change. In order to begin with student engagement, to work with active and effortful tasks, to make instruction assessment-rich, and to create meta-cognitive and transformational learning, we need to make progress in an integrated way. We cannot hold the world or ourselves still to work on one thing at a time. We understand our work, our systems of interaction, better than that. We celebrate our work and our opportunity to make real change possible. We celebrate the opportunity to make the difference we have been waiting for, and the difference others are looking to us to lead. As the words of the elders have said, such complex work requires letting go of the shore, pushing off into the middle and seeing who is there with you. This work requires both your courage and your ability to be courageous. It also requires your vigilance. The old maps and the banks of the shore might still seem within reach, they might even seem like a safer place, but they can actually add to our confusion and make the work of moving forward more difficult. (L. Cooper, agenda: professional development day, January 31, 2011)

I asked the teachers to take a risk and make one small change in their teaching in the next week and we would talk about it the following Friday; similarly, I asked teachers to *let go* of a teaching strategy in order to do this (L. Cooper, staff meeting minutes, January 31, 2011; February 4, 2011). Therefore, I was not surprised when five of the nine teachers [55%] either

specifically mentioned, or alluded to the concept of *risk-taking* in their interviews. As Zoe said, "everybody is kind of on that page where we all feel that it's okay to take these risks". Further, Jodi shared how she was able to take risks when she felt supported to do so:

> Before, I probably wouldn't have taken risks. Before I probably would have just stuck to the curriculum. And I mean I was taught to do more the inquiry approach when I went through university. I was taught to do the reflections. But you come into the school that was not practicing that, I felt suffocated I guess is a good word, that I couldn't try what I was taught to do. And it wasn't until you have peers or until I had peers around me that were actually doing that and they felt the confidence to do it themselves that I felt okay I can try it. Just having that ability, the freedom of not having admin come down and say, 'you need to make sure you hit all the curriculum outcomes'. There is limited stress in making sure that you are ready for PATs. Having a lot of that stress taken off when 'you know what, that it's okay, if you want to go with the kids and follow what they're going to do. And it's okay to have failures; that it's okay to go with it and see where the next step leads you and follow the students' rather than what I was told to do compared to ten years ago.

Other teachers alluded to the freedom they felt to take the risks to make changes in their practice:

> I think not feeling pressured to integrate every single subject area is really important because I think it cheats the discipline in which you are trying to integrate. So if you're integrating Math into your Language Arts, yes that's one thing, but if the Math doesn't fit into the Language Arts, then why force it, right? Because I know there are so many mathematicians in the world who probably don't do that. And let's face it, we have a lot of students who are more Math oriented and we have students that are Language Arts

> oriented….It's not saying, 'don't do one thing, don't do another thing', it's just saying, 'if you need to personalize learning for a student because you know that's how that child learns, then go do that'. And I find that very freeing. (Lisa)

> I'm 'letting go' as the saying was, but I like the kind of relaxness of going into something, being able to delve in deeply and not be so worried about, 'did I make this, did I cut this, can I cross this off the curriculum?' because even from the strongest to the not so strong student is coming away with something and it's that big idea that the curriculum is trying to get. (Nancy)

Last, knowing that teachers who engaged in job-embedded professional learning are concurrently sustaining a teaching workload, as an instructional leader, I've always been mindful of the volume and amount of professional learning the teachers are expected to participate in. Sonny Donaldson (as cited in Robinson, 2011, p. 81) suggests the "main thing is to keep the main thing the main thing". In my own district, we are encouraged to ask ourselves, *What is the next right thing to do?* In other words, how do we ensure we keep teaching and learning as the focus, even when faced with all of the possible distractions that could keep us away from this goal? As a result, I tried to streamline the professional learning as much as possible. The professional learning model as provided by the Galileo learning coach was the main source of professional learning in the school. Similarly, in the interest of continuity, three educational research resources were primarily used as part of the teachers' professional learning: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric*, Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). The goal as I saw it was to go for depth in

learning, rather than breadth. As Brenda articulated, "the professional learning used to be sort of like the 'flavour of the month' or something. When you listen to that and then you would never have time so you were never able to embed it in your practice, whereas this is totally different".

One of the results of this purposeful intention in professional learning was we'd become known in our district as a *Galileo School* or a school that *does Galileo* (L. Cooper, personal communication: principal meeting, June 11, 2014). One of the participants, Terry, had only been at the school for one and a half years. She offered an interesting insight in her interview, that she had come to the school specifically for this professional learning opportunity:

> That's the reason I came to the school. Well, that's what I wanted and I knew you guys had Galileo and it's easier to embrace and push yourself when the whole school is doing something. Not just Galileo or inquiry, but when the whole school moves towards something openly and positively, the change happens faster. So, I think that was a big thing of that. That you guys were already doing it and we have a lot of people in the school that had already embraced it and had already done a lot of great things, and that support was already there. (Terry)

She went on to explain how she appreciated the support from the other teachers:

> I think a lot of it for me, coming a year later into the Galileo project that you guys had at school, it was beneficial to get a lot of the help on the formative assessment. I know in theory how it works. I know what it's supposed to look like. I know what I'm supposed to do, but then hearing from the group of how to make it manageable.

Finally, she shared she felt she could contribute to the learning of the other teachers:

> Even though I don't feel like I'm the one with all the answers, I feel like I can still contribute something to it. Yeah, I feel like everybody is quite open with what they're

> doing and quite open to suggestions whereas if it was opposite and the team was like, 'Well, I already have this idea so I'm not going to do it'. That would be harder for me to feel that I could jump in. But I've never really been made to feel like the newbie in the group or the one that's kind of a little bit behind with the inquiry.

Lisa presented an unexpected result of having this purposeful, intentional professional learning in her interview. Her outlier comment suggested because of the scarcity of variety of professional learning opportunities in the school, competition had emerged amongst teachers in their response to the lack of breadth:

> I feel like there might almost be a competition for the coolest project at sometime, which is quite fabulous. 'Who's done the best work?' Or which I think of all the things that could've come out of this, that's a pretty positive one. Because I think we're all very invested in this process with our students and for someone to say, 'oh that person's rubric is being shown, but mine is still really good, and mine should be shown too'. Right? You know what I mean? So I see that as being something a little bit unexpected but at the same time I wouldn't say it's something that is causing angst among staff or anything.

Research Question Two. My second research question asked, how does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning? Based on the analysis of the data, three findings emerged: the learning model facilitated teacher collaboration; the learning model built teacher capacity; and the learning model accentuated teacher use of educational research and evidence to inform practice.

Finding 2.1: The Learning Model Facilitated Teacher Collaboration. Collaborative practice involves professionals working together to develop effectual instructional practices with

a commitment not only improving one's own practice but that of others as well (Mourshed, et al., 2010). As an instructional leader, I've often wondered how collaboration differed from cooperation. As a researcher, I wanted to ensure I was able to distinguish if the teachers in this study were describing their practice as *collaborative*, when in fact it was actually *cooperative*. As opposed to collaboration, "cooperation assumes two or more teachers, each with separate and autonomous practices, agree to work together to make their private practices more successful" (Meirink, Meijer & Verloop, 2010, p. 163). Therefore, I have only seen evidence of collaboration from the teachers in this study. In this section, I will outline several ways the teachers demonstrated their collaborative abilities.

First, working with a learning coach necessitated a certain amount of collaboration. In this school, teachers were expected to have "open to learning conversations" (Robinson, 2011, p. 38) regularly about their practice with the learning coach. Our Galileo learning coach, Dianne, was on site for two days every two months. She provided one-on-one coaching in terms of feedback, modelling better instruction, and assisted teachers to reflect upon their own practice. Each teacher interviewed (9 of 9 [100%]) said time with the learning coach had helped him or her improve practice. For example, Zoe provided a specific example of how collaborating with the learning coach helped her in her planning:

> I think working with Dianne and Galileo has helped me be able to identify the task for our project …but also to really define what the task was for the students and what the expectations were from me, what I really wanted them to get out of it and then helping to kind of organize what we were going to do first, what information we needed to research first and also have rubrics that kind of correspond with each task that I was asking them to do. I think it helped me keep a focus whereas in the past I would plan the big idea and

sort of plan the task throughout when they were happening but Galileo has helped me to kind of organize my planning at the beginning of the project so I know where I'm going and what I want to the students to get out of what we're doing.

Other teachers verbalized how collaborating with Dianne, the Galileo Educational Network learning coach supported their practice:

> One thing I like about Dianne, I learned really quick, is you don't go to Dianne for answers. Dianne challenges you to think about your practice. And I kind of liked that. And sometimes yes, an answer, a quick yes, that would be great, but I think it's really good how she does that. Because she will talk about how another school approached it this way. She does give you some yes/no answers, I shouldn't say she doesn't. But I like how she says 'Did you get what you want? How can you do things differently? How is it working now?' (George)

> I wish that something like Galileo had come along a long time ago. So that as a classroom teacher, I was looking for something like this but I didn't have that. I thought I was doing sort of engaging students and things like that. But looking at this, nah, didn't really do it, it was too much - like teacher-directed and that kind of thing. I mean you tried but it just didn't have the tools or that understanding of how to plan something to engage the kids, to have them do that self-assessment piece. I think that that's more I see. I wish that I had that. And then the artifacts, like those evidences of learning. (Brenda)

> I'm always just in awe of how you can tell her what you're doing in the classroom and she can give 50 examples of where she's seen that before or how you could do it

> differently. It's like 'wow', she really thinks fast so I think she's always - and it's not like she's spoon-feeding you. She always gives us problems and tasks that then we need to go back together with myself or with Erica and kind of solve those problems and then implement them in the classroom. So it's really nice to have that person to say, 'I thought of doing this but I don't know how to do about it' and she's got it like that, 'you can do this, and you can do this', and sometimes you have to go 'okay, whoa. If I do one of those things but'…you can tell that she's just amazing at what she does and she's got so many resources and connections so it's been helpful for sure. (Christine)

Second, as an instructional leader, I collaborated with a small group of interested teachers to organize professional learning opportunities for the school's teachers for the times when the learning coach was not at the school (Cooper, 2014). These opportunities occurred during designated professional learning time or during staff meetings. For example, the school's Professional Learning Communities (PLCs) were organized and re-organized to mimic the learning model work the teachers conducted with the learning coach (Stoll, Bolam, McMahon, Wallace & Thomas, 2006). I highlight this PLC process in the findings as each teacher interviewed (9 of 9 [100%]) indicated they found the PLC protocol an effective way to collaboratively solve their problems of practice with each other. As simply put by Heather:

> I love the way our PLCs have gone. I like the fact that everyone is sharing so well, someone is sharing; it gives you ideas for something you're doing. When you're sharing, it provides feedback for you. It gives ideas for improving your work.

As a staff, we had created a protocol (Brown Easton, 2009) to use each time we met. A sample of this protocol is included as Appendix F. This protocol reflected three documents teachers used extensively in the school as part of our professional learning conversations (with the

learning coach, myself, and each other): Friesen's (2009b) *Teaching Effectiveness Framework and Rubric*, Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). We created roles for ourselves in this protocol to use each time we met. One person took a turn presenting, bringing his or her problem of practice to the group; others acted as *worriers* for each role, ensuring questions were asked from the perspective of each role. For example, one person would be the facilitator who would both initiate the conversation and reference the educational literature; another person would focus on assessment; another teacher was tasked with asking questions about technology; while another would speak to student engagement; and another would engage in the conversation by asking questions related to connecting with experts, linking the topic to the larger community. The questions the teachers were tasked with asking each other were designed to be similar to the questions asked by the learning coach when meeting with the teachers. As Christine submitted, "I think it's a lot of open ended conversation. People come with their problems of trying to do this, try to do this in the classroom". Other teachers explained:

> I would say that this year, it wouldn't matter what your job was in the school. You have a say in the PLC because when someone is presenting, then we each have like a role to play each time. And even though maybe one time I'm the sort of expertise and I'm listening to see what the teacher has brought to the table or offer some suggestions, you also can add to anyone the areas so that we're all listening and helping out and saying 'have you thought of this' or the assessment piece of expertise. The model is such that everyone has a say, a part of the discussion. (Brenda)

> I feel like when people are coming forward with a problem that they're really receptive to different ideas and different things. I know I've sent rubrics to people of ones that we made in our class so they can kind of adapt it for their classroom and I know that I feel like I'm able to give suggestions to people that are worthwhile and meaningful for them too like being able to recognize that a problem that they're having is something that I've dealt with before and this is how I solved it. (Zoe)

As part of the PLC protocol, a different role is assigned for each meeting to *discourage* role ownership. For example, no one is the *technology expert* every time; each person is encouraged to experience each role. Further, the PLCs were purposefully designed to be cross-grade; teachers from each grade were a part of a different PLC group, and team teaching partners were not in the same PLC. This purposeful design was created to facilitate a whole school approach to professional learning. As George expressed, "I really like the idea of aligning the PLC work with our Galileo, and I find that just talking with the others - having mixed grade groups, talking with different teachers - lots of ideas come out in our meetings". Through mutual conversation as part of the protocol and case analysis, teachers applied these new ideas to their own classrooms, and then reported back to the group on their progress:

> The PLCs to me really help because before you didn't have the interaction with your colleagues. You didn't have that peer assessment or that feedback. I think it helps in some ways for you to know people outside of your team and what they're doing rather than it being subject specific like math or language arts because I probably wouldn't have much opportunity to talk to David and see what he was doing if he wasn't in PLC or talking to Carol. You talk to them in the staff room but that's a different discussion then,

a professional discussion on what are you doing in your classroom and how can I implement something like that into mine. (Heather)

This last comment segues into a third aspect of collaboration expressed by many of the participants; eight of the nine [89%] teachers said they felt they could solve problems of their practice collaboratively outside of the designed professional learning opportunities (assigned time with the learning coach or designated PLC time). For example, some teachers verbalized they go to other teachers who teach on the same team for advice.

> Even hearing from the other grade one/two team of how we're assessing and how they're assessing, I think it's also pretty big, just like the visual things that they have. When I see it on their board, I'm like, 'That's really neat! Email that to me'…..I think we're learning a lot from each other as well. (Terry)

> I think when you have a team that's completely embraced inquiry they're going to help you improve your own practice…. I think it ended up being that we're improving each other's practice rather than just one person always helping the other person so teaming has been awesome and I think that's because like I've said they've all embraced inquiry. They're so strong and they're willing to share which is huge. (Christine)

Other teachers felt comfortable approaching other colleagues in the school:

> I could go to Nancy and I could say, 'I'm thinking of documenting this through drama, what are your thoughts on this'? Or I could say to Leanne, 'I know you're an artist, you've got a really strong understanding of this sort of feature'. Or I could go to Zoe who is not in my PLC, who is my team partner; I'm going to say, 'okay I'm thinking of

doing this, could you help me with the technology piece'? So I think knowing where teacher strengths are is very helpful. (Lisa)

We have a great staff who's not worried about stepping on toes or being stepped on and you just sort of, 'well have you thought about this? Throw it out there, its wild, its wacky. It might float. It might sink. It's an opinion'. It seems to work really well. (Nancy)

It must be noted that some of the teachers (5 of 9 [56%]) provided suggestions as to how to improve collaboration or gave examples of how they modified their collaborative efforts. For example, Jodi articulated how her PLC group adapted the PLC protocol to fit their needs, and as a result, reflected on how the group used the protocol:

For our PLC, we don't stick to the protocol, I'll be honest. However, what we do is we have responsibilities. So we assign the different roles, however, everyone can talk at anytime. But if you're the expert person, your responsibility is just to make sure that it's brought up and that the questions have been addressed through conversation. If you are the assessment person, your responsibility is just to make sure that it's brought up and that the questions have been addressed, so each role is you have a responsibility within that protocol for a certain role. But anyone and everyone brings in the conversation. It's never really that only that person talks about that, you're just responsible for that role.

Another recommendation brought forward related to the group size of the PLC. As Zoe verbalized, "we have a larger group so it's been awhile since I've been able to bring a problem to my group and get feedback". Or, time gaps between conversations cause breaks in memory, "there's such a long time it seems between them that sometimes you even kind of go 'oh what

was their thing?' because it's not always in the forefront" (Nancy). Expressed another way, Lisa also wanted more time for conversation, "if we could have PLC every week I would go, I really would. I just think it's so integral".

Most surprising in the data, and a definite outlier occurred when Jodi talked about being viewed as a *know-it all*:

> There's some members of this PLC group I feel equivalent to in terms of I can have a good conversation and they wouldn't take it critically. And they'll be able to take my suggestions and actually apply them. Whereas some of the members I feel I have to stand back a little bit because I'm afraid that they're going to be angry with me for giving a suggestion because I stepped on their toes…. For example, I feel very confident in my assessment abilities. That's where I feel very strongly that I can talk to and I can give suggestions. So there'll be some members of the group that I feel that their assessment isn't where I think it could be based on what their students are capable of doing and understanding the assessment. So I kind of feel bad because they're on my team and I know what their students can do. So I'm afraid to give them suggestions because the team that I'm on, walls go up really fast and they get very defensive about what they are already doing in the classroom. They're doing an amazing work. I just think that one area might not be where I think their students could be at. And so I'm hesitant to give that person a little bit more information. Other members in the team I don't feel that way so I'm a lot more open. I guess it's more about personal thing because I'm afraid that that person will take it too much of a judgment call on my part that I'd be judging their work which I'm not trying to do. But I'm afraid that they're going to think that and then cause more walls to be put up later on.

In the research on Professional Learning Communities, *teacher collaboration* is a widely used concept (Barber and Mourshed, 2007; Blase and Blase, 1999; Mulford, 2008; Robinson, 2011; Southworth, 2011; Stoll, 2011; Timperley et al., 2007). While I am cautious to focus too much on one teacher's observation regarding her comfort in her PLC, Jodi's observations reinforce the notion that collaboration may be a problematic concept as it has varying meanings with regard to the quality of collaboration and learning outcomes. As Wilson and Berne (1999) suggested, we need to "discard the romantic notion that it is easy for groups of teachers, not always used to working with each other (sometimes actively avoiding each other) to come together and establish norms of professional 'civility'" (p. 199).

Jodi's comments reinforce the notion that collaboration and learning in groups is an important aspect of Professional Learning Communities, however, group processes are dynamic. As such, individuals in the group exhibit different levels of openness to change and innovation (Hadar & Brody, 2012). It is quite possible in some circumstances individuals may benefit from collaboration, whereas for others, possible power structures existing in the community may inhibit learning (Webster-Wright, 2009). Further, as Opfer, Pedder, and Lavicza (2011) contended, collaboration driven by deep, personal, and enduring interest and motivation is challenging to achieve, as the level of trust and risk-taking required to learn in a collaborative environment is difficult.

Finding 2.2: The Learning Model Built Teacher Capacity. Overall, teachers felt support could be found in multiple places in the school (not just from the learning coach):

> I feel like if you're open to it, in this school, you can find support almost anywhere whether it's in the classroom next door or even if it's not in the same grade group or

> within your grade group, or in the PLCs. I feel like that's quite a good place to go for help when you need it. (Terry)

Each teacher in the research study (9 of 9 [100%]) made a comment as part of his or her responses that alluded to teacher capacity. As Leithwood and Mascall (2008) suggested, capacity includes the declarative knowledge (understanding) and procedural knowledge (skills or how-to) required to accomplish work-related tasks. Teacher capacity was demonstrated when teachers felt they had the knowledge and skills to effectively teach in the classroom and had ownership for developing their knowledge and skills based on opportunities for professional learning. Evidenced in the teachers' responses was a strong level of conviction in their practice as a result of their site-based professional learning experiences and subsequent practice in the learning model. The participants expressed teacher capacity in four main ways. First, as evidenced from the statement from Terry above, almost all teachers felt confident in approaching other teachers to provide feedback or request support (8 of 9 [89%]). As Brenda observed, "I think they [the teachers] quite enjoy sharing what they're doing because it gives them a chance to talk about it and then it gives them a chance to have the feedback". Overall, there was a general sense teachers felt comfortable approaching other teachers for pedagogical advice:

> I'll talk to Erica and Christine and see what they're doing. If I have problems with technology I'll go to Christine, and it's those discussions, you'll find out what people are doing. Fridays - there's a group of us we'll go for lunch, often it is, 'what are you doing?' So it's having those opportunities to talk to somebody not feeling like you're in it by yourself. (Heather)

> My professional leaning started with Erica in the summer when I said, 'I haven't been around for Galileo. What can you give me to read? What can you show me what you've done so I can start to take some of this in?' So I spent the last two weeks of the summer break just reading handouts that she had, looking at things she had done in the past. So I was trying to catch myself up to speed. (Christine)

Second, teachers demonstrated the qualities of reflective practitioners. As Larrivee (2000) articulated, when teachers become reflective practitioners, they are able to integrate and modify skills to fit specific contexts, and eventually internalize these skills to invent new strategies. They develop self-efficacy to create solutions to problems. A teacher who is a reflective practitioner is able to think about his or her work, become a problem solver, and question the status quo (Larrivee, 2000). Further, Wise, Spiegel, and Bruning (1999) suggested a teacher who is a reflective practitioner is able to communicate with peers about his or her own learning and would be comfortable sharing new strategies with others. In the interviews, each teacher (9 of 9 [100%]) provided examples of how they reflected on their practice, how they trusted and supported other teachers in the building, or provided examples of success and failure stories they had shared with their colleagues.

> It's [working with the learning coach] increased the amount of time I reflect on my practice in the classroom, and I think, 'am I teaching skills the kids need?' And if not, then I'm more quick to realize and to adapt to what I'm doing. I think to keep the program moving forward. I don't want to say 'okay that's good enough.' I sit and reflect and say, 'okay what can I do differently to increase understanding so there's a deeper knowledge of the process of research or the understanding of our topic?' (George)

> I think one of the things that I worry about is how do I continue to make good educational choices with my students? I think that's one of my worries. Not necessarily fall back into old patterns but just keep the own momentum within myself to continue teaching in a way that I feel is meaningful to students. (Lisa)

> At the beginning of the year I knew I wanted to start my math program from a problem-solving approach but I wasn't quite sure how I wanted to do that but still kind of integrate the concepts so that they weren't missing concepts at the same time. So I talked to George and Leanne and they had a problem solving approach….They gave me examples of what the students had written and that gave me a point to start my program and kind of share it with my students but then I found as the year went along we supported each other in the sense that if something worked in my classroom, I let George know, 'oh we did that problem and it worked great or this part of the problem didn't work so great'. (Christine)

Third, teachers expressed confidence in their abilities as practitioners. This was demonstrated in a few different ways. Two teachers of the nine [22%] interviewed (Christine and Heather) specifically reflected on how they would mentor other teachers who were new to this experience:

> Because we're a school and we're so fluid, we have teachers going on leave, teachers coming back from leave all the time, there has to be a way now that we've started that journey that it not only continues to strengthen but we incorporate people who haven't been here for four years, if someone comes back from the leave, how can we catch them up to speed without overwhelming them?....My biggest thing is I think as teachers we

> forget that we provide our students with multiple avenues to access learning and we recognize that their coming from all different backgrounds and strengths but I think as teachers we forget that we want everyone to be at Z when they've only just started at A, so kind of giving ourselves that permission to grow like we give our students to grow. (Christine)

> If I was talking to a staff that was just starting this and me saying, 'okay we've been doing this for three years, my biggest suggestion is be open to it, and the old ways aren't necessarily better or sticking with what you know. Be prepared to go out of your comfort zone, because this certainly is not the way we were all teaching before. You have to be prepared to step out of your comfort zone. If you're not, it's going to be a lot more difficult. Embrace it rather than struggling with it'….It's very difficult to come into the school and catch up or to learn the Galileo way when we've had three years, somebody new coming in next year let's say would have a very difficult time unless they had been doing it in their school but if you're just new to it, if you're coming out of a traditional program into this, would be very overwhelming or somebody coming back from a leave or something like that. If you came for a year, you were away for a year, you come back, everybody's moved ahead and you can catch up but it's hard. It's difficult to get there, I think. (Heather)

Four of the nine teachers [44%] interviewed specifically mentioned the confidence they have in their practice since starting to work with the learning model. For example, as shared by Zoe and Jodi:

> I feel like it's [working with the learning coach] improved my teaching and I think it's improved the student learning that's been happening in my classroom and I think also it's helped to give me confidence. (Zoe)

> I almost always second-guess myself in some of the things that I do but I don't second-guess this practice right now. I feel confident in that so that's a huge surprise (Jodi)

> I just feel really thankful to have been part of the process I would say. I definitely think that it has improved my teaching immensely. I definitely think its improved student learning. I think it's helping students ask good questions and be problem solvers. (Lisa)

A fascinating disclosure occurred when five of the nine participants [56%] articulated thoughts they were having about next steps when the school was no longer partnered with the learning coach and was not specifically participating in the learning model. As Lisa verbalized, "I know we've had in the past a lot of 'Dianne time' and I know as we continue through this process, I think we require her less and less". This line of thinking demonstrated to me these teachers felt confident in their practice and were making transition plans for their professional learning:

> We probably don't need as much Dianne time and it's kind of given us that baby step to say, "Okay, so we had Dianne lots. Now we have her less and then eventually we're not going to have her; so we're ready for that."….I think even if next year, we don't have Dianne, we don't have Galileo, and we have this core staff that has embraced it and has been with it for years or a couple of years with Galileo, they are confident enough that

they would be able to offer that same support. It was great to have Dianne. It was great to have Galileo, but as things are going, that's not my number one lifeline. (Terry)

Last, six of the nine teachers [67%] pronounced they felt ownership for their own professional learning as part of what was provided at the school site and from the learning coach, but also beyond the walls of the school:

> Definitely since working with Galileo I have gone to more PD sessions and conferences whereas before it was mostly teacher's convention and maybe something else throughout the year, but I think I had more focused PD on inquiry and being able to kind of have those opportunities throughout the year to go to those conferences which I probably wouldn't have done in the past. (Zoe)

> I think the networks and support I've developed here, even if I'm not working with the staff, I would still talk it out and I would still push myself to go to those PDs and do those online and look to see what Galileo is posting. (Terry)

Further, Lisa provided suggestions for how to support the professional learning of other schools and other teachers embarking on this type of model:

> Even if we were to take and make our own website or something that has all of our examples and seeing what other teachers are doing within the school, I think that will be a neat thing to showcase our work and not only improve our professional practice but improve the professional practices of other schools who are implementing this sort of teaching and learning in their own schools. (Lisa)

Finding 2.3: The Learning Model Accentuated Teacher Use of Educational Research and Evidence to Inform Practice. As part of the interview process, participants were asked,

"Has your use of assessment data learned from your students changed in any way as part of your involvement with the Galileo Educational Network? If so, can you provide any examples?" Each teacher (9 of 9 [100%]) articulated the different ways he or she uses assessment strategies with his or her students. Most often, the example the teacher provided was in the form of an "I used to, now I" type of response. For example:

> The biggest thing is through my assessment. It's been a lot of a student-led in terms of the students choosing their expectations of the assignment. The students deciding if they want to keep those expectations or modifying it. And then as well going on to expanding it for the different levels of assessment for the lower learners and the higher learners. (Jodi)

> I think I've used rubrics since the start of my teaching career but I've never had students involved in creating the rubrics and coming up with the criteria to this extent. So they're introduced to the rubric at the beginning of the task whether it's a rubric, a bull's-eye, a checklist, they're introduced at the beginning of the task and then they have opportunity to get feedback on what they think is important to be evaluated rather than me saying these are your five checks and go at it….We're at the point right now where they ask for the rubric, they ask for the checklist before they even get started. (Christine)

> Well the assessment data is now no longer, who passed, who didn't, who has it, who doesn't? It's where are we? Do we have to go back a step? How many people need to go back a step? Who can keep going? Who needs it modified? Who needs maybe a different way to look at it or re-word it? Can I show them an example? It's more

showing me where I want to go rather than where we've been….I feel from when I first started teaching, I totally understand my kids way better now than I did before. Before I had a bunch of numbers and test scores and those kind of things and yes I had interactions with the kids but they weren't the same as what I'm getting, the deeper I'm getting now, the one to one or even the small grouped one, conversations to understand to see how they work in groups and individually. (Nancy)

I spend more time conferencing with the students to really find out what they are understanding instead of paper/pencil, yes/no. I'll talk to the kids. If I'm not getting what I want from the students I'm not moving on as quickly as I would have, but we need to focus on and teach or spend more time on it before we can move forward. (George)

I think that using the feedback loops, using the assessment throughout the project and using multiple different rubrics for whatever we're working on has really improved student work as well. It doesn't always work for every single student but definitely the majority of students are using the rubrics to improve whatever their work was. (Zoe)

Additionally, woven through many responses, seven of the nine teachers interviewed [78%] shared how they used *experts* (Friesen, 2009b) to enhance their practice. A few teachers, like George, specifically described how he used outside experts as a resource with his students:

A big *aha* moment this year was when we found that the experts have different answers to our level 3 questions that we found in text books or on the internet. And so that's a lot of discussion about who's right? Can there be more than one answer? Could it be more

than one opinion? And so then if you have a different opinion, you have to be able to defend your opinion. And that's been excellent. (George)

If we can support them [students] in the way that they're learning and treat it as a discipline, and go to experts who are experts in their field, and this is what we do and this is the job you can get if we pursue this, so students really see the relevance and the meaning I think behind what real practitioners use or do. I think it provides them a lens as to this is important, I can actually get paid to do this if I choose to go there. (Lisa)

Other teachers, like Nancy, spoke of the PLC protocol and suggested that teachers were starting to see each other as experts to go to for advice and suggestions:

It's [PLC] beyond my team getting the expertise and ideas and, 'well have you thought of this?' from the whole school or at least a greater part of the school, so I still have my team but none of my team is in my group. So, it's kind of neat to have those extra individuals that can talk. (Nancy)

It really is a Professional Learning Community. And when they [the teachers] don't know the answers then they go to the other experts, right? And so then it's more meaningful to them. They're engaged, totally engaged, they're not being told what they need to know. They know what they need to know. They know the questions that they have to ask and they're probably asking those higher-level questions themselves of each other. (Brenda)

I guess one that stands out is importance of contacting experts. Early on we talked a lot in our PLCs, an important component of our Galileo projects and lots of ideas came out for our study, who we should try contacting and that was beneficial. (George)

Still other teachers described how they utilized the learning coach as an expert to assist in their professional learning. Brenda told a story about another teacher, Jodi, whom she observed:

I know Jodi had said one day that she was feeling stuck so she sat down at her computer like kids could see her on the SMART Board as she typed an email to Dianne to say, 'what should I do?' And the kids are, 'what are you doing?' And she said, 'I'm asking my expert. I'm asking my expert for advice like we do when we ask about the bird sanctuary questions'. And she was role modeling that too….I think sometimes when it's something new, you sometimes need that outside expert. We're always telling the teachers are sort of getting the kids go to the experts. That's what we've done, is go to the experts. (Brenda)

I think the Galileo program or I would say the Galileo professional learning that we have done in this school has really allowed us as teachers to ask big questions, to question why might students need this, or to look at past practices and say, 'okay I really need to get rid of this because this is only scratching the surface'. Or, 'if I am going to teach them, let's move forward from that and let's take the time to do it'. (Lisa)

I think in the past if I was planning a kind of inquiry that I thought was inquiry, working with Galileo has helped structure it better so there's more the beginning task and what sort of background knowledge the students are going to have and the whole what are they

going to create type of thing so I think it's really helped me with that planning piece, organizing a project or organizing my year. (Zoe)

Finally, of interest to me as a researcher and a scholar, six of the nine teacher participants [67%] specifically referenced educationally based research documents in their interviews: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric*, Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). I had not anticipated this many teachers to mention the educational literature. Further, many of the teachers explained *how* they used the research in their planning, teaching and PLC groups. For example, as Terry said, "I'm starting to refer to the Inquiry Rubric and tying that into my own learnings". Lisa, Zoe, and Jodi shared how they use the research documents:

I find that we've got our two documents that really are the Teacher Effectiveness Framework and our Galileo Inquiry Rubric that I find to be just instrumental in my planning….I look at those documents, I think, 'okay, so where am I on the spectrum here? In order to get myself to here, what do I need to do with my students?' So I plan a discipline-based inquiry. Am I asking them to perform work that is meaningful, relevant, all of that stuff....I look at them at the beginning of my planning but as the planning progresses, I look at it again and then I tend to assess it at the end of my unit, say, 'okay, well did I get there? Did I not get there? So in my next project, what do I need to make sure I cover for or what do I need to make sure that I look at for my final project?' Because I'm in process as well and I think it will be forever. (Lisa)

It would be a document [Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.)] I have out to remind myself of organizing, 'so what experts am I going to organize?' It would be almost like a guideline of thinking about the task and the project so I want it to be authentic, I want it to have the outside school experiences as well and kind of organizing the experts or what sort of technology can I use for this, does it need to be used and should it be used. So I think it kind of helps me keeping my mind on what I want to get out of the students and I think it helps to keep me to stay on that project path as opposed to just kind of being frustrated and giving up. (Zoe)

I understand the research behind it and I have the documentation, I have the research there to explain it. If people come and question, 'why are you doing this?', it's not, 'oh I taught this', but it's a matter of, 'well I'm doing this because of the Teacher Effectiveness Framework. I'm doing this because of the Discipline-based Rubric.' Like I have the documentation and I have the knowledge to back up what I believe in. (Jodi)

Terry and Lisa spoke of how they use the research documents as part of the PLC group:

We have that PLC group and we know that we're posing the same questions that are approached or addressed in the Inquiry Rubric. So, each person's role in PLC follows really closely to each section in that rubric as well. (Terry)

I ask teachers, 'what would be helpful for you?' and then I have all the rubrics right in front of me. And I think we take turns doing that and, 'have you thought about academic rigor, have you thought about contacting experts, have you thought about contacting this

person or that person?' And they had done the same for us. I love our PLC groups, I can't say that enough, I think it's awesome. (Lisa)

Summary

This chapter began with an overview of the case. Then, as part of the presentation of the findings, an explanation of the coding process used, followed by a brief summary of and rationale for how data were analyzed was presented. In order to understand how the teachers transferred their learning to their classroom practice and the role of instructional leadership in implementing the professional learning model, I coded data from the nine transcribed semi-structured interviews with the teachers from my school. Additionally, I coded the physical artifacts, my researcher journal, and my researcher memos in an attempt to paint a holistic, triangulated picture of the case. The findings were built from the problem, research questions and research design. Where appropriate, the findings were presented in clear narrative form using verbatim quotes in order to provide an opportunity to better understand the reality of the research participants. Narrative data were connected and synthesized through explanatory text. The emphasis was on allowing participants to speak for themselves; as such, quotations taken from interview transcripts were attempting to portray multiple participant perspectives and capture some of the complexity of the subject matter. Where appropriate, inconsistent or unexpected data were noted and discussed.

Based on the analysis of the data, three findings emerged constructed from the first research question, "what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning?" First, when instructional leaders established a clear vision, teachers felt supported in their work. Utilizing Leithwood and Reihl's (2003) and Timplerley's

(2008) definitions of vision, I looked for evidence from the teachers and the artifacts of success stories and sharing of activities as a way of establishing vision in this case study. Combined with evidence from the nine participant interviews and through examination of minutes from staff meetings and professional development days, there were clear examples of teachers who shared success stories and examples of everyday activities. In the interviews, nine of the nine [100%] participants communicated success stories, either as part of their professional learning or with their students' learning. Further, it seemed sharing was considered a part of professional learning, but also a part of culture of the school as some of the teachers' responses pointed to whole school continuity and consistency. Additionally, nine of the nine teachers interviewed [100%] discussed how they have changed their use of the Program of Studies in their practice (curriculum); specifically, they indicated a focus on the *big ideas* or the *general outcomes* of the programs of study rather than *covering* each *specific outcome* in the Alberta Education Program of Studies (Alberta Education, 2014a). Finally, each teacher (9 of 9 [100%]) could express a time when he or she felt supported in his or her professional learning, thus communicating evidence of a common school vision – of utilizing different pedagogical methods, more holistic curriculum content, or imagining better student outcomes (Timperley, 2008). Teachers cited encouragement from their colleagues, the learning coach and from the instructional leader as evidence of how they felt supported, which in turn supported their students as learners.

Second, instructional leader involvement in the professional learning model was a demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. The instructional leader must participate in the learning model alongside the teachers, utilize the same research literature in the professional development sessions as used with the learning coach

to streamline the professional learning work, and design the professional learning of the teachers to be job-embedded within their existing problems of practice. Most importantly, the instructional leader not only needed to be involved in the professional learning model; teachers needed to feel that she actively supported it. Brought up by the majority (8 of 9 [89%]) of the teachers interviewed, it was recognized my support and promotion of the work of the learning coach ensured they could support the work as well. Additionally, encouraging teachers to participate in professional learning outside of the school by offering both financial and human support (substitute teacher release time) to pursue professional learning beyond the walls of the school demonstrated commitment to teacher professional learning. However, there is a managerial aspect to successful implementation of a learning model; the instructional leader needed to administer and organize many aspects of professional learning. Combined with other technical and human aspects related to instructional leadership, a complexity emerged when an outside agency was involved in the school.

Third, the encouragement of teacher professional learning based on relational trust was a demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. Each teacher (9 of 9 [100%]) provided evidence in his or her comments that he or she felt he or she had opportunities to engage with key ideas and integrate them into workable solutions for his or her classroom. For teachers to change their practice, they must assume a level of risk. Teachers needed to trust the instructional leader would support their change efforts. Five of the nine teachers [55%] either specifically mentioned or alluded to the concept of *risk-taking* in their interviews, either indicating a feeling of freedom to make changes in their classrooms or specifying a level of support from the instructional leader in their change practices. Finally,

knowing that teachers who engaged in job-embedded professional learning are concurrently sustaining a teaching workload, the instructional leader must be mindful of the volume and amount of professional learning the teachers are expected to participate in. In this case, the professional learning model provided by the Galileo learning coach was the main source of professional learning in the school. Similarly, in the interest of continuity, three educational research resources were primarily used as part of the teachers' professional learning: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric,* Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). The goal, as I saw it, was to go for depth in learning, rather than breadth. However, this depth provided some complications as the school became known as a *Galileo School* and competition had arisen amongst the teachers.

Three findings emerged from the second research question, "How does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning?" First, the learning model designed to support a discipline-based inquiry approach to teaching and learning facilitated teacher collaboration. Working with a learning coach necessitated a certain amount of collaboration. In this case, teachers were expected to have "open to learning conversations" (Robinson, 2011, p. 38) regularly about their practice with the learning coach. Each teacher interviewed (9 of 9 [100%]) indicated a time with the learning coach overall, had helped him or her improve practice. Additionally, as an instructional leader, I had collaborated with a small group of interested teachers to organize professional learning opportunities for the school's teachers for the times when the learning coach was not at the school. These opportunities occurred during designated professional learning time or during staff meetings. For example, the school's

Professional Learning Communities (PLCs) were organized and re-organized to mimic the learning model work the teachers conducted with the learning coach. Each teacher interviewed (9 of 9 [100%]) indicated they found the PLC protocol an effective way to collaboratively solve their problems of practice with each other. Furthermore, eight of the nine [89%] participants felt they could solve problems of their practice collaboratively outside of the designed professional learning opportunities (assigned time with the learning coach or designated PLC time) and some (5 of 9 [56%]) provided feedback as to how to improve collaborative professional learning opportunities in the school, reinforcing the notion that group processes are dynamic.

Second, the learning model designed to support a discipline-based inquiry approach to teaching and learning built teacher capacity. Each teacher in the research study (9 of 9 [100%]) made a comment as part of his or her responses alluding to teacher capacity. Eight of the nine [89%] teachers interviewed felt confident in approaching other teachers to provide feedback or request support. Moreover, in the interviews, each teacher (9 of 9 [100%]) provided examples of how they either reflected on their practice, how they trusted and supported other teachers in the building, expressed confidence in their abilities as practitioners, or provided examples of success and failure stories they had shared with their colleagues. Additionally, six of the nine teachers [67%] specifically articulated they felt ownership for their own professional learning as part of what was provided at the school site and from the learning coach, but also beyond the walls of the school. Furthermore, a fascinating disclosure occurred when five of the nine participants [56%] verbalized thoughts they were having about next steps when the school was no longer partnered with the learning coach and was not specifically participating in the learning model.

Third, the learning model designed to support a discipline-based inquiry approach to teaching and learning accentuated teacher use of educational research and evidence to inform

practice. Each teacher (9 of 9 [100%]) in the study disclosed the different ways he or she used assessment strategies with his or her students. Additionally, seven of the nine teachers interviewed [78%] spoke of how they used *experts* (Friesen, 2009b) to enhance their practice. Finally, six of the nine teacher participants [67%] specifically referenced educationally based research documents in their interviews: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric,* Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.).

The next chapter analyzes, interprets, and synthesizes the findings. While this chapter presented the findings of this case study by organizing data from various sources into categories to construct a decipherable narrative, the purpose of the next chapter is to provide interpretative insights into these findings in an attempt to reconstruct, analyze, synthesize, and build a more holistic understanding of the phenomenon.

CHAPTER 5

ANALYSIS, INTERPRETATION AND SYNTHESIS OF FINDINGS

Introduction

The purpose of this case study was to investigate the relationship between instructional leadership and teaching practice when a specific professional learning model was implemented in an urban elementary school. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher professional learning.

For this case study, I conducted nine semi-structured interviews with the teachers from my school. Additionally, I gathered physical artifacts as supplemental evidence and kept a researcher journal. Through the interviews I attempted to gather data about the reciprocal relationship between the professional knowledge learned from the discipline-based inquiry focused professional learning model implemented in the school. I wanted to understand how the teachers transferred their learning to their classroom practice and the role of instructional leadership in implementing the professional learning model. The data were coded, analysed, and organized by categories and subcategories guided by the conceptual framework (Figure 2.1) and the research questions.

My first research question asked, what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? Based on the analysis of the data, three findings emerged: when instructional leaders established a clear vision teachers felt supported in their work; instructional leader involvement in the professional learning model was a demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning;

and the encouragement of teacher professional learning based on relational trust was a demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. My second research question asked, how does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning? Based on the analysis of the data, three findings emerged: the learning model designed to support a discipline-based inquiry approach to teaching and learning facilitated teacher collaboration; the learning model designed to support a discipline-based inquiry approach to teaching and learning built teacher capacity; and the learning model designed to support a discipline-based inquiry approach to teaching and learning accentuated teacher use of educational research and evidence to inform practice.

Chapter four presented the findings of this case study by organizing data from various sources into categories to construct a decipherable narrative. The purpose of this chapter is to provide interpretative insights into these findings. Whereas the last chapter separated out the data to tell the "story of the research" (Bloomberg & Volpe, 2008, p. 139), this chapter is an attempt to reconstruct, analyze, synthesize and build a more holistic understanding of the case study. This chapter concludes by discerning the analysis, with a re-examination of the possibility of researcher bias in interpreting the findings.

Analysis, Interpretation and Synthesis

What follows is an analysis, interpretation, and synthesis of the findings. This section is grounded in this study's research questions. In analysis, the researcher seeks out connecting patterns and themes that may emerge from the findings (Bloomberg & Volpe, 2008). As a secondary level of analysis, the relevant theory and research is brought in, as these themes are

compared and contrasted to issues raised by the literature. Throughout this process, five elements framed the analysis (Bloomberg & Volpe, 2008). First, I was seeking to understand the connections among the experiences of the research participants, including myself as an instructional leader. Second, I aspired to see the ways in which participants understood and explained these connections. Third, I sought out unexpected as well as anticipated relationships and connections. Fourth, I looked for consistency or inconsistency within the educational research literature. Finally, I explored the ways in which the data went beyond the literature. The discussion takes into consideration the educational research literature on instructional leadership and teacher professional learning. The implications of these findings are intended to augment the understanding of how the teachers transferred their professional learning to their classroom practice and the role of the instructional leader in implementing the professional learning model.

Research Question One. My first research question asked, what leadership actions are most effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning? Based on the analysis of the data, three findings emerged: establishing a clear vision; instructional leader involvement in the professional learning model; and encouragement of teacher professional learning based on relational trust.

Finding 1.1: Establishing a Clear Vision. The principals in Barber, Whelan, and Clark's (2010) research articulated setting vision and direction were one of the biggest contributors to the success of their schools. To effectively lead professional learning to enable teachers to reach their potential, instructional leaders need to build a shared vision with their staff, foster group goals, create performance expectations, and translate this vision into whole

school curriculum (Hopkins et al., 2010; Leithwood, 2012; Mulford, 2008). As Leithwood and Riehl (2003) suggested, successful leaders do not impose goals on the teachers in the school; rather they work with teachers to create a collective sense of purpose and direction to help establish the conditions to enable each other to be effective. Additionally, Timperley (2008) advocated for the use of success stories to embed high teacher expectations of students, envisioning better student outcomes, meaningful curriculum, and different pedagogical approaches. Utilizing Leithwood and Reihl's (2003) and Timplerley's (2008) definitions of vision: understanding vision through shared everyday activities, not decontextualized declarations, or obscure vision statements, I was intrigued when nine of the nine participants revealed success stories in their interviews, either as part of their professional learning or with their students' learning. Whether it was Brenda or Christine sharing what they learned from their PLC, or Nancy or Brenda outlining how specific students were achieving success now due to their involvement in the professional learning model, it seemed sharing was considered both a part of professional learning, and also a part of the culture of the school as some of the teachers' responses pointed to whole school continuity and consistency due to the utilization of a common professional learning model. For example, George, Heather, and Zoe talked about the importance of whole-school continuity. This evidence from the teachers of the sharing of success stories and activities established vision in this case study.

Additionally, nine of the nine teachers interviewed discussed how they had changed their use of the Program of Studies (curriculum) in their practice; specifically, they indicated a focus on the *big ideas* or the *general outcomes* of the programs of study rather than *covering* each *specific outcome* in the Alberta Education Program of Studies (Alberta Education, 2014a). This approach to utilizing curriculum was reflective of Singapore's *Teach Less, Learn More* approach

(Hargreaves, Boyle, & Harris, 2014) which focused on discovering what truly engages students, constructing real problems to enhance student imagination, and structuring student learning to create critical, inquiring problem solvers, rather than students learning the answer directly from the teacher. Most recently, in 2014, the Organisation for Economic Co-operation and Development (OECD) collected data suggesting 93% of teachers believed students should be allowed to think of solutions to a problem themselves before teachers show them the solution. Closer to home, these approaches align with Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document; teachers are asked to prepare Alberta's students for their future by expanding on traditional methods of teaching, being creative, and to inspire innovation in their classrooms. The goals for student learning in Alberta is to help students reach their potential as engaged thinkers and ethical citizens with an entrepreneurial spirit, endeavour for engagement and personal excellence in their learning journey, employ literacy and numeracy to build and communicate understanding, and discover, develop and apply competencies across subject and discipline areas for learning, work and life (Alberta Education, 2013). In other words, teachers need to prepare students to contribute to society and the economy. Specifically, teachers in this study reflected on how the support they had received in their own professional learning had, in turn, supported their students as learners. As George expressed, "the biggest *aha* for me has been not to rush, look at where the kids are, plan for what they need and work towards developing a really in-depth understanding of a topic instead of just a quick glossing over". His remark aligns with Alberta Education's (2014b) observations that many teachers, parents, and students in this province saw the need to re-evaluate the way curriculum was taught in Alberta, resulting in the recent focus on curriculum redesign in the province.

Related to this last comment by George, each teacher of the nine teachers who participated in this study could articulate a specific time when he or she felt supported in his or her professional learning, citing encouragement from colleagues, the learning coach or from the instructional leader, thus communicating evidence of a common school vision. Robinson et al. (2008) recommended that educational researchers needed to examine the strategies associated with the educational content of teachers' activities and their alignment with intended student outcomes. This case study provided evidence from teachers of how utilizing different pedagogical methods, incorporating more holistic curriculum content, or imagining better student outcomes supported their students as learners.

Additionally, as both the researcher and an instructional leader, I returned to the statements the teachers made in this study about parents. Seven of the nine teachers specifically mentioned *parents* in their interviews. The topic of the conversation for each teacher who cited *parents* was whether the parents understood the work they were doing with the children as a result of their involvement in the professional learning model. Some teachers offered suggestions as to why a parent would or would not support their work with students. While four of the seven teachers cited a lack of parent support, not one of these teachers indicated he or she would revert to teaching the way he or she did before working with the learning coach and the professional learning model due to perceived parental pressure. Why was this? Why, when experiencing frustration with a major stakeholder, would these teachers persevere? I believe the teachers' understanding and support of the vision was the reason they continued. For example, almost all of the teachers (eight of the nine) spoke to school continuity and consistency or a common curriculum focus in their interviews. These teachers knew they were not alone in their practice. They recognized the school's educators utilized a wide range of strategies to involve

our parents in their children's learning, including meetings with a focus on a particular area of the curriculum, as evidenced in the school's "Family Literacy Night" (L. Cooper, PLC minutes, February 22, 2013). These types of evenings were designed to make student learning the primary focus of the event while providing parents with explicit information and training, supplying materials for use at home, and helping families access resources, aligning home-school practices so parents' actions supported school learning (Robinson, 2011). Brenda, in her interview, reinforced this notion, suggesting the teachers stay the course and continue to provide many opportunities to educate the parents because they had seen the impacts and results with their students. As she articulated:

> I think you just keep chipping away and that it will come as just it takes longer I think for parents who have come up through a different system and what they seem to sort of value. And it's hard I think to change that it's not what you can memorize, but what you can communicate and talk about. And I think what the celebration of learning has done though is from the feedback of some of the parents who talked to us, it's like they're blown way with what the kids can do and what the kids know and how they can talk about things. And so maybe it's just a question of having more of that at reporting times or part of November conferences or something like that, what can the student talk about, what they know.

Finally, the biggest testament to the support of the vision of the professional learning model may be from those teachers who spoke to what they value as parents for their own children. For example, both Jodi and Lisa expressed they want their own children to encounter education in the same way as their students were experiencing in their classrooms. As Jodi said:

So as a parent and a teacher, I'll always be that teacher to my son. And then because I have my beliefs and because I can give support at home, 'guess what Matthew, we're going to go do it our way'. I'm not going to change if he has homework on worksheets, but I will tell him, 'let's go try this experiment this way'.

I have been to my own children's school, and I have seen some inquiry projects and I find that I didn't feel they were rigorous enough and I didn't feel that they had strong enough criteria, but I see it coming. I see it emerging in their learning. And I absolutely feel extremely strongly that my children are given the opportunity to learn this way because I do think it is integral to developing their critical thinking skills. Because if our students or children of this generation get nothing else, they need to learn how to think because they are being bombarded with information that they need to sift through, and being asked to place value on information. (Lisa)

Finding 1.2: Instructional Leader Involvement in the Professional Learning Model. In her analysis of high performing schools, Wahlstrom (2012) remarked that high scoring principals were actively engaged in providing direct instructional support to teachers and have a perceptive cognizance of teaching and learning in their schools, having frequent and direct involvement with their teachers. Similar to Robinson (2011), Sheppard (1996) learned promoting teachers' professional learning was the most influential instructional leadership behaviour. Further, Barber et al. (2010) suggested that high performing principals focused more on instructional leadership and developing teachers and saw the biggest challenge was in improving teaching. In this case study, instructional leader involvement in the professional learning model was a

demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning.

Instructional leaders are interested in developing people in order to create the school as a professional learning environment for teachers, which, in turn, enables students to become active learners (Barber et al., 2010; Friesen & Lock, 2010; Hopkins et al., 2010; Mourshed et al., 2010; Robinson, 2011). Leaders need to understand 21st century learning and teaching so they can encourage and develop it to ensure there is a high degree of innovation in teaching practices (Hopkins, et al., 2010). This work requires the school leader to be deeply involved in the school's instructional development as the principal's role is to lead the teachers in a progression of learning to advance teaching, while learning alongside them about what is working and what is not (Fullan, 2014; Hallinger, 2003; Leithwood, 2012; Mulford, 2008).

In this case study, the school leader was fundamental to ensuring the successful use of external experts in a school. The leader was supportive of the partnership, ensured the staff were ready to be involved in risk-taking and had access to reliable technology, guaranteed time for on-going teacher professional dialogue, and communicated leadership efforts to the larger community (Jacobson et al., 2002). As an instructional leader, I participated in the learning model alongside the teachers, utilized the same research literature in the professional development sessions as used with the learning coach to streamline the professional learning work, and designed the professional learning of the teachers to be job-embedded within their existing problems of practice. Additionally, as the learning coach was not present in the school on a continuing basis, it meant it was the responsibility of the instructional leader to help teachers translate their new understandings into practice and to sustain the professional inquiry process (Timperley, 2011).

I felt it necessary to support the teachers as learners in a way that symbiotically facilitated their learning experience with the learning coach as part of their participation in the professional learning model. As Brenda observed, "I think our focus has been sort of the Galileo and we haven't tried to take on too much, that that's been a priority". Moving the pedagogical work of the school's teachers forward was complex; as such, it was necessary to reduce competing demands accordingly. In this regard, the instructional leader needed to act as a filter, ensuring other innovations taking place in the school were consistent with the new learning; professional learning could then be deepened, not compromised, as one of the largest threats to school improvement is the introduction of rival reforms that lead to division of practice (Timperley, 2008). Additionally, as an instructional leader, I not only needed to be involved in the professional learning model; teachers needed to feel I actively supported it. Brought up by the majority (eight of nine) of the teachers interviewed, it was recognized that as the leader, the depth of my support and promotion of the work of the learning coach ensured they could support the work as well.

As Timperley (2008) suggested, leaders must ensure professional learning opportunities are well managed, organized, and that appropriate conditions are in place for the prolonged commitment that in-depth professional learning requires. As outlined in this case study, there were managerial aspects to successful implementation of the learning model. As Robinson (2011) pronounced, leaders "who take a strategic approach to resourcing ensure that money, time, and people are used in ways that reflect priority goals" (p. 61). In this case study, the instructional leader needed to administer and organize many aspects of professional learning. Combined with other technical and human aspects related to instructional leadership, a complexity emerged when an outside agency was involved in the school. For example, some of

my tasks included budgeting for and allocating financial resources to pay for the services of the learning coach and substitute release time for the teachers, planning the contract days for the learning coach to be on site, organizing technology, and planning calendar events related to both the schedules of the learning coach and the needs of the school while prioritizing the timetable for the school: times for PLC meetings, team planning meetings, professional development sessions, student and parent conferences, and individual planning times. However, as Timperley, et al. (2007) argued, for successful implementation of professional learning, the leaders must create the infrastructure to support them.

Interestingly, five of the nine teachers as a part of their interviews discussed what they perceived would happen if they were in a situation where discipline-based inquiry was either not supported by the school's leaders, or if they were in a new situation without the learning coach. These observations spoke to the need for sharing the leadership in this work and how an instructional leader should provide mentorship and leadership opportunities for teachers. To sustain the improvements in practice brought about by participation in this model, leadership must be a shared undertaking and be considered the professional work of each teacher in the school (Fullan, 2014; Lambert, 2002). The principal should not lead all the professional learning; rather, ensure the instructional focus and ongoing learning is the core work of the school. This idea is supported most recently by the OECD (2014), which recommended school leaders should encourage teachers to participate in mentoring opportunities, give teachers the time to participate in these activities, lead in the learning of other educators, or participate as a protégée.

Finding 1.3: Encouragement of Teacher Professional Learning Based on Relational Trust. As Seashore Louis and Wahlstrom (2012) emphasized, research shows that "consistent,

well informed support from the principal makes a difference" (p. 30). Success is more likely when people are empowered, involved in decision making through a visible supportive structure, and are trusted, respected, encouraged, and appreciated (Brandon, 2008; Bryk & Schneider, 2003; Fenwick, 2014; Leithwood et al., 2008; Mulford, 2008). The leader's role in shaping a school's culture, establishing positive principal-teacher relations, forming trust, sharing leadership, and ensuring the quality of instruction creates the conditions in which teachers are able to perform well in their classrooms (Leithwood & Jantzi, 2012). The encouragement of teacher professional learning based on relational trust was a demonstrated effective action in supporting teachers to implement the professional learning model. Nine of the nine teachers interviewed provided evidence in his or her comments that he or she felt he or she had opportunities to engage with key ideas and integrate them into workable solutions for his or her classroom; indicating these teachers were working in a high-trust school. As Robinson (2011) suggested, schools with higher levels of trust have teachers who are more willing to innovate and take risks. Trusting relationships are characterized by reliability, honesty, benevolence, openness, and competence (Fenwick, 2014). How did this school come to be an institution of high-trust? As the leader, I tried to have, whenever possible, "open-to-learning conversations" (Robinson, 2011, p. 38). I would use my relationships with the teachers to discuss practice, and attempt to ask the right questions at the right time, knowing a healthy and trusting culture does not simply appear; it is cultivated over time (Fenwick, 2014).

Furthermore, for teachers to change their practice, they must assume a level of risk. Teachers need to trust the principal, as the instructional leader, will support their change efforts. As Hattie (2009) articulated, the role of the instructional leader in this undertaking is clear: it is to help establish challenging goals and "safe environments for teachers to critique, question, and

support other teachers to reach these goals together that have the most effect on student outcomes" (p. 83). Although the teachers were not asked in the interview to speak specifically to the concept of *risk-taking*, it was brought up by five of the nine participants in their interviews. These teachers indicated either having a feeling of freedom to make changes in their classrooms or specified a level of support from the instructional leader or the learning coach in their change practices. While I can only assume what the other four participants would say about the topic of *risk-taking* (or the other teachers in the school who chose not to participate in this study), I would extrapolate since the concept was brought up independently in the interview responses, it merits some attention, especially when five of the nine participants freely chose to discuss it. Why did more than half of the teachers in this case study feel safe to take a risk with their practice? As an instructional leader, while I held a supervisory role with these teachers, my professional conversations with them were learning conversations. Using Fullan's (2014) definition of relational trust, I attempted to create a culture that supported continuous learning. Consequently, I established conditions of "nonjudgmentalism" (Fullan, 2014, p. 75), in which I attempted to generate circumstances allowing for feedback for growth. Subsequently, I did not chastise the teachers for attempting a new practice that did not go well. I agreed with Alberta Education's (2014b) assessment that the very best teachers are risk-takers and are always trying to improve their practice by trying new approaches, working differently and taking risks, and most importantly, are not afraid to fail and learn from that failure; excellent teachers are continually reinventing their practice and aiming for something new. Further, as Cole (2012) asserted, a professional learning culture is most likely to develop when there is a high quantity of leadership support for teacher learning and risk-taking and where there is a high amount of staff interaction and co-dependence. While trust such as this does not directly affect student learning, it fostered

organizational conditions allowing teachers to take on new and uncertain innovations, which in turn, facilitated teachers' efforts to innovate in their classrooms in order to develop more effective instruction (Bryk & Schneider, 2003).

Finally, knowing that teachers who engaged in job-embedded professional learning are concurrently sustaining a teaching workload, the instructional leader must be mindful of the volume and amount of professional learning the teachers are expected to participate in. In this case, the professional learning model focused on discipline-based inquiry provided by the Galileo learning coach was the main source of professional learning in the school. Similarly, in the interest of continuity, three educational research resources were primarily used as part of the teachers' professional learning: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric,* Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). The goal, as I saw it, was to go for depth in learning, rather than breadth, and avoid teachers experiencing the feeling their professional learning was, as Brenda voiced, the "flavour of the month". This streamlining of practice also allowed teachers to feel competent in their practice as the professional learning was purposeful and concentrated (Robinson, 2011).

However, this depth provided some potential complications as competition had arisen amongst the teachers. While competition could be seen as a negative experience, Lisa presented competition as a positive unexpected result of having this purposeful, intentional professional learning. Her outlier comment, "I feel like there might almost be a competition for the coolest project at sometime, which is quite fabulous. 'Who's done the best work?'" suggested because of the scarcity of variety of professional learning opportunities in the school, competition had emerged amongst teachers in their response to the lack of breadth. And while she said this

competition was, “a little bit unexpected but at the same time I wouldn’t say it's something that is causing angst among staff or anything”, as an instructional leader, I equated her statement with Hargreaves, et al.’s (2014) notion of *uplifting leadership*. In relation to competitiveness, an uplifting leader combines the pulls of strong allegiance with powerful peer pressure. In this case, because the teachers were, “pushing themselves to outdo their previous personal best, infectious peer pressure takes hold throughout the organization and pushes everyone to support and challenge each other. The social and emotional uplift that results elevates the organization to peak performance levels” (Hargreaves, et al., 2014, p. 94). Consequently, there was competitiveness, but it was within each individual to be the best he or she could be. Because the school was highly collaborative, the teachers were open to share their best ideas, while simultaneously utilizing peer pressure to achieve more for the stake of all students.

Research Question Two. My second research question asked, how does the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impact teacher professional learning? Based on the analysis of the data, three findings emerged: the learning model facilitated teacher collaboration; the learning model built teacher capacity; and the learning model accentuated teacher use of educational research and evidence to inform practice.

Finding 2.1: The Learning Model Facilitated Teacher Collaboration. The learning model designed to support a discipline-based inquiry approach to teaching and learning and working with a learning coach, facilitated teacher collaboration. Similar to the cases examined by Timperley et al. (2007), not only was the learning coach able to introduce new perspectives, she was not constrained by existing school-based norms. Involving someone with expertise external to the immediate community was a condition connected with effectiveness and served to

deepen teachers' understanding of their pedagogy (Cole, 2012). In this case study, teachers were expected to have "open to learning conversations" (Robinson, 2011, p. 38) regularly about their practice with the learning coach. Each teacher (nine of nine) interviewed indicated the learning coach overall, had helped him or her improve practice. Robertson's (2011) research on coaching concluded that partnerships with experts provided opportunities for teacher learning and reflection on practice as the coach became the critical friend, questioner, and guide. Additionally, in their examination of the educational research, Timperley, et al. (2007) acknowledged while they were able to identify the qualities of effective professional learning experiences, they were unable to learn about the qualities of effective external professional learning providers, as the research did not usually examine it. Given the reflective feedback from the teachers in this study commenting on their work with Dianne, the learning coach, it is hoped this research can contribute to the knowledge in this area.

Robinson (2011) and Blase and Blase (1999) articulated leaders needed to participate in the learning, either in the role of leader, learner, or both, through collegial conversations about teaching and learning. School principals' leadership in the area of teacher professional learning was critical to the creation and success of a school learning community (Anderson et al., 2012; Bredeson & Johansson, 2000; OECD, 2013; Robinson, 2011). As an instructional leader, I had collaborated with a small group of interested teachers to organize professional learning opportunities for the school's teachers for the times when the learning coach was not at the school (Cooper, 2014). These opportunities occurred during designated professional learning time or during staff meetings. For example, the school's Professional Learning Communities (PLCs) were organized and re-organized to mimic the learning model work the teachers conducted with the learning coach (Stoll, et al., 2006). My goal as an instructional leader was to

enhance the collaborative community in the school by supporting the development of coaching skills and reflective conversations among the educators (Blase and Blase, 1999). As a staff, we had created a protocol (Brown Easton, 2009) to use each time we met (Appendix F). This protocol enabled a degree of focus and transparency unlikely to be achieved by "just talking" (Little & Curry, 2009, p. 30) and reflected three documents teachers used extensively in the school as part of our professional learning conversations (with the learning coach, myself, and each other): Friesen's (2009b) *Teaching Effectiveness Framework and Rubric*, Alberta Education's (2010) *Inspiring education: A dialogue with Albertans* document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). We created roles for ourselves in this protocol to use each time we met. One person took a turn presenting, bringing his or her problem of practice to the group; others acted as *worriers* for each role, ensuring questions were asked from the perspective of each role. The questions were designed to be similar to the questions asked by the learning coach when meeting with the teachers. Each teacher interviewed (nine of nine) indicated they found the PLC protocol an effective way to collaboratively solve their problems of practice with each other, suggesting the most powerful way leaders can promote Professional Learning Communities is to provide structured professional learning opportunities incorporating theoretical principles and practical applications (Anderson et al., 2012).

Furthermore, eight of the nine participants felt they could solve problems of their practice collaboratively outside of the designated professional learning opportunities (assigned time with the learning coach or PLC time), reflecting Barber and Mourshed's (2007) and Mourshed et al.'s (2010) assertions that teachers in the top systems have moved beyond the individuality traditionally associated with teaching and are participating together in authentic professional

learning opportunities, working together collaboratively with the goal of helping each other improve. As well, the opportunity to process the meaning and implications of new learning with one's colleagues appeared to be fundamental to the change process as conversations grounded in evidence and focused on learning from the evidence influences what happened in the classrooms (Earl & Timperley, 2009; Fullan, 2014; Timperley et al., 2007). Further, collaboration was a chance for teachers to learn from their peers and share the workload. It gave teachers opportunities to share best practices, build knowledge collectively, and receive advice from their colleagues (Alberta Education, 2014b).

Additionally, some teachers (five of nine) provided feedback in the interviews as to how to improve the professional learning opportunities within the school, reinforcing the notion that teacher learning processes are dynamic and that significant change in schooling depended on the creation of new knowledge for the adults making the decisions (Earl & Timperley, 2009). Further, these recommendations for improvement suggested that embedded professional learning opportunities appeared to support sustainable improvements because they built the capacity that helped the school's teachers continually progress (Stoll, 2011).

Finding 2.2: The Learning Model Built Teacher Capacity. Each teacher in the research study (nine of nine) offered a comment as part of his or her responses alluding to teacher capacity, leading me to conclude the learning model designed to support a discipline-based inquiry approach to teaching and learning built teacher capacity. As Cole (2012) expressed, when teachers are confident about their abilities to teach, they are more likely to use more effectual pedagogy, have greater enthusiasm for instructional practices, and are more committed to teaching.

The discipline-based inquiry professional learning model was structured to enable teachers to focus on how to become more effective practitioners (Cole, 2012). The learning coach came to the school and worked with the teachers as part of the context of their classrooms encouraging professional learning to be viewed as a collaborative part of the teachers' everyday work. As an instructional leader, I urged teachers to collaborate with each other and take responsibility for improving their teaching skills in conversations with each other on professional development days, while working with the learning coach, and as a structured part of their Professional Learning Communities (PLCs). The content of these conversations ranged from engaging in discussions about the learning development of specific students, exchanging teaching materials with colleagues, co-creating lesson plans, working with other teachers in the school to ensure common standards in evaluations for assessing student progress, and attending team meetings (both structured and unstructured). Therefore, it was not surprising when eight of the nine teachers interviewed verbalized they felt confident in approaching other teachers to provide feedback or request support. The confidence demonstrated by these educators reinforced Cole's (2012) conclusions that teacher trust and risk-taking was more likely to be evident when individuals felt they have the friendship and loyalty of their colleagues as well as their professional respect. Further, Alberta Education (2014b) found most teachers in Alberta (80%) said their best professional learning occurred in collaboration with colleagues. Moreover, when teachers conveyed more positive relationships with students and collaborative relationships with other educators, they also reported significantly higher levels of self-efficacy (Cole, 2012). As evidenced within the recent OECD (2013) report, by encouraging teachers to learn from one another, principals help teachers keep up-to-date professionally while building trust, encouraging co-operation and promoting a positive school climate. Further, by creating opportunities for

professional learning within the school, I hoped to promote lifelong learning and foster cooperation among teachers (Cole, 2012).

Additionally, nine of the nine teachers interviewed provided examples of how they reflected on their practice, expressed confidence in their abilities as practitioners, trusted and supported other teachers in the building, or provided examples of success and failure stories they had shared with their colleagues. The instructional leader, the learning coach, and the teachers through structured meetings, workshops and other routine opportunities for formal and informal professional discussions promoted professional learning within the school. As evidenced in numerous hallway conversations, teacher planning meetings, and professional learning conversations occurring outside of structured professional learning times led by the learning coach or myself, this reflective learning culture became embedded; it became less and less dependent on the actions of the principal and "more a function of how staff carry on their day-to-day work, and how everyone learns from each other. The end result is that the principal and the teachers, as a group, are in this together" (Fullan, 2014, p. 70). As Christine verbalized in her interview, "when you have a team that's completely embraced inquiry they're going to help you improve your own practice".

Moreover, six of the nine teachers disclosed they felt ownership for their own professional learning, either as part of opportunities provided at the school site and from the learning coach, but also beyond the walls of the school. The teachers believed in the engagement in their own learning as "self-regulated learners" (Timperley et al., 2007, p. 225) supporting the belief that teachers will adopt pedagogical change when it is intrinsically interesting and when they feel ownership in its evolution (Fullan, 2014). As Barber et al. (2010) pronounced, adults learn best through supported actions when they are inspired, when they are in charge, and when

they are at the edge of their comfort zone; being part of a learning community was not only about the pursuit of individual learning goals, it was also about furthering the learning of one's colleagues in the school. For example, Christine said in her interview she would go "into Jodi's classroom and say, 'remember when you did this? Can I borrow your rubric?' And then conversely, she's [Jodi] taken my grade three/four writing and shown it to her grade five/sixes". Hence, in a school where educators feel ownership for their professional learning, teachers considered it their professional responsibility to make their own practice public and continually learn in order to improve their own practice and that of their colleagues (Cole, 2012).

Finding 2.3: The Learning Model Accentuated Teacher Use of Educational Research and Evidence to Inform Practice. The learning model designed to support a discipline-based inquiry approach to teaching and learning accentuated teacher use of educational research and evidence to inform practice, thus reinforcing Anderson et al.'s (2012) assertion that the importance of greater data use and increased use of research in schools rests on its prospective effectiveness in improving student outcomes. Each teacher (nine of nine) in the study verbalized what was understood from his or her use of learned assessment strategies with his or her students. For example, Nancy shared in her interview the assessment data she gathered currently from her students was different than in the past. Now, she looked beyond, "who passed, who didn't, who has it, who doesn't? It's where are we? Do we have to go back a step? How many people need to go back a step? Who can keep going? Who needs it modified?" Nancy's observation reinforced the suggestion from Earl and Timperley (2009) that evidence is only as good as the "thinking that goes into the interpretation" (p. 9). Therefore, if educators are actively interpreting and using student data, as well as confronting and questioning contestable interpretations of that data, they must be knowledgeable about appraising the value and quality

of the evidence when thinking and talking about its meaning. As Hattie (2009) emphasized, teachers need to be "adaptive learning experts" (p. 246) with high levels of flexibility to ascertain, based on evidence, when students are not learning, what the next steps should be, then adapt resources and strategies to assist students in meeting worthwhile learning goals. Additionally, Hattie and Yates (2014) suggested teachers frame the evidence conversation from "assessment for learning" to "assessment for teaching" (p. 69); then teachers are more likely to adapt their instructional methods and attend carefully to their students' learning progress when considering the impact and magnitude of their practice.

As Cole (2012) articulated, teacher professional learning should connect teachers to expertise. Seven of the nine teachers interviewed spoke of how they used *experts* (Friesen, 2009b) to enhance their practice. These teachers defined *experts* in one of three ways. First, some thought of the *expert* as an outside discipline-based individual who may have information to share about the topic of study. These teachers relied on these experts to utilize feedback as a tool in which to improve teaching practice in an attempt to improve student learning (OECD, 2013). Second, some teachers saw their colleagues as professionals with expertise within their pedagogy. They found opportunities to share resources in order to provide support for their colleagues to question and investigate academic issues (Friesen, 2009b). Third, others saw the expertise of the learning coach as a support in professional learning as she had a pedagogical skill-set to share. As Friesen (2009b) suggested, and evidenced in this study, these teachers were seeking information from the experts connected to real problems in their practice.

Finally, six of the nine teacher participants specifically referenced educationally based research documents in their interviews: Friesen's (2009b) *Teaching Effectiveness Framework and Rubric,* Alberta Education's (2010) *Inspiring education: A dialogue with Albertans*

document, and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.). For example, Lisa, in her interview, shared how she used Friesen's (2009b) *Teaching Effectiveness Framework and Rubric* and the Galileo Educational Network's *Discipline-Based Rubric for Inquiry Studies* (n.d.) in her planning, "I look at those documents, I think, 'okay, so where am I on the spectrum here? In order to get myself to here, what do I need to do with my students?'" This instance reinforced Levin's (2010b) assertion that examining research findings and their consequent recommendations will not change teacher practice alone; the literature must be actively manipulated in order to inform decisions. Further, teachers and administrators need to embrace the opportunities available from educational research as it adds to the professionalism and effectiveness of teaching (Levin, 2010b). As Jodi said in her interview, "I understand the research behind it and I have the documentation, I have the research there to explain it….I have the knowledge to back up what I believe in".

However, one observation I had as a researcher was that the teachers in this study only referenced educational research literature provided to them by either the instructional leader or the learning coach. If they did not have, or were not familiar with these documents, would they feel as strongly about the literature? Am I making an authentic conclusion about the teachers' use of educational research when I am one of the individuals providing it? Or, does this matter, as these teachers could clearly articulate how they actively engineered the literature as part of their practice and this is what the research into teachers' use of educational text supports (Levin, 2010b)?

Discerning the Analysis

Presenting an analysis of the findings revealed in this study warrants some caution. First, in this inquiry, the case was a specific discipline-based inquiry professional learning model

implemented in one urban elementary school by teachers with the instructional leadership of the principal. By concentrating on a single phenomenon, I was aiming to uncover the interaction of significant factors characteristic of the phenomenon (specifically in relation to instructional leadership and teacher professional learning). I wanted to gather data understanding the professional knowledge learned from the professional learning model implemented in the school. As a result, the research sample was small, comprising interview data from nine interviews and utilizing physical artifacts and a researcher journal as supplemental evidence.

Second, this study used nonprobabilistic, or purposeful sampling. The only participants allowed to participate were school-based teachers employed on continuous contracts; who had worked with more than one principal in their teaching career; had participated in the implementation of the professional learning model for at least a year; represented a range of ages and teaching experiences, including across grade levels and in various subject areas; and not be selected who were, or may be evaluated by the researcher (temporary contract teachers and probationary contract teachers). Thus, the perceptions of teachers new to teaching or new to the professional learning model were excluded. Further, the perceptions of teachers at the school who did not participate in this study, but whom met the criteria for inclusion were not represented. Therefore, it must be stressed the implications drawn in this study are specific to the experiences of the sample group and the instructional leader within the case study.

In qualitative research, the primary research instrument is human; all observations and subsequent analysis are filtered through that human being's worldview, values, and perspectives (Merriam, 1998). The human factor together is the greatest strength and yet the ultimate weakness of qualitative inquiry and analysis (Bloomberg & Volpe, 2008). While I have argued the question of subjectivism and bias toward verification applies to all research methods, I

recognize the subjective nature of the claims I am making regarding the data. Aside from the typical potential qualitative researcher biases, I acknowledge possible additional bias in analysing the findings, as I was the principal of the school at the research site. Efforts to lessen bias included having conversations with the teachers before the interviews about the importance of accurately describing the current situation at the school. While some respondents may not have answered with honesty, creating the possibility that some data collected and thus the results obtained may be inaccurate, from Mercer's (2007) observation, teachers typically involved in research were often glad to have the chance to have a conversation about their practice, to tell their real stories; within which teachers as educational practitioners could reveal what is real for them. This was evidenced in some of the teachers' responses when they offered suggestions for improving their professional learning. As the researcher, I believe these teachers would not be forthcoming with their critique if they felt intimidated to provide their viewpoint.

It was my hope by conducting the research at my own site; I would gain insight not only into my role as an instructional leader, but also into teacher professional learning. Further, I was aware I might be predisposed to look for positive findings. To help minimize this limitation, throughout the process of data collection and analysis, I engaged in ongoing critical reflection through journaling. The challenge was combining practitioner research and observation to jointly understand the model as an insider while creating a description of the phenomenon for outsiders. Since I was the principal of the school where the study was taking place, as a researcher, I was in an excellent position to observe changes as they occurred and have conversations with teachers about their professional learning. Further, I was able to support the professional learning model within the school and assess its effectiveness. The reflections gained from the teachers in this study became rich data to contribute to both a principal's

understanding of instructional leadership, but also to the understanding of teacher professional learning.

Further, I utilized member checks (Merriam, 1998) to ensure my assumptions were sound. Once interviews were completed and transcribed, the participants had the opportunity to review their interview transcripts and, if they chose, make additions, corrections, or deletions to the record of the things they had said. Moreover, I took my tentative interpretations back to the teachers to find out if my conclusions were plausible. This final member check occurred after I was no longer a leader in the school. I had moved to a different position and was no longer their direct supervisor. Therefore, it was my assumption as a researcher, since no one provided opposition to any aspect of the findings; I felt I represented their reality with a level of trustworthiness. Conceivably, as I was not their principal, they would have had more opportunities to be forthcoming with information if they chose as I was not in a direct power position.

Finally, I remain open to the possibility that others may have shared a different story; consequently, this chapter is ultimately a presentation of how I understand, make sense, and find meaning in the material and the connections within it.

Summary

This chapter depicted the professional learning experiences of teachers while working with a learning coach to implement a learning model based on discipline-based inquiry. While the purpose of this case study was to investigate the relationship between instructional leadership and teaching practice when a specific professional learning model was implemented in an urban elementary school, the prior discussion illustrates the multifaceted and complex nature of this experience. The discussion and analysis advanced in the research findings suggested when the

instructional leader established a clear vision, was involved with teachers in the professional learning model, and encouraged teacher professional learning within an environment of trust, it was a demonstrated effective action in implementing a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. Further, in order to impact teacher professional learning, the professional learning model needed to facilitate teacher collaboration, teacher capacity, and accentuate teacher use of educational research and evidence to inform practice.

The purpose of this chapter was to provide interpretative insights into the research findings. This chapter was an attempt to reconstruct, analyze, synthesize and build a more holistic understanding of the case study. The challenge was to make sense of large amounts of data in order to see the connecting patterns and themes when compared and contrasted to issues raised by the literature. The implications of these findings were intended to augment the understanding of how the teachers transferred their professional learning to their classroom practice and the role of the instructional leader in implementing the professional learning model.

CHAPTER 6

CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this case study was to investigate the relationship between instructional leadership and teaching practice when a specific professional learning model was implemented in an urban elementary school. My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher professional learning. The conclusions from this study follow the research questions and the findings and address the actions taken by myself as an instructional leader and the impact on teacher professional learning when a professional learning inquiry-oriented model was introduced to an urban elementary school. A discussion of the major findings and conclusions drawn from the research are first presented. Next, my recommendations and final reflections conclude this dissertation.

Conclusions

This inquiry addressed a significant leadership trend of importance to my life-world as an instructional leader and researcher, to understand the problem of how instructional leaders best lead teacher learning when a professional learning inquiry-oriented model was introduced to one urban elementary school. The first major finding of this research addressed the actions taken by the instructional leader in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. The second major finding of this research addressed how the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning impacted teacher professional learning. The conclusions I now present are reflective of the findings from this inquiry and supplement the understanding of how the teachers transferred their professional

learning to their classroom practice and the role of the instructional leader in implementing the professional learning model.

Effective instructional leadership. A conclusion drawn based on the findings is that precise focused actions of the instructional leader were effective in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning. Further, based on the finding that when the instructional leader established a clear vision, teachers felt supported in their work, I have reached the conclusion that by establishing a clear vision through leading the sharing of success stories, an instructional leader, the learning coach, or teacher colleagues can support educators in their practice. The evidence from the teachers of the sharing of success stories and activities established vision in this case study. This form of whole-school vision led to whole-school continuity and consistency in praxis, as when teachers were openly committed to the vision it enabled them to persevere with innovative practices.

Additionally, based on the finding that instructional leader involvement in the professional learning model was a demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning, I conclude that when teachers know the instructional leader is similarly involved in the professional learning model, they understand and feel supported in their own professional learning. In this case study, the instructional leader's deep promotion of the work with the learning coach ensured the teachers could support the work as well. For success, instructional leader support included both human and technical aspects. The leader was supportive of the partnership with the learning coach, ensured the staff were ready to be involved in risk-taking, guaranteed time for on-going teacher professional dialogue, and communicated

teacher learning efforts within the larger school community. Moreover, the instructional leader supported the teachers as learners in a way to symbiotically match the learning they received from the learning coach as part of their participation in the professional learning model. In this regard, the instructional leader structured teacher professional learning in the school to balance the learning offered by the learning coach. Further, to sustain the improvements in practice brought about by participation in a professional learning model, leadership became a shared undertaking and was considered the professional work of each teacher in the school.

Furthermore, based on the finding that the encouragement of teacher professional learning based on relational trust was a demonstrated effective action in supporting teachers to implement a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning, I conclude that teachers need to feel trusted and have established relational trust with the instructional leader, and each other, in order to change practice. For teachers to change their practice, they must trust the instructional leader will support their change efforts. In this case study, part of building trust occurred when teachers were provided with opportunities to safely engage with new learning, as depth of learning allowed for purposeful, concentrated streamlining of practice and professional learning. Equally, the instructional leader utilized professional relationships with the teachers to openly discuss practice, and was cognizant to ask the right questions at the right time, knowing a healthy and trusting culture was cultivated over time.

Impacting teacher professional learning. A conclusion drawn based on the findings is that the use of a specific professional learning model designed to support a discipline-based inquiry approach to teaching and learning positively impacted teacher professional learning. Moreover, based on the finding that the learning model designed to support a discipline-based

inquiry approach to teaching and learning facilitated teacher collaboration, I have reached the conclusion that professional learning opportunities for teachers need to be dynamic and facilitate collaboration. Teachers in this study articulated many opportunities to improve their practice in the company of their colleagues with the goal of helping each other improve. For example, nine of the nine teachers interviewed in the study indicated involvement with a learning coach helped him or her to improve teaching practice. Further, whether it was through "open to learning conversations" (Robinson, 2011, p. 38) regularly with the learning coach, participating in the school's Professional Learning Communities (PLCs), which were organized and re-organized to incorporate both theoretical principles and practical applications and to mimic the learning model work the teachers conducted with the learning coach, or solving problems of practice with colleagues outside of designated professional learning times, these teachers demonstrated movement beyond the individuality traditionally associated with teaching and were working together collaboratively with the ambition of improving the practice of their peers.

Additionally, based on the finding that the learning model designed to support a discipline-based inquiry approach to teaching and learning built teacher capacity, I conclude when teachers work in an environment characterised by high trust, they are more willing to take risks with their practice. In this case study, teachers expressed confidence in their practice, engaged in the suggestions of the learning coach to employ more effectual pedagogy, and demonstrated enthusiasm for their instructional praxis. Teachers interviewed in this study revealed feeling ownership for their professional learning and for the learning of their colleagues, suggesting that trust and risk-taking is evident when educators feel they have the allegiance and professional respect of their colleagues.

Finally, based on the finding that the learning model designed to support a discipline-based inquiry approach to teaching and learning accentuated teacher use of educational research and evidence to inform practice, I have reached the conclusion that teacher professional learning should connect teachers with educational research, expertise, and evidence to inform practice. Both the learning coach and myself utilized a focus on educational research and articulated how evidence from the classroom could guide teacher practice. As a result, each teacher in the study (nine of nine) pronounced what was understood from his or her use of learned assessment strategies with his or her students, six of the nine teachers specifically referenced educationally based research documents in their interviews, and seven of the nine teachers interviewed spoke of how they used *experts* (Friesen, 2009b) to enhance their practice. Overall, the professionalism and efficacy of these teachers was enhanced by the use of expertise, assessment data, and educationally based research documents.

Recommendations

I offer recommendations based on the findings, analysis, and conclusions of this study. My recommendations are first for instructional leaders; and then are for future researchers.

My rationale for examining this topic was to better understand the concept of instructional leadership and its impact on teacher professional learning. As an instructional leader, I recommend the following to other instructional leaders:

1. Based on the conclusion that by establishing a clear vision through the leading of sharing of success stories, I recommend principals, as instructional leaders, should co-create whole-school vision with their teachers, utilizing teachers' success stories as a way to articulate this vision. Further, whole-school vision leads to whole-school continuity and consistency in

practice. Additionally, instructional leaders should understand teachers will preserve with innovative practices when they value the vision of the school.

2. Founded on the conclusion that when teachers know the instructional leader is similarly involved in the professional learning model, they understand and feel supported in their own professional learning, I recommend the principal, as an instructional leader, should actively support teacher professional learning (both the technical and human aspects), which indicates to teachers they may continue their professional learning as well. Moreover, instructional leaders ought to provide teachers with opportunities for streamlined depth in their professional learning. The instructional leader should support the teachers as learners in a way to symbiotically match the learning they receive from the learning coach as part of their participation in the professional learning model. Further, in order to sustain improvements in practice brought about by participation in a professional learning model, leadership should be shared and considered the pedagogical work of everyone in the school.

3. Based on the conclusion that teachers need to feel trusted and have established relational trust with the instructional leader and each other in order to change practice and the conclusion that when teachers work in an environment characterised by high trust, they are more willing to take risks with their practice, I recommend instructional leaders should endeavour to create a learning culture characterized by high trust, which allows teachers to take risks in their practice and build confidence and ownership in their abilities for their professional learning and the learning of their colleagues. Trust and risk-taking is evident when teachers feel they have the allegiance and professional respect of their colleagues and the support of an instructional leader who promotes their change efforts. As evidenced in this inquiry, when teachers are confident about their abilities to teach, they are more likely to engage in the suggestions of the learning

coach, feel ownership for their professional learning and for the learning of their colleagues and participate openly in conversations with the principal to discuss practice.

4. Established in the conclusion that professional learning opportunities for teachers need to be dynamic and facilitate collaboration, I recommend instructional leaders should provide dynamic opportunities for teachers to collaboratively participate in professional learning with the goal of helping each other improve practice. These opportunities could be from a relationship with a learning coach, in well-structured Professional Learning Communities (PLCs), or with colleagues within the school. Teachers in this study verbalized many opportunities to improve their practice in the company of their colleagues with the goal of helping each other improve and were working together collaboratively with the ambition of improving the practice of their peers; demonstrating a shift beyond the individuality traditionally associated with teaching. As such, instructional leaders should encourage these professional improvement opportunities, maintaining the objective of improved practice.

5. Finally, founded in the conclusion that teacher professional learning should connect teachers with educational research, expertise, and evidence to inform practice, I recommend instructional leaders should facilitate the use of educational research, expertise, and evidence to inform practice in order to add to the professionalism and effectiveness of teaching. In this inquiry, each teacher in the study (nine of nine) pronounced what was understood from his or her use of learned assessment strategies with his or her students, six of the nine teachers specifically referenced educationally based research documents in their interviews, and seven of the nine teachers interviewed spoke of how they used *experts* (Friesen, 2009b) to enhance their practice. Overall, the use of expertise, assessment data, or educationally based research documents adds to

the professionalism and efficacy of teaching and should be emphasized by the instructional leader.

As the researcher, I recommend additional studies be conducted to further contribute to the educational knowledge and to gain a more comprehensive understanding of the relationship between instructional leadership and teaching practice when a specific professional learning model is implemented in a school. In light of this, the following should be considered:

1. Based on the limitations of the current study and to correct for researcher bias, research should be conducted to assess the extent to which the same or similar findings would be uncovered in another school involved in a similar professional learning model.

2. I am no longer an instructional leader at this school. Therefore, a similar study using the same criteria should be undertaken at the same site to compare and contrast the experiences of the teachers engaged in the specific professional learning model as they work with a different instructional leader. This research could uncover similarities and/or differences in perspectives and gain a more comprehensive understanding of the relationship between instructional leadership and teaching practice when a specific professional learning model is implemented in a school.

3. In this inquiry, the sampling strategy utilized nonprobabilistic, or purposeful sampling. The only participants allowed to participate were school-based teachers employed on continuous contracts; who had worked with more than one principal in their teaching career; had participated in the implementation of the professional learning model for at least a year; represented a range of ages and teaching experiences, including across grade levels and in various subject areas; and not be selected who were, or may be evaluated by the researcher (temporary contract teachers and probationary contract teachers). Thus, the perceptions of teachers new to teaching or new to

the professional learning model were excluded. A comparison and analysis of research should be started to assess the experiences of teachers new to the profession or new to the professional learning model. This research should be undertaken to uncover similarities and/or differences in perspectives and gain a more comprehensive understanding of the relationship between instructional leadership and teaching practice when a specific professional learning model is implemented in a school.

4. Finally, while this inquiry's rationale was to better understand instructional leadership and its impact on teacher professional learning, the perceptions of students were purposefully excluded. The insights of, and impact on students who participate as learners in the professional learning model should be examined in future research. This investigation should be undertaken to gain a more comprehensive understanding of the relationship between instructional leadership, teaching practice, and student learning when a specific professional learning model is implemented in a school.

Researcher Reflections

Ideally, I had always hoped conclusions from this study could be relevant for leaders in schools interested in developing effective teaching practices when a professional learning inquiry-oriented model was introduced to an urban elementary school. Additionally, as an instructional leader, I was always looking for educational research to provide an outline of what I should do in the areas of structure, processes and supportive conditions for teacher professional learning. As the researcher in this study, I suggest the knowledge generated from this inquiry affords new insights and so informs both instructional leadership and teaching practices in schools. This research confirmed what exists in the academic literature, further defined and expanded the conditions for instructional leadership and teaching professional learning, and

suggested new understandings of the criteria for instructional leadership and teacher professional learning, thus adding to the research. This inquiry contributed to the understanding of instructional leadership and teacher professional learning, and has practical applications to instructional leaders and teachers in schools.

Furthermore, there was a gap in the research literature this study addressed; there was a pressing need to investigate not only insider research by teachers in general, but especially insider research by academic leaders occupying positions within the power hierarchies of their places of work (Mercer, 2007). My intention, as an instructional leader at the site where the research took place was to help close this particular aspect of the participatory research gap.

Finally, it is my sincere hope this inquiry provides a starting point for dialogue with diverse audiences about the future of instructional leadership and teacher professional learning. As a scholar, I am grateful for all I have learned; as an instructional leader, my practice is enhanced by the insight and feedback of the research participants who so willingly gave of their time to share their professional learning experiences with me.

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APPENDIX A

Information Letter

February 1, 2014

Xxxx
Xxxx
Xxxx
Xxxx
Xxxx

Re: Leading Teacher Professional Learning: A Case Study

Dear Mx. xxxx:

I am writing to you today to request your participation in a university research project on the topic of Instructional Leadership and Teacher Professional Learning. I am conducting this project as part of the dissertation requirements for completion of an EdD Degree in the Department of Graduate Studies, Faculty of Education at the University of Calgary. The purpose of this case study is to investigate the relationship between instructional leadership and teacher practice when a specific professional learning model is implemented in an urban elementary school. My rational for examining this topic is to better understand the concept of instructional leadership and its impact on teacher learning.

Specifically, I would like to have the opportunity to engage you in an individual interview with me. There will be one interview, with a possibility for some follow-up beyond that. I will be taking notes and using a digital audio recorder to capture the interview. We would meet for approximately 45 minutes to one hour to discuss how your involvement with the Galileo Educational Network has impacted your professional learning. If you are interested in participating, I will send more detailed information about the project and, then, we can also set up an interview time and location that will be convenient for you.

You are under no obligation to participate and, if you do consent to participate, you may without consequence, decide not to continue your involvement or to refuse to answer any question. If you decide to withdraw your participation after the interview, any data collected from you will be withdrawn from the study. Additionally, once interviews have been completed and transcribed, you will have the opportunity to review the interview transcripts and, if you choose,

make additions, corrections, or deletions to the record of the things you have said. If you decide to withdraw your participation after the interview, any data collected will be withdrawn from the study. Once interviews have been completed and transcribed, you will have the opportunity to review your interview transcript and, if you choose, make additions, corrections, or deletions to the record of the things you have said. You will then have the right to withdraw no later than the beginning of the analysis of the data collection. Further, at any point, you are free to ask any questions about the research and your involvement with it. Most importantly, at no time will you be judged or evaluated, and will at no time be at risk of harm.

Additionally, the data gathered in the study will be kept in strict confidence, and will be stored at a secure location, to which only I will have access. I will retain the interview notes and digital audio recordings locked in a secure cabinet until the time of my convocation after which time they will be destroyed in a manner that safeguards privacy and confidentiality. A final copy of the dissertation can be made available to you if requested.

This study aims to understand the meaning-making activities of teachers involved in a specific professional learning model. The methodology employed by the researcher will be a case study. However, anonymity of individual is difficult to assure when its members later read a case study of a group. Therefore, as part of informed consent, participants need to know anonymity cannot be guaranteed.

The study will be subject to approval through the Research and Innovation Department of the school district and the Conjoint Faculties Research Ethics Board of the University of Calgary. As such, I do not see any harm or predictable risks for participants in this research. Please feel free to contact me at 403-276-xxxx or email me at lmcooper@cbe.ab.ca if you have any questions. You may also contact my research supervisor, Dr. Jim Brandon, at 403-220-xxxx. Please complete the attached consent form to indicate your decision and return the form to me.

Thank you for considering this request. I am very excited about the possibility of learning more about your perspectives. Thank you in advance for your interest, and I look forward to hearing from you soon.

Sincerely,

Lori Cooper, EdD Candidate

APPENDIX B

Consent Form

Name of Researcher, Faculty, Department, Telephone & Email:
Lori Cooper, Faculty of Graduate Studies, Education, 403-276-xxxx, lmcooper@cbe.ab.ca

Supervisor: Dr. Jim Brandon

Title of Project: Leading Teacher Professional Learning: A Case Study

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This consent form, a copy of which has been given to you, is only part of the process of informed consent. If you want more details about something mentioned here, or information not included here, you should feel free to ask. Please take the time to read this carefully and to understand any accompanying information.

The University of Calgary Conjoint Faculties Research Ethics Board has approved this research study.

Purpose of the Study

The purpose of this case study is to investigate the relationship between leading teacher professional learning and teacher practice when a specific professional learning model is implemented in an urban elementary school. The researcher, Lori Cooper, is specifically interested in discussing how your involvement with the Galileo Educational Network has impacted your professional learning.

What Will I Be Asked To Do?

The researcher would like to have the opportunity to engage you in an individual interview. There will be one interview, with a possibility for some follow-up beyond that. Participation in the follow-up is completely voluntary.

The researcher, Lori Cooper, will be taking notes and using a digital audio recorder to capture the interview. We would meet for approximately 45 minutes to one hour to discuss how your involvement with the Galileo Educational Network has impacted your professional learning.

Only the investigator, Lori Cooper, and a professional transcriber will have access to the

interview notes and the recordings. The information provided will be kept anonymous. Participants will be provided a copy of the interview transcripts and interpretations to check them for accuracy and edits and to provide feedback.

You are under no obligation to participate and, if you do consent to participate, you may without consequence, decide not to continue your involvement or to refuse to answer any questions. Your identity as a consenting participant will not be revealed to Lori until all of the interviews have been completed; in other words, anyone at the school who is interested in answering these questions may do so. If you decide to withdraw your participation after the interview, any data collected from you will be withdrawn from the study. Additionally, once interviews are completed and transcribed, you will have the opportunity to review the interview transcripts and, if you choose, make additions, corrections, or deletions to the record of the things you have said. You will then have the right to withdraw no later than the beginning of the analysis of the data collection. Further, at any point, you are free to ask any questions about the research and your involvement with it. Most importantly, at no time will you be judged or evaluated, and will at no time be at risk of harm.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to provide your gender, age, primary teaching assignment, your educational background, the number of years you have been employed at your current school, the number of years you have been teaching, and the number of years you have been involved with the Galileo Educational Network. A complete list of the questions that will be asked in the interviews is provided at the end of this consent form.

The data, once collected will be transcribed. Other than the researcher, a professional transcriber will have access to the recordings. He or she will be required to complete a confidentiality agreement before transcription may begin. The recordings will never be shown in public. Lori Cooper will be editing the transcripts for speech ticks, grammar, repeated words, etc. for the only purpose of smooth reading (not for content).

There are several options for you to consider if you decide to take part in this research. You can choose all, some, or none of them. Please review each of these options and choose Yes or No:

I wish to remain anonymous: Yes: ___ No: ___

I wish to remain anonymous, but you may refer to me by a pseudonym: Yes: ___ No: ___

The pseudonym I choose for myself is: _____

Are there Risks or Benefits if I Participate?

There is no anticipated harm or predictable risks associated with participating in this research project. This study is not considered 'high-risk'.

What Happens to the Information I Provide?

Only the investigator, Lori Cooper and a professional transcriber will have access to the

interview notes and the recordings. The information provided will be kept anonymous. Participants will be provided a copy of the interview transcripts and interpretations to check them for accuracy and edits and to provide feedback.

You are under no obligation to participate and, if you do consent to participate, you may, and without consequence, decide not to continue your involvement or to refuse to answer any question. If you decide to withdraw your participation after the interview, any data collected from you will be withdrawn from the study. Additionally, once interviews have been completed and transcribed, you will have the opportunity to review the interview transcripts and, if you choose, make additions, corrections, or deletions to the record of the things you have said. You will have the right to withdraw no later than the beginning of the analysis of the data collection. Further, at any point, you are free to ask any questions about the research and your involvement with it.

This study aims to understand the meaning-making activities of teachers involved in a specific professional learning model. The methodology employed by the researcher will be a case study. Anonymity of individual is difficult to assure when its members later read a case study of a group. Therefore, as part of informed consent, as a potential participant, you need to know anonymity cannot be guaranteed.

The data gathered in the study will be kept in strict confidence, and will be stored at a secure location, to which only Lori Cooper will have access. Further, she will retain the interview notes and digital audio recordings locked in a secure cabinet until the time of her convocation after which time they will be destroyed in a manner that safeguards privacy and confidentiality. A final copy of the dissertation can be made available to you if requested.

Signatures

Your signature on this form indicates that 1) you understand to your satisfaction the information provided to you about your participation in this research project, and 2) you agree to participate in the research project.

In no way does this waive your legal rights nor release the investigators, sponsors, or involved institutions from their legal and professional responsibilities. You are free to withdraw from this research project no later than the beginning of the analysis of the data collection. You should feel free to ask for clarification or new information throughout your participation.

Participant's Name: (please print) _____

Participant's Signature: _____ Date: _____

Researcher's Name: (please print) _____

Researcher's Signature: _____ Date: _____

Questions/Concerns

If you have any further questions or want clarification regarding this research and/or your participation, please contact:

Dr. Jim Brandon (Supervisor)
403-220-xxxx jbrandon@ucalgary.ca
or
Mrs. Lori Cooper
403-276-xxxx lmcooper@cbe.ab.ca

If you have any concerns about the way you've been treated as a participant, please contact an Ethics Resource Officer, Research Services Office, University of Calgary at (403) 210-9863; cfreb@ucalgary.ca

A copy of this consent form has been given to you to keep for your records and reference. The investigator has kept a copy of the consent form.

APPENDIX C

Research Questions

Leading Teacher Professional Learning: A Case Study

Teacher Interview Questions – April/May, 2014

Participant: _____

Date: _____ Start time: _____ End time: _____

Interview Procedure

The following open-ended questions have been designed to guide our scheduled one-hour conversation. The interview will be audio-recorded. You may ask for the recording to be stopped at any time or replayed for clarification and to ensure accuracy. I will also be taking notes during the interview; you may have a copy of these notes at the conclusion of the interview if you wish.

General Opening Questions

1. Age of Participant
2. Primary Teaching Assignment
3. Educational Background of Participant
4. Number of Years at School
5. Number of Years Teaching
6. Number of Years Involved in Galileo Educational Network Learning Model

Formal Interview Questions

1. In what ways has your participation with the Galileo Educational Network impacted your practice?

2. Can you provide specific examples of how participation in the Galileo Educational Network has enhanced your own professional learning?

3. Has your use of assessment data learned from your students changed in any way as part of your involvement with the Galileo Educational Network? If so, can you provide any examples?

4. Do you feel you have opportunities to solve problems of practice in your PLC? If so, can you provide any examples?

5. In what ways do you feel supported in relation to improving your professional learning? Can you provide any examples or instances?

6. Do you feel you have enough time or resources to learn, adapt, and implement suggestions gained in the Galileo professional learning sessions? Please support your answer with any examples.

Optional Concluding Question

1. Are there any additional comments about your participation with the Galileo Educational Network you would like to share?

APPENDIX D

Interview Protocol

Interview Protocol - Leading Teacher Professional Learning: A Case Study Participant: _____ Date: _____ Start time: _____ End time: _____		
	Answers	Notes
Age of Participant:		
Primary Teaching Assignment:		
Educational Background of Interviewee:		
Number of Years at School:		
Number or Years Teaching:		
Number of Years Involved in Galileo Educational Network Learning Model:		
Describe the project: The purpose of this case study is to investigate the		

relationship between leading professional learning and teacher practice when a specific professional learning model is implemented in an urban elementary school. Only teachers from the school will be interviewed. Other sources of data being collected may include lesson plans or documents from meetings and professional learning days. Remind teachers they are under no obligation to participate and, if they do consent to participate, they may, without consequences, decide not to continue their involvement or to refuse to answer any question. I will inform them, that if they decide to withdraw their participation after the interview, any data collected will be withdrawn from the study. Additionally, I will inform them, that once interviews have been completed and transcribed, they will have the opportunity to review their interview transcripts and, if they choose, make additions, corrections, or deletions to the record of the things they have said. The participant will be reminded that their identity will not be revealed to me until all the interviews have been completed. The participant will then have the right to withdraw no later than the beginning of the analysis of the data collection. Further, I will inform the participant that at any point, he/she is free to ask any questions about the research and his/her involvement with it. Most importantly, at no time will they be judged or evaluated, and will at no time be at risk of harm. Additionally, the data gathered in the study will be kept in strict confidence, and will be stored at a secure location, to which only I will have access. Inform them that the data, once collected will be transcribed; however, I will be editing the transcripts for speech ticks, grammar, repeated words, etc. for the only purpose of smooth reading (not for content).

This interview should take approximately 45 minutes to one hour.

[Turn on the recorder and test it]

Questions	*Answers*	*Notes*
In what ways has your participation with the Galileo Educational		

Network impacted your practice?		
Can you provide specific examples of how participation in the Galileo Educational Network has enhanced your own professional learning?		
Has your use of student assessment data changed in any way as part of your involvement with the Galileo Educational Network? If so, can you provide any examples?		
Do you feel you have opportunities to solve problems of practice in your PLC? If so, can you provide any examples?		

In what ways do you feel supported in relation to improving your professional learning? Can you provide any examples or instances?		
Do you feel you have enough time or resources to learn, adapt, and implement suggestions gained in the Galileo professional learning sessions? Please support your answer with any examples.		
Are there any additional comments about your participation with the Galileo Educational Network you would like to share?		
Thank the individuals for their cooperation and participation in this interview.		

Assure them of the confidentiality of their responses. Ask them if they have any questions. Remind interviewees they may contact me or my supervisor at anytime after the interview by email to send follow-up information or ask further questions.

Adapted from Creswell (2012)

APPENDIX E

Sample from Researcher's Journal

May 12, 2014

Today I interviewed Zoe. I know her quite well and have had these conversations with her before. It felt almost awkward to talk to her, as it felt a bit forced (maybe more *formalized* is the better word)?

But – there is a comfort there too. I know she is being honest with me and will tell me what she's thinking, not just what I want to hear.

It was an interesting how she took the positives of working with Galileo and explained how it has expanded her world (professional learning-wise and leadership-wise) – but she was not the first to mention it – it has been alluded to before by some of the other teachers. She mentioned the role of the supportive leader.

I wonder – would this work continue here without Dianne? Maybe?

I wonder – would this work continue here without me? Maybe?

I wonder – would this work continue if teachers went to another school? Unknown. I wonder if it depends on their intestinal fortitude…?

I hope my participation in the learning model is a form of role modeling. I hope the teachers see me as a learner too – if I am involved as a learner, they see this and will be encouraged to participate as well. I'm showing I support it.

APPENDIX F

PLC Protocol Roles and Role Descriptions

Presenter	Facilitator	Assessment	Student Engagement	Connecting with Expertise	Technology	Note-Taker
- *brings planning ideas to the group (at various stages)* - *brings 'burning' questions* - *brings problems of practice* - *brings relevant curriculum* - *hosts the meeting in his/her classroom*	- *keeps the conversation going (starts meeting, keeps eye on time)* - *ensures each participant has an opportunity to be involved* - *brings in the key resource documents when necessary (TEF, Inquiry Rubric, Framework for Student Learning)* - *establishes roles for next meeting* - Possible Questions: Why is this important (so what/who cares)? What do you want to improve? What do you hope to see at the end?	- *concerned with assessment aspects of the planning & implementation* - Possible Questions: How will you incorporate on-going assessment? Peer Assessment? Self-evaluation? Are the assessment criteria collaboratively designed? Have you used a wide-range of assessments to inform your instructional decisions? How will students take this work and establish learning goals & next steps? How do we incorporate teachers, peers, adults from outside the classroom in the assessment of the work? What will be your assessment artifact?	- *ensures the inquiry study leads students to build deep knowledge that leads to deep understanding* - Possible Questions: Does this inquiry originate with an issue, problem, question, or exploration that provides opportunities to create or contribute to knowledge? Does this work ask students to engage in collaboration with each other and with the discipline? Is this a 'real' problem (one that is central to the discipline?) Are students asked to engage in thinking requiring strong habits of mind, innovation & creativity? Is this inquiry "hard fun"?	- *connects the inquiry to the larger community* - Possible Questions: Will this inquiry ask students to think, act, and engage with ideas and core concepts as a historian, chemist, biologist, writer, journalist, etc. would? How does this inquiry require students to address relevant outcomes, but still be grounded in life & work beyond the school? Whom should we talk to about further external expertise in this area?	- *reflects on using technology appropriately in the inquiry study* - Possible Questions: What technologies do you think are most appropriate to the task? How do we ensure ongoing, online access to the study as it develops? Where should you go for expertise in this area? How will students use technology to demonstrate learning (artifacts, etc.)? What is a good timeline for technology use (start of inquiry, middle, end)?	- *ensures the conversation is captured (for both the presenter and the group)* - *posts the minutes on the school's lite-site in the PLC folder*