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An Explanatory Sequential Mixed Methods Study of Pedagogical Leadership: High School Principals' Influence on Innovative Pedagogical Practice

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An Explanatory Sequential Mixed Methods Study of Pedagogical Leadership: High School
Principals' Influence on Innovative Pedagogical Practice

by

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A THESIS

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Abstract

The primary purpose of this explanatory sequential mixed methods study was to understand how high school principals enact a conceptual model of pedagogical leadership as they develop, support, and sustain a community of adult learners focused on innovative pedagogical practice. Multiple cases were drawn from three urban public high schools that were identified based on the significant work they have demonstrated in the development and implementation of innovative pedagogical practice. The first, quantitative phase, focused on the degree to which high school principals shaped their pedagogical leadership practices within elements of instructional and transformational leadership, and five leadership dimensions of effective leadership. Descriptive and inferential analysis revealed an integrated approach of instructional and transformational leadership in the enactment of pedagogical leadership. The analysis also indicated higher levels of transformational leadership within each of the leadership dimensions. In the second, qualitative phase, data analysis identified 10 leadership practices within three leadership dimensions, (a) shared vision and goals, (b) quality teaching, and (c) teacher learning and found that these practices interacted reciprocally between instructional and transformational leadership. The results of the quantitative and qualitative data analysis phases were then integrated in order to illuminate key principal leadership practices associated with pedagogical leadership. Based on the integrated analysis, principals, assistant principals, learning leaders and teachers, within the study, agreed that principals influence pedagogical practices through a set of key leadership practices. The study acknowledges the complexity of the practice of pedagogical leadership. There are degrees of practice that both contextual and personal variables can influence, and these in turn impact the ability of principals to integrate these leadership practices within instructional and transformational leadership. This study adds to a growing body of

research that suggests principals, who are focused on influencing teaching, extract different elements of instructional and transformational leadership and adjust their leadership practices in response to the school's context. These insights also contributed to the revision of a model of pedagogical leadership conceptualized within the study. With a focus on the central core task of schooling, teaching, and learning this conceptual model provides a responsive leadership framework in a time where high schools need to be adaptive to the fast pace of the knowledge driven world.

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Dedication

This dissertation is dedicated to my loving and patient partner, Dianne Dodsworth, for her unconditional support and care throughout this process; to our children, Adrienne, David, Kimberly, Kristina and Samantha who make my life so full; to our grandchildren, Layton, Mya, Riley and Ronan who were the motivation for me to complete this study; to my parents, Ev and Owen Turner, for instilling within me, from a young age, the importance of education. I also would like to thank my extended family, friends, and colleagues. I could not have done this work without your support. Finally, to Charlie, who was my constant four-legged companion as he slept beside my desk.

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Chapter 1

Introduction

High school principals are being challenged to lead in different ways given government initiatives for high school redesign, sometimes referred to as reinventing (Alberta Education, 2017a; S.2718, 2017; Organization for Economic Co-operation and Development (OECD), 2017). A key challenge, within the complexity of the principal's work, centers on how to actively support teachers in examining, engaging, and exploring innovative pedagogies. Framed within Alberta Education's initiative on high school redesign, this study responded to the limited research and the real concern of effective leadership on influencing quality teaching within high schools. The study examined an emerging conceptual model of pedagogical leadership based on two commonly researched education leadership models, that of instructional leadership and transformational leadership (Bush, 2014; Day, Gu, & Sammons. 2016). The central tenet was to identify leadership practices, found within both leadership models, that are directly connected to the principal supporting and sustaining a focus on continual improvement of teaching in high schools. The interplay between both leadership models was initially connected through five dimensions of effective leadership based on Robinson, Lloyd, and Rowe's (2008) meta-analysis on different types of leadership connected to student outcomes.

The study goes beyond the description, as found in the literature, of the characteristics of an effective high school principal who leads successful change. The primary purpose of this study was to provide insight into the relationship between instructional and transformational leadership practices of principals in high performing Alberta high schools as they develop, support and sustain a community of adult learners focused on innovative pedagogical practice. This insight contributed to a conceptual model focused on pedagogical leadership. The second

purpose of this study was to examine ways in which the principals enact these pedagogical leadership dimensions.

This chapter begins with a summary of the background and context that framed this study. This chapter includes (a) the context of the study, (b) the statement of problem, (c) the purpose of the study, (d) the research questions, (e) the research methodology, and (f) the rationale and significance of the study. The chapter concludes with the researcher's positionality within the study and corresponding assumptions.

Context of the Study

In examining Alberta Education's approach to high school redesign, there are two key components at play that challenge the notion of teaching; high school completion rates and 21st century skills. First, completion rates are seen as a measure of student achievement and provide a key indicator of a school systems' success (OECD, 2017). In 2001, Alberta Learning released a report titled *Removing Barriers to High School Completion: Final Report* which began discussions throughout the province at the school, school jurisdiction and provincial levels that focused on high school completion rates. At the time, the percentage of Alberta students who completed high school within the four years of entering grade nine was 61% (p. 7). As part of the discussion in Alberta, the Alberta Government's Commission on Learning Report: *Every Child Learns, Every Child Succeeds* (2003) made a number of recommendations to the government including "develop and implement a comprehensive province-wide strategy with the goal of ensuring that 90% of students complete grade 12 within four years of starting high school" (p. 7). Since 2003, Alberta Education has developed pilot projects and initiatives, and produced several reports focusing on high school completion rates (Alberta Education, 2005, 2009, 2010, 2012, 2017a, 2017b, 2017c; Alberta Initiative for School Improvement & University of Lethbridge,

2008; Fijal, 2010, 2013). The intent of this work was to assist Alberta School Jurisdictions in successfully increasing their high school completion rates (Alberta Education, 2017c). These discussions were followed in 2013 with Alberta Education advancing an initiative, *Moving Forward with High School Redesign*, with a focus on shifting mindsets around practices “that ensure that flexible learning environments are used to support increased student engagement in learning, improve student achievement and enhanced teacher practice” (Alberta Education, 2017a).

Second, and underlying the previously mentioned initiative, was Alberta Education’s *Framework for Student Learning* (2011) and the *Ministerial Order on Student Learning* (2013) each focused on defining 21st century learning. “The fundamental goal of education in Alberta is to inspire all students to achieve success and fulfillment and reach their full potential by developing the competencies of Engaged Thinkers and Ethical Citizens with an Entrepreneurial Spirit, who contribute to a strong and prosperous economy and society” (Alberta Education, 2013, p. 1). “We are looking ahead to the future and working to ensure that provincial curriculum continues to give all students the best possible start in life and meet the demands of living in the 21st century” (Alberta Education, 2017d). The government’s agenda was clearly focused on students being able to be successful at a world-class level by addressing 21st century skills. Along with high school completion, the government began an interchange of ideas around how school systems and high schools can instill the new competencies in students.

The challenge that both high school completion and 21st century skills initiatives presented to school organizations was that of the broadening perspectives of how we do high school, both conceptually and in detail. This broadening was not only curriculum and organizational based, but addressed pedagogical practices, including assessment. In defining 21st

century learning, there was an agreement, from an international perspective, that learners need to develop competencies such as thinking critically and innovatively, the ability to communicate effectively, working with multiple perspectives, and the ability to problem solve through negotiation and collaboration, to name a few (Alberta Education, 2010; OECD, 2013). The focus on learners developing 21st century competencies called for a transformation of the learning environment in high schools. The standard learning model for high schools was established in the early part of the 20th century and is organized around the acquisition and storage of knowledge. The conceptual framework for learning centered on an emphasis of process-product or a direct instructional approach to learning (OECD, 2013). However, research has confirmed that direct teaching, the transmission or lecture model, and the primary pedagogical method was ineffective for the goal of learners developing 21st century skills (Scott, 2013). Rethinking pedagogy to address 21st century competencies requires the application of diverse learning methodologies with rich innovative pedagogical practice.

Based on socio-constructivist theories of learning, innovative pedagogical practice is grounded in past and current theories of teaching (Vieluf, Kaplan, Klieme, & Bayer, 2012). The focus is on the learning environments as patterns or mixes of different learning activities that take place in context and over time to facilitate the insight that the learners need to experience, rather than focusing on a single method or pedagogy (Dweck, Dumont, Istance, & Benavides, 2010). Innovative pedagogical practice moves beyond the foundational choices of cognitive driven pedagogy that encourages direct teaching, such as lectures, textbooks, and workbooks, and considers various forms of interactive processes for learning, and combination of pedagogical approaches. The innovation lies in the way in which those pedagogies are combined into a holistic form. Particular pedagogical choices may be more appropriate for specific content,

context, or application (OECD, 2018). Innovative pedagogical practice is not focused on managing pedagogy or teaching the same way as we have always done it this way but doing pedagogy that takes into consideration evolving learning theories and practical experience.

Returning to the context in which the study was situated, the intent to innovate can easily stall in education. If policy makers, with a top-down approach, dictate the design and format for change, the process generally results in implementation rather innovation (Vieluf et al., 2012). “The school system, its structure, its operation and in particular its content, the curriculum, seemingly remain sturdy, stable and fairly rigid” (Jónasson, 2016, p. 6). The Alberta Teacher’s Association (2015) further reinforces the challenge that educational reform movements, including curricular changes, may be sidetracked as there was an “over emphasis on standardization, the bureaucratic management of change . . . as a lever for improvement stands in the way of meaningful educational development” (p. 13).

The success of high school redesign initiatives cannot be enmeshed in bureaucratic structures that create systemic resistance to change (Jónasson, 2016; Tyack & Cuban, 1995). What is critical are ways that encourage “a degree of openness and self-criticism that is foreign to traditional modes of management” (Morgan, 2006, p. 114). A case in point was Alberta Education’s *Moving Forward with High School Redesign* (2017a) that has strategically undertaken a different tact for reform. With a focus on shifting mindsets around teaching practice, the government was asking, not mandating, school jurisdictions and schools to focus on one or two of the foundational principles in the school year. The idea was that each high school was to identify, design, and implement a redesign initiative that focuses on ensuring flexible learning environments “to support increased student engagement in learning, improve student

achievement and enhanced teacher practice” (Alberta Education, 2017c). In other words, innovation becomes the cornerstone of the redesign process.

Statement of the Problem

Leadership in high schools presents a unique challenge in setting direction for teaching and learning. High school is a complex organization that challenges leadership in addressing teacher practice and student achievement (Louis, Leithwood, Wahlstrom, & Anderson, 2010; Robinson et al., 2008). Leithwood (1994) stated “instructional leadership images were not developed with secondary schools in mind, and there has been a surprising lack of research devoted to understanding effective leadership practices in secondary schools” (p. 151). Because of the size of many urban high schools and the complexity of subject disciplines, the direct influence by the principal on classroom practice can be limited. The number of teachers and support staff are often too large for direct one-to-one interaction based on the time available to the principal. In other words, the principal cannot be expected to be an expert in individual subject curriculum and the associated knowledge and skills required for graduation. In examining the leadership dimension of planning, coordinating, and evaluating teaching and curriculum, recent research has supported both Leithwood’s (1994) position and Heck’s (1992) earlier findings in that instructional leadership, at the high school level, has less effect on student achievement as compared to elementary schools (Day et al., 2016; Leithwood & Jantz, 2005; Louis et al., 2010; Robinson et al., 2008). These findings reflect the greater complexity of addressing pedagogical change at high school.

There is also an embedded culture of resistance to pedagogical change in high schools that complicates the discussion of quality teaching, and the necessity to understand tensions that may hold back the pedagogical work. Existing high school organizational policies, procedures,

and regulations rest on a legacy of standardized teaching practices (Rizvi & Lingard, 2009). Reform efforts in high schools over the last few decades, that focused on pedagogical change, have resulted in limited change and even had the effect of reinforcing these standard organizational goals and structures that support pedagogical practice (Boyer, 1993; Jónasson, 2016; Rose, 2011; Sergiovanni, 1996; Sizer, 2004, 2013).

With growing accountability of student achievement, high school redesign focusing on pedagogical practices, has taken a priority within Alberta. Current high school principals understand that their role must go beyond management of the school to include leadership practices that influence teaching. There is an understanding that high schools need to move beyond the structural redesign of the learning environment to a cultural redesign for learning. The primary problem is research has fallen short in identifying effective leadership practices in establishing a focus on teaching, especially at the high school level (Heck & Hallinger, 2014; Robinson et al., 2008; Louis et al., 2010). In other words, do high school principals have the capability to effectively enact and sustain change that transforms current pedagogy into powerful learning environments? The intent of this study was to develop an understanding of how principals of high performing Alberta high schools enact key leadership practices that is central in addressing high school redesign.

Statement of Purpose and Research Questions

The primary purpose of this explanatory sequential mixed methods study was to understand how high school principals enact pedagogical leadership as they develop, support, and sustain a community of adult learners focused on innovative pedagogical practice. The first, quantitative phase initial conclusions focused on the relationship between two enduring leadership models, instructional and transformational leadership, framed within five dimensions

of effective leadership (Robinson's et al., 2008). The second, qualitative phase utilized interviews and focus groups to further explore the practice of pedagogical leadership framed within aspects of each of the five dimensions of effective leadership and aid in the design of a conceptual leadership model.

Following this purpose, this study was guided by an overarching research question:

1. How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?

This question was answered through the integration of the results from the quantitative and qualitative phase of the study (Plano Clark & Badiee, 2010). Within the context of the study's design, the research questions for the first, quantitative phase were:

2. To what extent do high school principals shape their pedagogical leadership practices within elements of instructional and transformational leadership framed within five leadership dimensions of effective leadership?
3. What is the correlation between instructional and transformational leadership within each of the five leadership dimensions of pedagogical leadership?

For the second, qualitative phase, the research question was:

4. What themes and patterns do principals, assistant principals, learning leaders, and teachers reveal in their perceptions of the principal's pedagogical leadership practices within the four leadership dimensions?

The research question for the second phase was modified after the completion of the first, quantitative phase to further explore the associated statistical results (Plano Clark & Badiee, 2010; Creswell & Plano Clark, 2018).

Summary of Research Design

The study employed an explanatory sequential mixed methods design to illustrate and illuminate the conceptual model of pedagogical leadership. Analysis of the data was bounded by a multiple case study approach using three high schools (Stake, 2006). The determination of specific cases, high performing Alberta high schools, was finalized based on a process of identifying principals and public high schools in the Calgary area that were participating in Alberta Education's high school redesign initiative and had exemplified active and strong engagement in pedagogical practices. Four subgroups of participants for the case studies were identified: the principal, members of the administrative team, including assistant principals and learning leaders, and classroom teachers.

In the first phase, data was collected from each sub-group of participants through an on-line response survey. A short form of two validated instruments was used that are related to the two dominant educational leadership models. The Multifactor Leadership Questionnaire (MLQ) was used to examine transformational leadership practices (Avolio & Bass, 2004). The Principal Instructional Management Rating Scale (PIMRS) was used for measuring instructional leadership practices (Hallinger, 1990). To develop themes for the second phase of the study, a cross-analysis of data from both surveys was framed within each of Robinson's et al., (2008) five dimensions of effective leadership (Creswell & Plano Clark, 2018).

In the second phase, data was collected from all participant groups through individual and focus group interviews, field notes, and reflective research journals. Open-ended interview questions were the primary source of data and were designed to explore the five key leadership dimensions, probing key themes identified in phase one for more detail, including outliers and extreme cases (Creswell, 2012). This mixed approach, with process and outcome components,

was capitalized on multiple sources of information and provide for the triangulation of findings (Patton, 2005).

The nature of the study was an appropriate application of explanatory sequential mixed design because of the critical nature of the connection between principal leadership practices and new paradigms of teaching in high performing Alberta high schools (Creswell & Plano Clark, 2018). Few studies have investigated what the relationship looks like between effective leadership practice and effective teaching. Findings from this study can support the refinement of the conceptual model.

Rationale and Significance of the Study

With the increasing demand of high school completion and the development of students with globally competitive 21st century skills, high school principals are responsible and answerable for leading the change necessary to meet these imperatives. Successful implementation of change occurs through educational leadership efforts where school culture is characterized by shared understanding and shared vision for excellence (Hallinger & Heck, 1998; Louis et al., 2010). The literature abounds with research on leadership beliefs and philosophy and the potential impact on student achievement. Primarily, principals need to apply their skills of analysis, not only to understand the context of the current situation, but to respond with appropriate decisions and actions that would ultimately benefit students (Northouse, 2015). However, current educational leadership models and their prescribed practices in establishing a focus on classroom practice seem somewhat vague and do not clarify how principals achieve the desired effects, especially at the high school level (Heck & Hallinger, 2014; Leithwood & Louis, 2012; Louis et al. 2010; Robinson et al., 2008). There needs to be a focus on the linkages between school leadership and school-level variables that influence teacher practice and student

achievement (Heck & Hallinger, 2005; Hallinger, 2011). In other words, a focus on how school leaders “can promote the learning of teachers to achieve a range of valued outcomes for the students for whom they have responsibility” (Robinson & Timperley, 2007, p. 248).

The study has significance by addressing some of the research gaps found in other educational leadership studies by directly exploring how principals perceive their role in the implementation of change that focuses on teaching. This study contributes to a richer understanding of those leadership practices that are effective in influencing teaching and the wide range of sustainable student achievement. The findings from this study contribute insight into effective leadership practices for principals, academics, school leadership teams, and teachers. This study also supports school jurisdictions and provincial ministries of education in supporting systemic change by informing policies and making connections beyond the walls of the school.

Subjectivity Statement

This subjectivity statement explores my own personal experiences in coming to position myself within the study. I recognize that to perform detailed and accurate research, I need to understand the underpinnings that inform my choice of research questions, methodologies, methods, and intentions (Creswell, 2013; Grix, 2010).

It is important, at this point, to reflect on my role as an educator, an educational leader, and a researcher and the significances on influencing the nature of the inquiry within this study. Early in my career as a secondary school teacher, I realized I needed to be more concerned about procedural or action-based forms of knowledge, recognizing the individual as being responsible for the construction of their own knowledge. At the time, Duckworth (1986) summarized the essence of teaching for me by saying “when I speak of ‘teaching’ I do not necessarily mean

school teaching. By ‘teacher’ I mean someone who engages learners, who seeks to involve each person wholly-mine, sense of self, sense of humor, range of interests, interaction with other people-in learning” (p. 82). This epistemological perspective, constructivism, is supported by cognitive psychology (such as Brunner, 1990; Kelly, 1955; Piaget, 1969; Vygotsky, 1978). Within the constructivist perspective, Gergen (2015) identified three differing positions; radical constructivist (e.g., von Glaserfeld, 1995), moderate constructivist (e.g., Kelly, 1995; Piaget, 1969), and social constructivist (e.g., Brunner, 1990; Vygotsky, 1978). Social constructivism acknowledges the individual cognitive construction of knowledge through the social interaction with one another (Bruner, 1990; Vygotsky, 1978). Reflecting on my own learning, I recognize the significant influence of the social interactions with peers and administration on my own thinking.

As a high school principal, I was concerned by the perception of teachers, to varying degrees, that they had little power to solve systemic challenges around pedagogy and, thus, adopted an authoritative approach to teaching in which they controlled student learning. I worked from the premise that I had the potential to influence sustainable student achievement by approaching teachers through a social-constructivist inquiry process. This pragmatic approach started with my understanding of teachers’ own “theoretical” knowledge in order to unify their reasoning and approaches to pedagogy. At this moment-in-time, there are several points to be made that challenged me and are critical in addressing the design of the current study.

First, some researchers on leadership focused on the notion of learning organization – learning to learn. "A learning organization discovers how to tap people's commitment and capacity to learn at all levels...where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where

collective aspiration is set free and where people are continually learning how to learn together” (Senge, 1990, p.3). In principle, Senge challenged me to think about each person’s own reality, using a series of mental models to extend our abilities to create new realities. Looking at school as a complex system and adopting this notion of learning organization, I acknowledged that a hierarchical model for leadership, that included fixed modes of functionality, could not be imposed. As Morgan (2006) described the idea of management in the midst of complexity, I had to work from a mindset that facilitates the process and flow of change, “rather than try to redesign and control in a more traditional way” (p. 257).

Secondly, there is a challenge to address the prevailing culture of a school. Social constructionism argues that knowledge is jointly constructed within the community, a level of social agreement that is influenced by a shared culture and history (Berger & Luckmann, 1966; Gergen, 1985, 2015). From this perspective, an understanding of pedagogical practice is created based on knowledge that is socially created within the school’s cultural and historical conditions. Gergen (2001) referred to social constructionism as the “intellectual sinew” that binds together the co-construction of knowledge (p. i). “Ultimately, a school’s culture has far more influence on life and learning in the schoolhouse than the state department of education, the superintendent, the school board or even the principal can ever have” (Barth, 2001, p. 7). The key question is how to build a professional learning culture that focuses on individual ownership for improvement and does not put blame on circumstances that are currently present. There is a need for a level of trust, that the teachers possess the knowledge and, more importantly, the imagination to do other than what they are currently doing. The work of a principal is not about changing teacher beliefs; it is about focusing on addressing “problems of practice” (Boudett, City, & Murnane, 2007, p. 98).

Third is recognizing problems we face as a community of educators are too complicated for us to solve quickly and on our own. The “culture cannot be permanently altered in a short timeframe of one school year” (Louis, 2008, p. 48). The question now becomes; how do we, as a community, know that we need to “transform”? How do we develop a shared understanding of effective practice, a vision of what effective teaching looks like? How do we analyze current practice? In order to develop meaningful action, there is a need for a “process for creating new approaches to success, using data, past experience, a willingness to reconsider all assumptions, and the climate for challenging one another’s assumptions toward reaching widely understood and commonly desired outcomes” (Blankstein, 2010, p. 9).

Working within the social constructivist paradigm, as evident in my role as an educational leader, my aim as a researcher was, not only to understand the phenomena being studied, but to influence the phenomena at the same time. This subjectivity statement demonstrates my positioning as a researcher and how my past has influenced the design of this study.

Assumptions

Based on my current experience and background as a former high school principal, four primary assumptions were made with respect to leadership practice on influencing pedagogical practice. These assumptions were influenced by the size and complexity of high schools. These assumptions include, but are not limited to the following:

- To varying degrees, high school principals practice common dimensions of both instructional leadership and transformational leadership when focusing on pedagogical change.
- High school principals are aware of the embedded culture that constitutes the norms of teaching.

- High school principals must work through other members of the school to affect change in teaching practice.
- High school principals assemble evidence, both quantitative and qualitative, that tracks incremental progress towards targeted results in teaching practices.

Definitions of Key Terminology

Carnegie unit: A standard time-based metric used to award credits for time on task (Wellman, 2005). In Alberta, “one credit is defined as being equal to 25 hours of instruction” (Alberta Education, 2017e, p. 52).

High school completion: In Alberta, high school completion is symbolized by the awarding of a high school diploma for most students. The requirement is a minimum of 100 credit hours with specific course requirements (Alberta Education, 2017e).

Innovation: Innovation is a term derived from the Latin word *innovo*, which is to alter or renew. Innovation, from a teaching perspective, is the application of a better or more effective approach that brings about value added to learning (Kirkland & Sutch, 2009).

Innovative pedagogical practice: Based on a process of transformative learning, a constructivist orientation, the adaptation of pedagogy can be considered innovative if based on new teaching ideas that have the potential to improve learning (Vieluf et al., 2012).

Leadership: The definition of educational leadership can be arbitrary in nature but can be distinguished from management through a focus on direction-setting and inspiring or influencing others (Bush & Glover, 2014; Davies, 2009). Leadership is a process of influence that is purposeful with the intention of leading to a specific outcome (Cuban, 1984).

Leadership models: There is a myriad of leadership models that can take many forms of leadership styles with instructional and transformational leadership models being two of the more popular ones in the educational discourse. (Bush, 2014; Davies, 2009; Day et al., 2016).

Instructional leadership model: Principal leadership focused on setting clear goals, managing curriculum, monitoring lesson plans, allocating resources and evaluating teachers regularly to promote student learning and growth (Hallinger, Wang, & Chen, 2013; Louis et al., 2010).

Transformational leadership model: Principal leadership viewed as a collaboration with members of the teaching community, acting as a role model and mentor, inspiring others to attain the school's vision (Bass, 1999; Leithwood & Sun, 2012).

Pedagogy: Pedagogy, as a science of teaching, explores the different processes by which teachers transmit the accumulated knowledge, skills, and values from one generation to the next (Vieluf et al., 2012). Both the words teaching and instructional practice are used as synonyms throughout the study.

Pedagogical leadership: Presented as a conceptual model within the science of teaching, a social constructivism approach to school leadership where knowledge is created rather than transmitted, as an all-inclusive model in addressing both leadership approaches, instructional and transformational, and addressing embedded challenges in the creation and sustainment of effective teaching practices (Male & Palaiologou, 2012).

Social constructionism: Social constructionism is a sociology theory in which people, as a group, examine and develop an understanding of the world through a shared construction of their assumptions and reality (Berger & Luckman, 1966; Gergen, 2015).

Social constructivism: Social constructivism is a sociology theory in which people, as individuals, develop their own understanding of the world through interactions within a group (Bruner, 1990; Vygotsky, 1978).

Student achievement: As an indicator of student success, achievement is defined widely and includes multiple measures. For this study, student achievement is defined as high school completion.

Organization of the Thesis

The thesis is organized into seven chapters. This first chapter serves to provide an overview of the study that examined how high school principals effectively develop, support, and sustain a community of adult learners focused on innovative pedagogical growth. I have indicated the purpose for this study was to contribute to the collective knowledge of how high school principals understand and enact their role as pedagogical leaders. The next two chapters frame the research. The second chapter provides a review of relevant literature including: (a) developing a collective understanding of teaching, (b) the organizational culture of high schools, (c) the embedded challenge of teacher identity, (d) a perspective on educational leadership models, and (e) defining pedagogical leadership. Chapter Three explains the research methodology employed, which was explanatory sequential mixed methods with multiple cases. This third chapter includes a discussion of the study's trustworthiness and limitations. The following two chapters presents the analysis and synthesis of the data, including findings. Chapter Four reports on the first phase of the study and the analysis of data from the online surveys. Chapter Five provides an overview of the qualitative findings from both individual interviews with principals and focus groups with assistant principals, learning leaders and teachers. Chapter Six provides an analysis of the integrated findings in relation to pedagogical

leadership practices. Chapter Seven presents the 11 conclusions of the study along with eight recommendations for practice and future research.

Chapter 2

Critical Literature Review

The primary purpose of the study was to provide insight into how principals in high performing Alberta high schools enact pedagogical leadership that develops, supports, and sustains a community of adult learners focused on innovative pedagogical practice. This literature review offers insight into the interconnection of current educational leadership models, practices of high school principals in influencing change in pedagogical practices, and the current context for high school redesign focused on teaching and learning. Specifically, the literature review explores both instructional and transformational leadership models that supports the development of a conceptual model of pedagogical leadership.

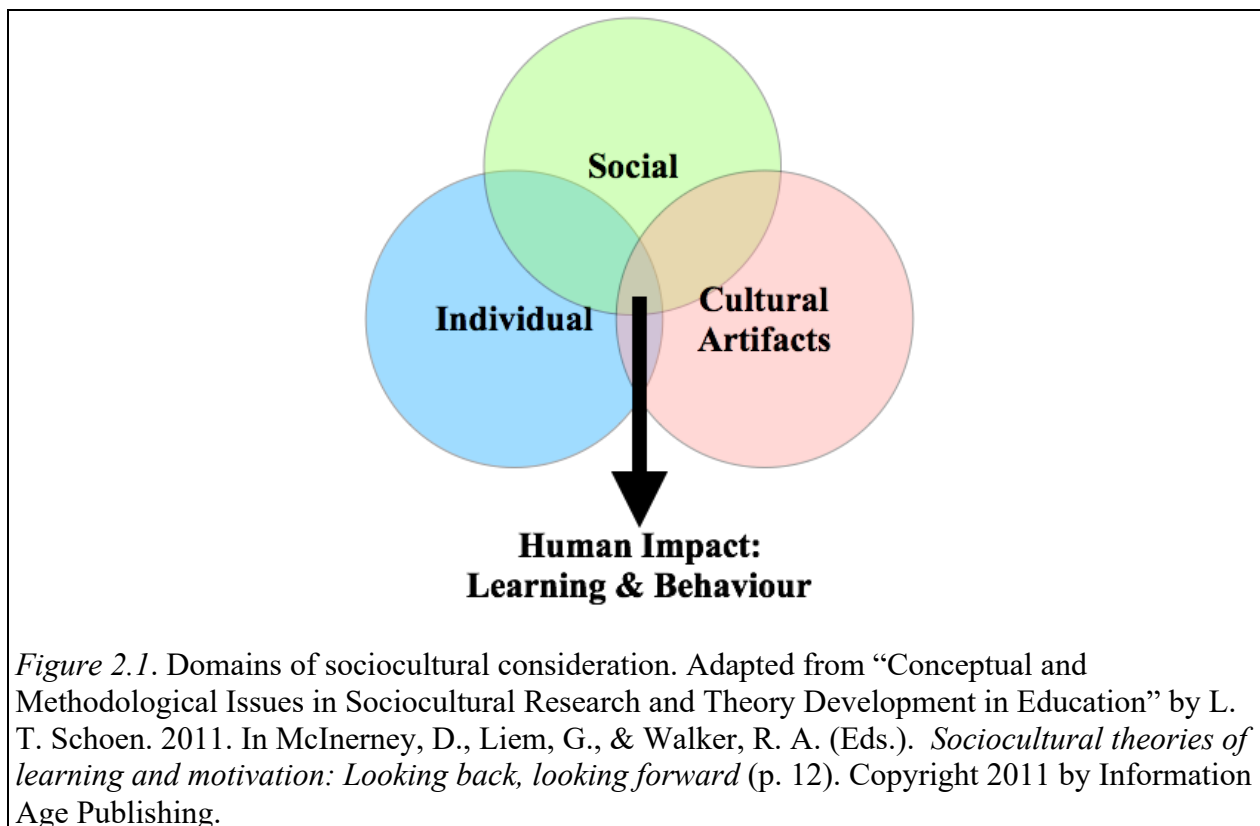
The chapter is divided into the following five sections (a) the theoretical framework of the study, (b) the embedded culture of teaching, (c) the current debate centered on educational leadership models, (d) the current conception of pedagogical leadership, and (e) a conceptual pedagogical leadership model that is positioned between two currently accepted leadership models. In the first section I discuss the underlying theoretical framework that guided my literature review, how the literature has informed my own understanding of the phenomenon being study, and how the literature has contributed to the ongoing development of the conceptual model. In the second section, I discuss the embedded culture of teaching facing high school principals. The intent is to create a collective understanding about the challenges facing principals, as educational leaders, in addressing teaching within high school redesign. In developing a framework for leadership focused on innovative pedagogical practices, there needs to be an understanding of the professional environment and the embedded values that have the potential to destabilize the work. The third section briefly examines both the current contextual

distinction of the two dominate educational leadership models, instructional leadership and transformational leadership. This examination will provide the framework for the fourth part of the chapter, a critical literature review of pedagogical leadership and the positionality within the existing leadership models. The fifth section will focus on developing a conceptual model of pedagogical leadership that centers on innovative forms of teaching. I develop a working definition of pedagogical leadership in order to propose a philosophical framework from which principals challenge the embedded teaching culture in high school.

Theoretical Framework

The selection of literature within the review is guided by an underlying theoretical framework of Vygotsky's (1978) sociocultural theory of human learning. A sociocultural perspective recognizes that as individuals, we are both social and reflexive and the complexity of the social worlds in which we interact alters our thoughts and behaviors. To overlook these social aspects of the environment would lead to an incomplete understanding of the phenomenon being studied (Schoen, 2011). The major theme of this study and theoretical framework is centered on the social interaction of principals and teachers, in the context of high school, as they consider innovative pedagogical practice that may be beneficial for student learning. Vygotsky (1978) described a twofold development of cognition. First, is the social dimension with the interaction with others (interpsychological) and then the individual dimension (intrapsychological). Sociocultural theories of learning emphasize the interdependence of the individual with their social environment in the construction of knowledge (John-Steiner & Mahn, 1996; Schoen, 2011) (see Figure 2.1). The conceptualization of the study was centered on the principal's and teachers' learning, as co-participants within a community, and the construction of knowledge focused on

the thinking and the doing of teaching. Learning therefore involves both the transformation of the individual as well as the school community.



Sociocultural theories of learning also acknowledge a third dimension, that learners inherit cultural artifacts (Schoen, 2011; Vygotsky, 1978) (see Figure 2.1). Framed within interrelated qualities of the school, such as school’s mission, school’s structures, organizational arrangements, classroom environments, and school traditions, the origin and history of these artifacts are interconnected and provide a uniting function within current pedagogical practices. In high school, these artifacts are grounded in a traditional academic culture that includes a conventional pedagogical approach of standardized teaching, standardized curriculum, high-stake testing, and use of conventional textbooks (Jónasson, 2016; Rizvi & Lingard, 2009). Sociocultural theory also recognize that historical conditions are constantly changing resulting in

new combinations and complexities (John-Steiner & Mahn, 1996). Therefore, and critical to this study, is understanding the interconnectedness of these artifacts in order to provide insight into the relations between the individual and the social processes at work.

Framed within sociocultural theory the primary focus of this literature review is on the conceptualizing of pedagogical leadership as an effective model for leading change in teaching practices in high schools. My premise is that pedagogical leadership is presented as an all-inclusive or layered model that builds from the dichotomised models of instructional leadership and transformational leadership. By addressing both leadership approaches and addressing the embedded challenges in the creation and sustainment of effective teaching practices, I put forward a conceptual argument for pedagogical leadership in high schools. The next part of this chapter explores the unique challenges facing high school principals in effectively developing, supporting, and sustaining a community of adult learners focused on innovative pedagogical practice.

The Challenge

“Most jobs in the real world have a gap between what would be nice and what is possible. One adjusts. The tragedy for many high school teachers is that the gap is a chasm, not crossed by reasonable and judicious adjustments” (Sizer, 2004, p. 20). First published in 1984 and based on five years of research, Theodore Sizer’s *Horace’s Compromise: The Dilemma of the American High School* created a dialogue focused on high school redesign. Within the dialogue, Sizer described how teachers have the potential to be exemplary in their teaching but that they are often limited in pedagogical effectiveness as a result of circumstances and contexts in which they function. Thinking about this for a minute, high schools are highly structured systems including standardized curriculum, standardized assessment, standardized facilities with standardized class

sizes, standardized learning times, standardized codes of conduct, and standardized reporting that creates an environment that is slow to change. Sizer (2004) challenged prevailing views of leadership practices of high school principals by addressing the necessity to support teachers as they grow their craft in thoughtful and deliberate ways. I make a case that the challenges Sizer presented over 30 years ago are still prevalent today. Currently, high schools are being challenged to engage in redesign efforts with a focus on engaged students, high levels of achievement, and quality teachers (Alberta Education, 2017a; S. 2004, 2017; OECD, 2017). The success of high school redesign “ultimately turns on teachers’ success in accomplishing the serious and difficult tasks of learning the skills and perspectives assumed by new visions of practice and unlearning the practices and beliefs about students and instruction that have dominated their professional lives to date” (Darling-Hammond & McLaughlin, 1995, p. 597). I argue that an even greater need is for high school principals to develop, support, and sustain a community of adult learners focused on rich innovative pedagogical practice.

Alberta Education’s *Moving Forward with High School Redesign* (2017a) has strategically undertaken a tact that supports innovation rather than implementation. With a focus on shifting mindsets around practice, the government is asking, not mandating, school jurisdictions and schools to focus on identifying, designing, and implementing a redesign initiative that focuses on ensuring on what Alberta Education, 2017b) calls a “flexible learning environment” in order “to support increased student engagement in learning, improve student achievement and enhanced teacher practice”. However, the success of high school redesign initiatives should be enmeshed in ways that encourage “a degree of openness and self-criticism that is foreign to traditional modes of management” (Morgan, 2006, p. 114).

Prerequisites for Developing a Collective Understanding of Teaching

A model for effective change in schools must be based on professional learning that focuses on a well-defined and sustainable framework for teaching. “Nothing is more fundamentally important to improving our schools than improving the teaching that occurs every day in every classroom” (Stronge, Ward, & Grant, 2011, p. 351). Stoll (1999) identified the teacher as being the key influence on teaching and can be considered the mediated structure at play when addressing innovative teaching strategies. Based on the idea of improved teaching, one can easily argue that the most critical investment a principal can make is supporting the growth of teachers who have the qualities, compassion, and commitment to teaching. Based on the meta-analysis of Robinson, Lloyd, & Rowe (2008), Robinson (2011) stated:

In schools where students achieve well above expected level, the leadership looks quite different from the leadership in otherwise similar lower-performing schools. In the higher-performing schools it is much more focused on the business of improving learning and teaching (p. 3).

In developing a foundation for change in teaching and possible interventions, the principal must first understand the organizational culture of the school and the challenges inherent in understanding the change process (Schein, 2004).

There has been a long and ambitious history of intentional high school reform, which has not been easy, and, in the end, not sustainable (Cuban, 1984; Hopkins, Stringfield, Harris, Stoll, & Mackay, 2014; McLaughlin & Talbert, 2001; Tyack & Cuban, 1995). “Many innovations in institutional arrangements in high schools at that time--flexible scheduling and class sizes, variable-space classrooms, team teaching, independent study instead of batch processing, core courses--had a short half-life” (Tyack & Tobin, 1994, p. 455). In some cases, these limited

attempts have even had the effect of reinforcing current standard organizational goals and structures (Jónasson, 2016; Rose, 2011; Tyack & Cuban, 1995). As Alberta's high schools take up the redesign initiative, there is a necessity to understand the challenges created by a set of beliefs and ways of being that may prevent principals from enacting leadership practices focused on innovative pedagogical practice. My intention here is to demonstrate the challenges facing principals in the implementation of the high school redesign initiative focusing on new paradigms of teaching.

In describing the complexity of change, Stoll (1999) looked at the capacity for teacher learning as being influenced by the teachers themselves, the school's social and learning context, as well as external contexts. In this next section, I first examine both the internal and external context of high schools. Specifically, how high school organization, as a traditional institute with the corresponding structures, contribute to a legacy of an embedded culture that hinders change. I then discuss some of the organizational issues related to standardized practice and provide the context in which these issues reside when considering redesign initiatives. It is not my intention to provide a detailed historical or in-depth explanation for current teaching practice but to describe the basic underlying assumptions of how the current organization of high school tends to operate and thus have influence over the structure of teaching. By comprehending these assumptions, one can begin to challenge these norms as consideration is given to teaching practices. In the subsequent section, I discuss the notion of individuality through teacher identity and the resulting tensions between self and the embedded culture.

Organizational Culture of High Schools

High schools have a long and established culture of being a highly structured system, including standardized curriculum, standardized assessment, standardized schools with

standardized class sizes, standardized learning times, standardized code of conduct, and standardized reporting. Culture by Schein's (2004) definition is "any social unit that has some kind of shared history will have evolved a culture, with the strength of that culture dependent on the length of its existence, the stability of the group's membership, and the emotional intensity of the actual historical experiences they have shared" (p. 11). Culture, as a shared phenomenon, implies a level and depth of structural stability. More importantly, culture also implies a less tangible or less visible structure of the organization (Schein, 2004). In a time when high schools are being challenged to be innovative rather than merely implementing mandated initiatives for redesign, I argue that high schools are held hostage to an embedded culture. Thus, principals are faced with an ever-increasing challenge of meeting the diverse needs for student success within a standardized, over bureaucratized culture that is resistant to change.

Supported by Frederick Taylor's *The Principles of Scientific Management* (1911), the metaphor of school organizations as machine-like is a strong image of how high schools are organized (Morgan, 2008). Within the mechanistic view, classical organizational theorists often describe control and power from a 'top-down' bureaucratic management approach. School reforms, starting in the early 20th century, centred on lessons from the business world (Callahan, 1962; Friesen & Jardine, 2009; Kliebrad, 2004). In applying economic metrics to learning, school operations were assessed based on student and teacher performances. School systems focused on creating policies through the use of these assessments and became subject to society's need for efficiency resulting in the alignment of school organizations with a highly structured industrial model (Sahin, 2007). Gray (1993) described scientific management in schools as a form of social Darwinism where the fittest should manage and the rest should work, even referring to Taylorism as a disease that has infected our schools. "Authoritarian "top-down"

hierarchies found in mechanistic organizations give way to emergent hierarchies generated by the need to cluster and direct activities to address the contingencies at hand” (Morgan, 2008, p. 256). As a result, communication pathways are typically unidirectional. Thus, the mechanistically structured organization has great difficulty adapting to change as it is designed for predetermined goals and not innovation (Morgan, 2008). There is an expectation of the school organization that these ‘traditions’ are held in place by the structure of pedagogy, interventions, resources, and even the use of technologies putting limits on enrichment and personalization of learning (Ross, 2010).

Understanding that many high schools are organized somewhat differently than most K-9 schools, the existing organizational policies, procedures, and regulations rest on a rich legacy of standardized and bureaucratic practices (Rizvi & Lingard, 2009). “Traditions, traditional values, and often very strong interests keep education within the confines of old times” (Jónasson, 2016 p. 7). At the heart of this bureaucratic structure is a common currency in the form of credit hours or the Carnegie Unit. Originally, the credit hour was intended to help standardize how high schools operate with a desire to ensure that all students learn to a common standard and a focus on college admissions (Shedd, 2003). Gerhard (1955) described high school as a “savings bank where credits are deposited to make up the balance required for graduation” (p. 666). As a residual of Taylor’s scientific management, today the credit hour has become more than a time on task metric (Wellman, 2005). More than a century later, credit hours has evolved into a system that influence nearly all aspects of high school (Silva, White, & Toch, 2015). Credit hours shapes policy and funding practices including course admission, course time, course transfers, course credits, course sequencing, timetabling, teacher workload, staffing

requirements, and class size. Today, credit hours are still supported as a way of providing a minimal instructional standard for quality teaching and learning (Silva et al., 2015).

However, as researchers have pointed out, there is a disconnect, in that these credit hours do not count for what matters in student achievement, that being skill levels (Silva et al., 2015; Wellman & Ehrlich, 2003). Tyack and Cuban (1995), in reference to the Carnegie Unit, stated: “[It has] frozen schedules, separated knowledge into discrete boxes, and created an accounting mentality better suited to a bank than to a school” (p. 93). Historically, credit hours have students marching lockstep with their peers through the curriculum. The overarching goal is uniformity, the standardization of resources and the standardized treatment of topics, including the uniform progression through the discipline (Troen & Boles, 2008; Witziers, Bosker, & Krüger, 2003). As Jónasson (2016) stated, “the system, its structure, its operation, and in particular its content, the curriculum, seemingly remains sturdy, stable, and fairly rigid” (p. 2).

This notion of standardized education at high school is also preserved through strategies like standardized curriculum, textbooks, and testing. In such a system, a standardized curriculum is believed to be essential to ensuring that all students have equal access to the important learning objectives identified by these jurisdictions. Yet, in such systems, curriculum itself becomes an organizational structure with layers of bureaucratic intent that are impervious and resilient to change (Ross, 2010). Morgan’s (2008) model of a mechanistic organization supports the organizational structures created by curriculum in which the teaching and learning environment is based on the deeply entrenched set of assumptions found within the curriculum. The scripted curriculum, standardized textbooks, and teacher resources supports the metaphor of machine and a management approach that treats subjects as objects that incorporate a set of standards-based goals connected to discipline-based knowledge (Freire, 2009). The standardization of the

curriculum as a one-size fits all set of learning objectives and resources marginalizes professional judgement and set limits on the opportunity for student learning.

Adding to this notion of standardized education is recognizing the political nature of introducing new or redesigned curriculum. Both policymakers and curriculum designers are encouraged to see professional development as an essential tool in developing the skills and competencies to improve pedagogical practices based on the underpinnings of the curriculum (Cohen & Hill, 2000). Too often, new curriculum has been mandated, ‘the managers telling the workers what to do’, with little broad-scale infrastructure put in place to enable the appropriate development of pedagogical practice to happen (Rose, 2011). The result is the continuation of current pedagogical practices.

With standardization comes accountability, measurement of student achievement against established standards. In 1984, the Government of Alberta reinstated the Diploma Examination Program (McEwen, 1995). Until recently, the weighting of these exams was set at 50% of a student’s final mark. As of 2015, the exam counts as 30% of a students’ final mark. Ideally, these results would provide stakeholders, especially students and parents, insight into a student’s performance. However, the diploma exams, along with the teacher awarded mark, have conditions connected to them including meeting standards for admission into postsecondary institutes and being granted scholarships. Beyond parents and students, significant accountability pressure is placed on both the principal and teachers by the school organization (Ravitch, 2016).

School organizations “emulate the efficiency of business” through the science of business-industrial management, not through the social sciences (Callahan, 1962, p. 245). This creates a bureaucratic activity of surveillance that encourages a scripted approach to unit planning and lesson design with the emphasis on teaching to the test (Au, 2011; Erskine, 2014;

Ravitch, 2016). With a political climate of accountability that focuses on the correct way, teachers fall victim to public criticism. There is pressure on teachers to focus on students' performance, encouraging a mechanistic approach and avoiding challenges to low test scores. The natural reaction is for practice test after practice test with the underlying assumption of high scores (Erskine, 2014; Ravitch, 2016). In turn, this generates a decline in academic freedom for teachers to actively engage students in higher level learning that emphasizes inquiry, problem-based, and design-based learning (Au, 2011; Ravitch, 2016; Ross, 2010).

For school organizations, these traditions are held in place by conservative constraints, the way culture is a stabilizing factor by making things meaningful, predictable, and are put in place by the participants within the organization (Schein, 2004). This is not out of ill-intent, but out of the need for cognitive stability rather than challenging basic assumptions with new ideas. There are established cultures in high schools which cannot and do not respond positively when established ways of operating are confronted and challenged. With this culture, there is a high risk of failure for any teacher or principal attempting to initiate change. The root of the problem is in the design of high schools and the embedded culture that is still being influenced by over a century of historical artifacts that are designed to turn out standardized products.

The challenge is to move beyond this narrow vision of various societal expectations and organizational boundaries to develop innovative catalysts that would facilitate change within the school's organizational structure. The use of Morgan's (2006) metaphor of an organization as an organism gives us an important shift to the possibilities for challenging the standardized organization of high school. The main idea of this metaphor is that the school, as an open system, must balance needs in order to adapt to the changing environment in supporting the adaptive nature of innovative pedagogical practice. Over the last few decades there has been an

emergence of system dynamics research in the area of system theories. This research challenges the standardized approach of how schools are organized by examining the organization as an entity unto itself, understanding how all parts interact with each other rather than in isolation (Forrester, 1992). To understand the nature of innovative pedagogical practice, an open system is required that balances the needs of participants and is rooted in the human sciences that emphasizes personal engagement and personalized learning in order to adapt to the changing environment (Davis, Sumara, & Luce-Kapler, 2015). Within this idea of open systems, teaching is dependent on a cohesive relationship between the teacher, their students, other teachers, school leaders, and other external mediating factors in order to develop unique teaching characteristics and is grounded in a culture of risk taking (Morgan, 2006). In the following sections, I briefly discuss how this web of interconnected influences are key in understanding the intricacy of engaging and sustaining innovative pedagogical practices in high school.

The Embedded Challenge of Teacher Identity and Personal Capacity

Leadership focused on building the capacity of teachers to improve their instructional practice is essential in improving student achievement (Wei, Darling-Hammond, Andree, Richardson, & Orphanos, 2009). However, sustainability of change is dependent on the ongoing process of learning by teachers, singly and collectively (Stoll, 2009). One of the greatest resistances to change has been in the area of teaching a discipline (McLaughlin & Talbert, 2001). High school teachers have a tradition of teaching that has not really changed over the decades as a result of the subject disciplines commitment to meeting the admission requirements of post-secondary institutes (Tyack & Tobin, 1994). “Traditional teaching practice follows established orthodoxy about what to cover and how to cover it - time honored the concepts of ‘scope and sequence’” (McLaughlin & Talbert, 2001, p. 20). However, high school principals may not be

conscious of the teaching cultures operating within the school (Schein, 2004). Before I begin a discussion on educational leadership and new paradigms of teaching, I introduce the need of principals to recognize the epistemological challenge within teacher identity that may impede the work of establishing new pedagogical practices. This challenge is framed within both a sociocultural and constructivist perspectives.

The dominant view of learning, constructivism, emphasizes the active role of the individual in mediating meaning through personal interaction and reflection (Packer & Goicoechea, 2000). Constructivism helps to unveil the individual factors that either support or hinder change in teaching practice (Avalos, 2011). Sociocultural theories of learning emphasize that learning is through social and cultural processes that incorporate the cultural and historical contexts that shape the beliefs of the group. Examining teacher learning from a sociocultural perspective, research has directed attention to external variables, such as school culture, traditions, and policies, that have significant influence on teachers' professional development (Avalos, 2011). This dualism of sociocultural and constructivist perspectives challenges teachers' ontological positioning, their beliefs, attitudes, and perceptions in developing pedagogy and, in turn their epistemological, methodological, and pedagogical stance in the enactment of teaching. "Learning is both a personal and social transformational process" (Packer & Goicoechea, 2000, p.228). However, the scope of this chapter does not permit a comprehensive review of both constructivist and sociocultural theories of learning except to provide insight into teaching practices and some understanding of why teachers may respond differently to various forms of professional development that challenge their current teaching practices. At the same time, I acknowledge the complexity of the work of the principal in the active engagement with teachers. By understanding that teaching is a social practice and that social factors interact with

teacher identity, it is important to question whether principals can create the conditions for learning in which the teacher feels safe to change?

Olson (2008) used the idea of teacher identity as a frame to examine the range of influences created by the interaction between sociocultural and constructivist perspectives. The idea is that teacher identity is based on a set of core beliefs “that are continuously formed and reformed through experience” (Walkington, 2005, p. 54). Yet, little is known about the dynamics of how teacher identity, the philosophy and subsequent enactment of teaching, interacts within the structure of teaching reform, especially at the high school level (Lasky, 2005; McLaughlin & Talbert, 2001).

In examining the act of teaching, as being influenced by teacher identity, one needs to first recognize the highly complex and personal activity of teaching due to the design of schools that tends to isolate teachers. Teaching draws from a variety of fundamental knowledge areas including knowledge of subject matter, knowledge of how students learn, but also knowledge about how the individual students in the classrooms think about the topic (Carpenter & Fennema, 1992; Loughran, Loughran, & Berry, 2012). Teaching is a set of actions guided by personal constructs where knowledge of the discipline, of the curriculum, and of pedagogy are key interacting influences in making decisions and justifying actions that focus on learning. These constructs evolve over time and incorporate a wide variety of knowledge and experiences including individual values, beliefs, discipline knowledge, and pedagogical knowledge (Stoll, 1999). The shape of these constructs depends on a variety of knowledge bases and experiences, some of which are developed outside of teaching including discipline studies but, ultimately, are created in practice (Burns, 2007). Consequently, in considering the question “how do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and

sustaining communities of adult learners focused on innovative pedagogical practice?” one needs to understand the key influences on teaching and the possible tensions when challenging teachers to change or innovate pedagogical practices.

Pedagogical Content Knowledge

In a knowledge society, we understand that highly qualified and competent teachers are key in meeting the challenges of creating the conditions in which learners develop 21st century skills in increasingly more diverse classrooms (Guerriero, 2017). In particular, Baumert’s et al. (2010) multilevel analysis clearly demonstrated that teachers’ pedagogical content knowledge was a significant predictor in explaining differences in student achievement. The study revealed that “teachers’ pedagogical content knowledge had more of an impact on student achievement than content knowledge” (Guerriero, 2017, p. 108). Understanding the direct correlation of pedagogical content knowledge and student achievement adds another layer to the challenge of principal’s influence on classroom practice and learning. This influence is compounded by the size and complexity of high schools. The number of teachers and support staff are often too large for direct one-to-one interaction with the principal. “In addition, the complexity of the secondary school curriculum and the amount of pedagogical content knowledge required for expert teaching and its development defies the sort of comprehensive appreciation that would be required for direct teacher supervision, even if it were feasible to find the time” (Leithwood, 1994, p. 501). Robinson (2006) stated “that knowledge base is not directly transferable to other subject areas, it provides principals with a rich appreciation of the type and depth of expertise they need in other curriculum and instructional areas” (p. 15). If educational leadership is deeply embedded in subject specific knowledge, there are unique challenges for leadership in large high schools (Barth, 1990; Boyer, 1983; Hallinger & Heck, 1998, Lambert, 1998; Louis et al., 2010;

Robinson, 2006; Robinson et al., 2008; Sizer, 2004; Stein, & Nelson, 2003). Realizing that teacher experiences differ, depending on individual personal background, there is also a need to understand the complexity of teaching within individual disciplines. This section explores Shulman's (1986a) conception of pedagogical content knowledge as a construct of teaching in order to illustrate the complexity of teaching and the challenges being presented to principals who wish to lead change and innovation in pedagogy.

Shulman (1986b) argued that having knowledge of subject matter and general pedagogical strategies, though necessary, was not sufficient for capturing the knowledge of good teachers but to focus and examine "teachers' cognitive understanding of subject matter content and the relationships between such understanding and the instruction teachers provide for students" (p. 25). Hattie (2012) revealed that teachers' discipline knowledge, alone, did not improve student achievement, but 'expert' teachers are able to organize and differentiate disciplinary knowledge that is integrated with students' prior knowledge. Effective teachers have the ability to understand, in a pedagogically reflective way, not only their own way around a discipline, but must know the 'conceptual barriers' likely to hinder students (Hattie, 2012). Defining the relationship between content knowledge, pedagogical knowledge, and pedagogical content knowledge is key in understanding the relationship between each type of knowledge.

Content knowledge is the subject matter that is to be taught and is specific to the discipline and the grade. There are unique syntactic structures unique to each discipline in which concepts and principles are conceived, validated, and organized. This requires the teacher "to explain why a particular proposition is deemed warranted, why it is worth knowing" (Shulman, 1986a, p. 9). In other words, content knowledge goes beyond the facts to why these are truths and what truths are central to understanding the discipline.

Pedagogical knowledge refers to the knowledge a teacher has with respect to the process and practice of teaching. This can be understood as a generic form of knowledge that individual teachers share with each other within and across disciplines. Shulman (1986a) referred to this as “the knowledge for teaching” (p. 9). Pedagogical knowledge focuses on how students construct knowledge and acquire skills. “Pedagogical knowledge requires an understanding of cognitive, social, and developmental theories of learning” (Mishra & Koehler, 2006, p. 1026).

Lastly, pedagogical content knowledge is a distinctive body of knowledge that blends content and pedagogy into understanding how particular topics are organized, represented, and adapted for diverse learners (Shulman, 1987). “Although there are differing conceptions of the relationship between subject or disciplinary knowledge per se and 'subject knowledge for teaching', the notion of pedagogical content knowledge . . . has proved an invaluable construct for those seeking to understand the nature of teachers' knowledge and their decision-making processes” (Burns, 2007, p. 447). “Pedagogical content knowledge is not simply using a teaching procedure because it works” and it is not just breaking down knowledge of content into manageable “chunks”; it is the combination of the rich knowledge of pedagogy and content together, each shaping and interacting with the other so that what is taught, and how it is constructed is purposefully created to ensure that that particular content is better understood by students in a given context, because of the way the teaching has been organized, planned, analysed and presented” (Loughran et al., 2012, p. 7). Simply put, a teacher develops, over time and through various experiences, knowledge of how to teach a particular discipline with the end goal of developing students' ability to develop a deep conceptual understanding of subject specific concepts. This knowledge involves teaching strategies that incorporate appropriate conceptual representations to address learner difficulties including prior or naïve misconceptions,

instructionally produced misconceptions, and potential misapplications (Mishra & Koehler, 2006). This knowledge is also important in shaping, not only what elements of a concept are selected to be taught, but also, and equally important, which elements are not taught. There is an understanding, within pedagogical content knowledge, of the difficulties and points of confusion that students may experience that is important in determining the level of understanding and how to help students move beyond knowledge as facts, in order to pursue the development of understanding (Loughran et al., 2012).

Current research continues to develop the conceptualization of pedagogical content knowledge, as topic-specific, with a focus on the interaction of knowledge(s) and beliefs as a way of representing successful teaching (Hashewh, 2013; Loughran et al., 2012). Understanding the complexity of teaching in terms of constructs through pedagogical content knowledge is helpful in understanding how principals might engage teachers in a dialogue focused on innovative paradigms of teaching. Hashewh (2013) described pedagogical content knowledge as a specific pedagogical construct and “is a result of the interaction of different knowledge categories in the teacher’s mind” (p. 120). Hashewh (2013) argued that teaching cannot be viewed as a generic activity thus ignoring the domain of discipline specificity. Given this understanding of teachers’ pedagogical content knowledge, I would suggest that the focus of teacher learning is on the construct of reflecting as the main mechanism for learning. The challenge for the principal centers on how they might enact leadership that positions themselves within the personal interaction of teacher identity in order to promote continual teacher learning and the development of innovative pedagogical practice. As an inquiry process, the principal would need to engage in intentional conversations framed within a set of questions that examines pedagogical content knowledge. For example, why did the teacher select the specific conceptual

ideas from the discipline?; how do they go about making conceptual ideas learnable for individuals in the classroom?; what concepts are more challenging to learn and why?; how did the teacher determine the sequencing of these ideas so that they are meaningful for the individual student?; what are the multiple ways of representing these ideas?; how did the teacher allow students to explore these conceptual ideas in order to develop deep understanding?; and how did the teacher allow students to connect these ideas with other ideas and with the bigger conceptual ideas of the discipline?

With this stated, few references are made in the literature that address the role of educational leadership and pedagogical content knowledge at high school. This suggests a need to focus on how school leaders “can promote the learning of teachers to achieve a range of valued outcomes for the students for whom they have responsibility” (Robinson & Timperley, 2007 p. 248). Fullan (2014) claimed “the principal’s role is to lead the school’s teachers in a process of learning to improve their teaching, while learning alongside them about what works and what doesn’t” (p. 55).

Critical Review of Current Educational Leadership Models

Several studies have demonstrated that high school principals score significantly lower on instructional leadership than their counterparts in elementary schools (Louis et al., 2010; Robinson et al., 2008). Yet, current leadership models assume “that coordination and control of the academic program of the school are key leadership responsibilities of the principal” (Hallinger, 2011, p. 277). As Hallinger (2005) stated “the practice of instructional leadership requires substantial adaptation in secondary schools” (p. 231). The next part of this chapter is an examination of two of the more enduring educational leadership models as I begin to examine the role of the principal as pedagogical leader (Bush, 2014).

The role of principal and the effects of their leadership on student achievement have been a topic of interest for both researchers and educational leaders for a number of decades, accumulating a large body of research (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005; Hallinger, 2011; Heck & Hallinger, 2014; Louis et al., 2010; Marzano, Waters, & McNulty, 2005; Robinson et al., 2008). Research has shown that effective school leadership can have a direct influence on teaching practice and, is, second only to classroom instruction on its impact on student learning and achievement (Davis et al., 2005; Hallinger & Heck, 1998; Leithwood, Louis, Anderson, & Wahlstrom, 2004; Leithwood & Louis, 2012; Louis et al., 2010; Waters, Marzano, & McNulty, 2003). From this body of research, one can conclude that effective school principals play a critical role in developing teachers' curricular and instructional practices (Elmore, 2000; Spillane & Diamond, 2007; Spillane, Halverson, & Diamond, 2004). Principals can play a key role in the successful implementation of change through leadership efforts focused on school culture as well as on teacher behavior (Heck & Hallinger, 2014; Louis et al., 2010; Robinson, 2010; Witziers et al., 2003). In particular, research points to school leadership as being a significant influence on teaching practice (Hallinger & Heck, 2010; Louis et al., 2010).

Notwithstanding, current leadership models and their prescribed practices in establishing a focus on classroom practice seem somewhat vague and not clearly defined, especially at the high school level (Heck & Hallinger, 2014; Robinson et al., 2008; Louis et al., 2010). "Less is known about how to help principals develop the capacities that make a difference in how schools function and what students learn" (Davis et al., 2005, p. 4). This lack of clarity suggests a need for a sharper focus on the linkages between school leadership and school-level variables that influence teacher practice and student achievement (Hallinger, 2011; Heck & Hallinger, 2005).

In their study on school leadership, Davis, et al., (2005) suggested that:

More than ever, in today's climate of heightened expectations, principals are in the hot seat to improve teaching and learning. They need to be educational visionaries, instructional and curriculum leaders, assessment experts, disciplinarians, community builders, public overseers of legal, contractual, and policy mandates and initiatives. (p. 1)

Based on this and other similar research-based conclusions, one could argue that, within Alberta Education's *Moving Forward with High School Redesign* (2017a), there is a lack of understanding of the specific leadership behaviors that are most effective in influencing teaching practice and the wide range of sustainable student achievement. As cited by numerous researchers (e.g., Hallinger & Heck, 2011; Louis et al., 2010; Robinson, 2010), current research in this area of school leadership is required to fill a void that has been identified. By understanding the direct effects of leadership on teacher practice and on the indirect influence on students, the development of pedagogical leadership practice can be based on knowledge of the types of leadership practices that have demonstrable, rather than assumed, impact on student outcomes.

There is a consensus on the importance of principals' influence on student outcomes, yet the way research has analyzed these leadership affects vary significantly (Day et al., 2016). As Leithwood et al. (2004) found, there are "many labels used in the literature to signify different forms or styles of leadership 'that' mask the generic functions of leadership" (p. 6). The challenge is understanding the important underlying themes of each leadership model. The following discussion is a synthesis of the literature reviewed on two of these leadership models, instructional and transformational leadership. These two models of education leadership were chosen due to the extensive research and meta-analysis that described the influence each of these

models appears to have had on student learning (Day et al., 2016; Hallinger, 2011; Hattie, 2012; Leithwood & Sun, 2012; Louis et al., 2010; Robinson, et al., 2008).

Instructional Leadership

Historically, there has been a body of research focused on the leadership behaviors of effective school principals. But it was not until the 1970s and early 1980s that there was a concerted focus on school leadership and the connection to student achievement. This was a result of the ‘Effective School Movement’ as a backlash to the 1962 Coleman Report (Cuban, 1984). As a component of the Civil Rights Act of 1964, the Coleman Report focused on the premises of equality of opportunity and that school quality could be measured by outcomes, such as standardized measures of student achievement. The study resulted in the Effective Schools Research that began to examine policy and practices connected to school and student success (Cuban, 1984). Through the Effective Schools Research, Edmonds (1982) identified five characteristics of effective schools, one being “the principal's leadership and attention to the quality of instruction” (p.4).

What emerged from Edmonds research was a focus on instructional leadership, at the time referred to as instructional management, and on the characteristics of principals that support improvement of teacher practice (Cuban, 1984; Hallinger, 2003). “High expectations for teachers and students, close supervision of classroom instruction, co-ordination of the school's curriculum, and close monitoring of student progress became synonymous with the role definition of an instructional leader” (Hallinger, 1992, p. 37). Through the remainder of the decade, research defined instructional leadership as “the work of mobilizing and influencing others to develop shared understandings and intentions and to achieve the school’s goals” (Leithwood & Riehl, 2003, p. 14).

Hallinger's (2003) conceptualization of instructional leadership is defined by three dimensions: "defining the school's mission, managing the instructional program, and promoting a positive school-learning climate" (p. 332) (see Table 2.1). In defining the school's mission, the principal's role is to work with staff to ensure that the school has clear and measurable academic goals (Hallinger, 2011). These goals are the starting point for moving a school forward.

Table 2.1***Instructional Leadership Functions (Principal Instructional Management Rating Scale)***

Dimensions	Leadership Functions	Descriptor
Defining the school's mission	Frames the school's goals	Clear mission exists, communicated, and focused on academic progress.
	Communicates the school's goals	
Managing the instructional program	Supervises and evaluates instruction	Managing the technical core; shared responsibility for instructional program; and coordination and control of academic program responsibility of principal.
	Coordinates the curriculum	
	Monitors student progress	
Develops a positive school learning climate	Protects instructional time	"Development of high standards and expectations and a culture that fosters and rewards capacity development and continuous learning" (p. 276).
	Promotes professional development	
	Maintains high visibility	
	Provides incentives for teachers	
	Provides incentives for learning	

Note. Adapted from "Assessing the Measurement Properties of the Principal Instructional Management Rating Scale," by P. Hallinger, W. Wang, and C. Chen, 2013, *Educational Administration Quarterly*, 49(2), p. 275. Copyright 2013 by Sage Publishing.

The second dimension of managing the instructional program focuses on the school's instructional development, namely the instructional core. Instructional core centers on classroom instruction, curriculum, and assessment. This dimension incorporates three leadership functions: supervising and evaluating instruction, coordinating the curriculum, and monitoring student

progress (Hallinger, 2005). The role of the principal is in the management of the instructional core.

Hallinger's (2003) third dimension is to promote a positive school learning climate that includes several functions: "protecting instructional time, promoting professional development, maintaining high visibility, providing incentives for teachers, providing incentives for learning" (332). The main objective of instructional leadership is to align the school's standards and practices with the school's goals. In other words, the principal's major focus is on high teacher expectations of both staff and students to ensure high quality learning opportunities for students (Blase & Blase, 2004; Hattie, 2012). This dimension is broad in scope and here is where an overlap into the transformational leadership model occurs (Hallinger, 2011; Leithwood et al., 2006).

Transformational Leadership

Going back to the 1970's, another leadership model was being formulated within the business world that continues to influence educational leadership research today. The organization of this research centers on transformational leadership theory. Through his pioneering study, James Burns (1978) introduced the theory of transformational leadership with the primary tenant that great leaders are those who inspire "followers to act for certain goals that represent the values and the motivation-the wants and the needs, the aspirations and expectations-of both leaders and followers" (p. 19). Bass (1990) characterized the behavior of transformational leaders through four factors: idealized or charismatic leadership, inspirational motivation, intellectual stimulation, and individualized consideration. In this theory, leadership does not depend on personnel identification processes but on mutual goals of individuals and encouraged by the leader (Bass, 2008). Bass and Riggio (2006) defined transformational

leadership as an approach that elicits change in individuals in terms of commitment. Bass (2008) clarifies the process associated with transformational leadership to include individualized consideration, intellectual stimulation, inspirational motivation, and idealized influence; the 4 Is.

Leithwood (1994) was one of the first educational researchers to look at transformational forms of leadership in schools. Leithwood et al. (2004) conceptualized transformational leadership, within education, as a series of tasks rather than a leadership style. Originally, transformational leadership was characterized by “six dimensions, including: building school vision and goals; providing intellectual stimulation; offering individualized support; symbolizing professional practices and values; demonstrating high performance expectations; and developing structures to foster participation in school decisions” (Leithwood & Jantzi, 2000, p. 114). Over the last two decades, six models of transformational leadership with 33 specific leadership practices have emerged in educational leadership research (Sun & Leithwood, 2012). In a comparative meta-analysis of these six models, Leithwood and Sun (2012) identified five leadership dimensions with 11 common overlapping leadership practices (see Table 2.2).

Table 2.2***Transformational School Leadership Practices***

Dimensions	Leadership Practices	Descriptors
Setting Direction	Developing a shared vision & building goal consensus	Identification, development, and articulation; appealing and inspiring; consensus; motivating, challenging, and achievable; and sense of purpose.
Developing people	Holding high performance expectations	Expectation of high level of professionalism; and effective innovators.
	Providing intellectual stimulation	Challenge assumptions; stimulate and encourage creativity; providing information for self-evaluation of practice; and refine and carry out tasks more effectively.
	Providing individualized support	Listening; attending to individual opinions and needs; mentor/coach; unique capabilities; and support professional development.
	Modeling behavior	Role model of ethical behavior; instilling pride, respect and trust; and willingness to change own practice as a result of new understandings.
Redesigning the organization	Strengthening school culture	Caring and trust; build a collaborative school culture that reflects the school vision; and encourage ongoing collaboration for program implementation.
	Building collaborative structures	Adequate involvement in decisions about programs and instruction; establishing working conditions that facilitate collaboration for planning and professional growth; and distributing leadership.
	Providing a community focus	Sensitivity to community aspirations; incorporate characteristics and values; and involvement in school.
Improving the instructional program aggregate	Improving the instructional program	Planning and supervising instruction; providing instructional support; frequent and regular monitoring of school progress; and buffering potential distractions from school priorities.
Related practices	Providing contingent rewards	Rewarding for agreed-upon work.
	Management by exception	Monitor the work but intervene only when performance deviates from the norm or expectations.

Note. Adapted from “The Nature and Effects of Transformational School Leadership: A Meta-Analytic Review of Unpublished Research,” by K. Leithwood and J. Sun, 2012, *Educational Administration Quarterly*, 48(3), p. 399. Copyright 2012 by Sage Publications.

This transition from instructional leader to transformative leader requires an understanding of “the meaning of ‘intellectual stimulation’ and ‘individualized support’ as well

as through clarifying the instructional leadership roles of teachers” (Leithwood, 1994, p. 516). In Hallinger’s (2003) assessment, this model assumes two things. First, the principal establishes an environment of shared leadership with teachers. Second, the model is grounded in understanding the needs of the “individual staff rather than ‘coordinating and controlling’ them towards the organization’s desired ends” (p. 337). This also assumes a reality that is constructed through understanding that is developed from both a sociocultural and constructivist perspectives, where principal and teachers work from critical reflection in terms of content, process and premise of current pedagogical practice.

Hallinger (2003) makes a distinction between instructional leadership and transformational leadership through the use of three characteristics including “top-down vs. bottom-up focus on approach to school improvement, first-order or second-order target for change, and managerial or transactional vs. transformational relationship to staff” (p. 337).

Instructional leadership is characterized by a directive or top-down approach to school leadership, focused on establishing clear goals with high expectations for measurable student achievement (Barth, 1990; Day et al., 2016; Marks & Printy, 2003). The degree of leadership rests with principals and their behavior is characterized as a supervisory role (Hallinger, 2005). By contrast, transformative leadership is described as a form of shared, integrative and distributed leadership where leadership goes beyond the principal (Hallinger, 2003; Leithwood & Sun, 2012; Marks & Printy, 2003). Leadership is not seen as the effort of an individual entity but as a coordinated effort of empowerment using multiple sources of leadership to stimulate change through participation (Hallinger, 2003).

First-order change within an organization consists of either moving beyond or reinforcing what is already in existence, the schema, by endorsing those schemas that are an expressed

interest of the organization (Argyris & Schon, 1978; Bartunek, & Moch, 1987). Instructional leadership “is conceptualized as targeting first-order variables” (Hallinger, 2003). The principal’s focus is on directly influencing conditions that impact the quality of curriculum, instruction, and assessment delivered to students in the classroom (Cuban, 1984; Day et al., 2016). An example of this form of change would be a principal focused on a constructivist model of learning and forms of instruction designed to teach for understanding and setting school-wide goals, direct supervision of teaching and supervision based on this model (Leithwood, 1994; Marks & Printy, 2003). Second-order change attention is on phasing out one set of schemas as another set of schemas are phased in (Argyris & Schon, 1978; Bartunek, & Moch, 1987). The emphasis is on school restructuring that is sensitive to the school organization itself. The principal pays attention to “developing a shared vision, creating productive work cultures, distributing leadership to others, and the like” (Leithwood, 1994, p. 501). Transformational leadership attention is on second-order effects as principals increase the capacity of others to produce first-order effects on learning (Hallinger, 2003; Lambert, 1998; Leithwood & Jantzi, 1999). Within this order of change, the principal works with the school staff to identify personal goals and links these goals to the broader goals of the school. “These changes are conceived as second-order effects in the sense that the principal is creating the conditions under which others are committed and self-motivated to work towards the improvement of the school without specific direction from above” (Hallinger, 2003, p. 338). An example of a second order change would be the removal of the “strict adherence to time as required by the Carnegie unit as a catalyst for creating flexible, learner-focused approaches” (Friesen, Jacobsen, Brown, & Alonso Yanez, 2015, p. 6).

Closely related to the first two distinctions, the third distinction focuses on the conceptual dichotomy of transactional and transformative leadership (Hallinger, 2003). The distinction

focuses on the relationship between the principal and staff. In transactional, the principal focuses on existing relationships, clarifying for staff the direction and degree of participation that teachers need to focus on in order to meet predetermined goals (Hallinger, 2003). Because transactional leadership seeks to manage or control staff in moving towards defined goals, instructional leadership closely aligns with transactional (Bass, 1999).

The Impact of Instructional and Transformational Leadership on Student Achievement

Even though many researchers have sought to define the constructs of these educational leadership models and examine how these models impact student learning, this research has also created a debate over which model has the greatest leverage with respect to student achievement (Day et al., 2010; Hallinger, 2005; Hallinger & Heck, 2010; Hattie, 2012; Leithwood & Jantzi, 2005; Marks & Printy, 2003; Robinson, 2010; Robinson et al., 2008). The results of Robinson et al.'s (2008) meta-analysis suggested that instructional leadership had a stronger effect on student achievement as there is a strong focus on the “core business of teaching and learning”, that the academic work of students is directly connected to the school’s mission, visions and goals” (p. 636). Transformational leadership was not considered as effective as the focus in this model tends to be on relationship building. Earlier work of Marks and Printy (2003) makes a counterargument, that instructional leadership was limited, that leaders needed to engage teachers “in a collaborative dialogue” about issues and their implications for teaching (p. 392), which are hallmarks of transformative leadership.

However, Marks and Printy (2003) concluded that “when transformational and shared instructional leadership coexist in an integrated form of leadership, the influence on school performance, measured by the quality of its pedagogy and the achievement of its students, is substantial” (p. 370). Current research is beginning to support this conclusion and may put the

debate to rest (Day et al., 2016; Hallinger, 2011; Leithwood & Sun, 2012; Louis et al., 2010).

The effectiveness of each model centers on the intentional work of the principal and therefore a need for a broader conceptualization (Hallinger, 2011). In their meta-analysis of leadership, Robinson et al. (2008) identified five leadership practices, within instructional leadership, that influenced success of students. With the exception of the third dimension, which focused on teacher evaluation, these practices are included in both Hallinger's (2003) and Leithwood and Jantzi (2005) meta-analysis of transformative leadership. Hallinger (2003) showed that the two approaches have similarities or overlapping dimensions related to vision and mission, and development of staff. Marks and Printy's (2003) research findings established the importance of an integrated model where the synergistic power of shared leadership throughout the school is evident through the combination of high levels of transformative and instructional leadership. Leithwood and Sun's (2012) meta-analysis of transformative leadership studies support an integrated model. Hallinger's (2011) meta-analysis of 40 years of empirical research demonstrated a broader conceptualization of effective leadership that incorporates features of both instructional leadership and transformative leadership. Using the term "leadership for learning", four specific leadership dimensions are presented: values and beliefs; leadership focus; context for leadership; and sharing leadership (Hallinger, 2011, p. 126). Day et al. (2011) research demonstrated that leaders "grow and secure success by layering leadership strategies and actions" (p. xix). Day et al. (2016) defined layering as "the ways in which, within and across different phases of their schools' improvement journeys, the principals selected, clustered, integrated, and placed different emphases on different combinations of both transformational and instructional strategies that were timely and fit for purpose" (p. 226). They concluded that there is no one single leadership model for achieving success, that leadership strategies were tailored

for a particular context or phase in the improvement plan. “When and how they do so, and the relative emphases that they place on these in different phases of their schools’ improvement trajectories, depend on their ongoing diagnoses of the needs of staff and students, the demands of the policy contexts and communities that their schools serve, clear sets of educational beliefs and values” (Day et al., 2016, p. 253).

Leithwood and Sun’s (2012) analysis concludes that “future research aimed at assessing the extent to which school leadership influences students’ learning should eschew the exclusive use of whole leadership models and test the more specific practices that have emerged as consequential from recent research and reviews of research” (p. 412). The final implication from Leithwood and Sun’s (2012) study is that these claims about which leadership models has the greatest effects on student achievement creates more confusion than enlightenment. Day et al. (2016) stated that “future research should move beyond the use of single-paradigm model that may, despite their apparently technical rigor, provide somewhat simplistic dichotomies or limited accounts of successful school leadership” (p. 254).

Towards a New Understanding

Educational leaders are often described in the literature as those who maintain a focus on improving teaching and learning, but there is a limited specificity as to what educational leadership practices lead to increased student achievement (Goldring et al., 2015). As discussed in above section of the chapter, principals seem to need to apply both forms of leadership to progressively engage teachers in shaping the teaching. Within each model, the literature clearly defines the role of the principal as espousing the school goals by establishing a positive school culture focused on improving instructional practice (Heck & Hallinger, 2014). There is a caution here. Just like the embedded culture of teaching, leadership focused on just goals can be

mechanistic in defining the leadership tasks. These tasks can be categorized as being scientific in nature, taking on a Newtonian world perspective in which there is a permanence with clear structures and predictable consequences (Alava, Halttunen, & Risku, 2012). However, the challenge is understanding the important underlying themes of the leadership tasks and how principals should conduct their day-to-day work across a broader perspective (Goldring et al., 2015). A shift is required, one in which leadership influences teacher learning through a quantum world perspective characterized by constant change, ambiguity, and challenge to predictability (Alava et al., 2012). This next section of the chapter will discuss the notion of a more holistic leadership approach as a broad perspective in the development of leadership for teaching.

Current Conceptualization of Pedagogical Leadership

One can easily assume the meaning of pedagogical leadership in the context of the broader idea of instructional leadership found in the literature (Day & Sammons, 2014). However, I put forward the distinction between pedagogical leadership and that of both leadership models. Through a brief analysis of how pedagogy is used in context with educational leadership I will examine the assumptions underlying pedagogical leadership.

Defining Pedagogical Leadership

Pedagogical leadership can be directly linked to pedagogy, the study of teaching and how learning takes place. Leadership, within this theme, is the act of leading or guiding the study of teaching and learning. I suggest here that the concept of pedagogical leadership is not clearly defined within current leadership models.

Sergiovanni (1998) proposed a movement away from the traditional educational leadership models:

Provide *pedagogical leadership* that invests in capacity building by developing social and academic capital for students and intellectual and professional capital for teachers. Support this leadership by making capital available to enhance student learning and development, teacher learning and classroom effectiveness (p. 38).

Sergiovanni described pedagogical leadership as an investment in various forms of human capital that included social, academic, intellectual, and professional capital. “The episteme of pedagogy is of greater relevance to leaders in education in an age where the promotion of effective learning involves more than merely ensuring that the relationship between teachers and learners is satisfactory or good” (Male & Palaiologou, 2012, p.107). Sergiovanni (1998) described this leadership approach as “a fabric of reciprocal responsibilities, and support is woven among the faculty that adds value to teachers and students alike” (p. 40).

There continue to be studies that move towards a definition of pedagogical leadership with no common understanding as to what this form of leadership demands (Heikka, & Waniganayake, 2011). Some researchers have attempted to create a pedagogical leadership model that is a broad interpretation of the instructional leadership model using conceptual components to clarify the meaning of pedagogical leadership (Alava et al., 2012). As an example, MacNeill, Cavanagh and Silcox (2005) used eleven elements to describe pedagogical leadership: (a) discharge of moral obligations concerning societal expectations of schooling, (b) presence of a shared vision and sense of mission about student learning, (c) commitment to mission realization by staff and students, (d) application of expert knowledge about student learning and development, (e) improvement of pedagogic practice, (f) the engagement and empowerment of staff, (g) presence of multiple leadership within the staff, (h) emphasis on pedagogic rather than administrative functions by leaders, (i) creation and sharing of knowledge

throughout the school, (j) development of relationships and a sense of community, and (k) application of a re-culturing approach towards school improvement (p. 8). What these models fail to define is a broader “link between leadership and knowledge management, distributed leadership, and the new roles of teachers and principals” (Alava et al., 2012, p. 3).

Male and Palaologou (2013) described pedagogical leadership as being “context dependent rather than ‘model’ dependent” (p. 215). Pedagogical leadership is viewed as a process focusing on an incalculable future. In other words, pedagogical leadership “is not orientated towards control and closure (choosing what to do) but towards the invention of the new (putting things together differently” (Osberg, 2010, p. 163). Pedagogical leadership is about sense making as “an ethical approach that respects values and does not engage in any project that will only benefit the individual, but instead looks after the ecology of the community” (Male & Palaologou, 2013, p. 3). Conceptualizing a model of pedagogical leadership, here, might entail “the danger of limiting practice rather than developing practices which expound alternative ways of doing things with children and to the enrichment of pedagogy” (Male & Palaologou, 2012, p.11). In other words, the construct of pedagogical leadership is a work in progress and uses elements from different leadership models dependent on context of individual situations.

Recently, Ärlestig and Törnsén (2014) conducted a study focused on a pedagogical leadership model that aligns with elements of both leadership models (see Figure 2.2). Based on research on successful leadership (Day & Leithwood, 2007; Hallinger, 2003), the model contains three main parts: process-steering, goal-steering, and result-steering. Each of the three elements interact with the others as a collective learning process.

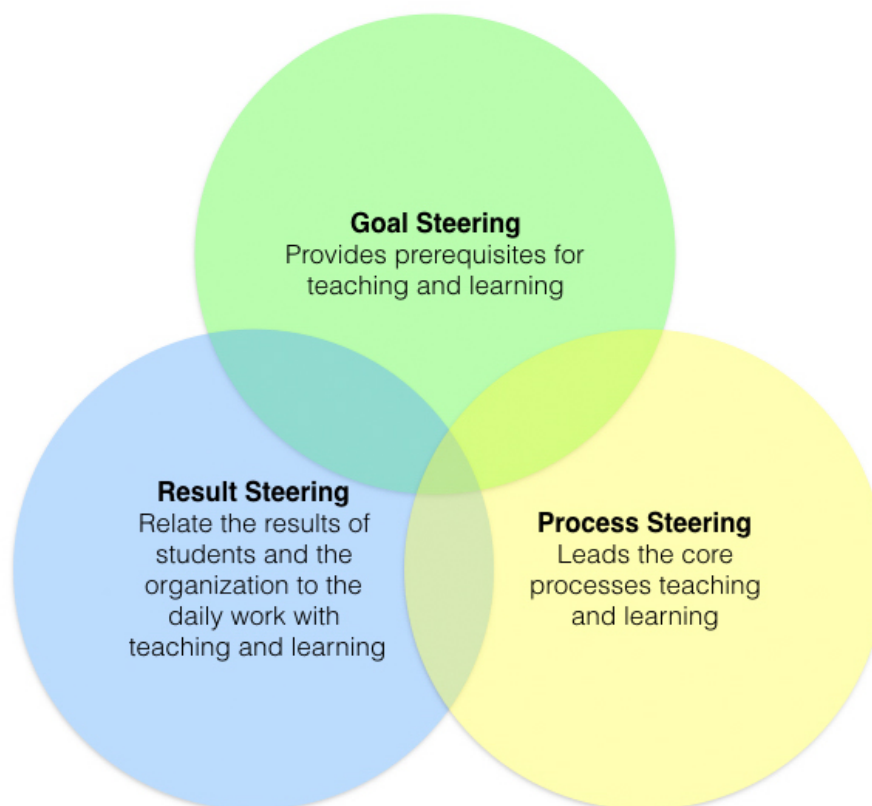


Figure 2.2. A three-dimension model of pedagogical leadership. Adapted from “Classroom Observations and Supervision – Essential Dimensions of Pedagogical Leadership,” by H. Ärlestig and M. Törnsén, 2014, International Journal of Educational Management, 28(7), p. 858. Copyright 2014 by the Emerald Group Publishing Limited.

Process-steering focuses on “leading the core process of teaching and learning” (Ärlestig & Törnsén, 2014, p. 858). This requires a first-hand approach in classroom observations with systematic feedback in the form of mutual learning. Pedagogical leadership emerges within a network of interaction and development processes used by the superior to influence and develop staff’s attitudes, behaviors and actions” (Alava et al., 2012). Within this focus, there is a level of sense making that is required by both the principal and teacher which requires a governance that is reciprocal in nature.

Goal-steering provides the prerequisites for teaching, including “objectives and visions, high expectations, and organization of the school” (Ärlestig & Törnsén, 2014, p. 859). The pedagogical principal creates the starting points for teacher learning with a clear connection back to process-steering. “Pedagogical leadership is more connected to learning than control” (Ärlestig & Törnsén, 2014, p. 857). Sergiovanni (1988) viewed pedagogical leadership as one of building a strong learning community that is integral to the development of social, academic, intellectual and professional capital.

Result-steering relates to “school results and the qualities to student learning” (Ärlestig & Törnsén, 2014, p. 859). This perspective involves regular evaluation and assessment of student learning, an analysis of the results to check for alignment with the first two processes and determine any discrepancies.

Ärlestig and Törnsén’s (2014) study concluded that there is no one best pedagogical leadership practice. However, the model presented can assist in making pedagogical leadership more concrete without limitations that are inherent with other leadership models. What these processes are able to do is challenge researchers to investigate patterns of actions that could indicate some professional norms connected to pedagogical leadership. This process model encourages an exploration of both the principal centered and collective forms of leadership that have the ability to widen the base of knowledge on the nature and impact of the effectiveness of a layered approach to educational leadership focused on teaching and teachers assuming responsibility for their own and their colleagues learning.

Conceptual Model of Pedagogical Leadership

As schools continually look for new ways to improve teaching, the principal recognizes the need to promote greater engagement of teachers and provide a safe environment to try

alternative approaches to teaching (Day, et al., 2010). “We found that in effective principal-teacher interaction about instruction, processes such as inquiry, reflection, exploration, and experimentation result; teachers build repertoires of flexible alternatives rather than collecting rigid teaching procedures and methods” (Blase & Blase, 2000, p. 132). The challenge for high school principals, within the complexity of their work, is how to actively participate in teacher learning. If the intent of leadership is to provide organizational improvement, leadership can be simply described by two purposes, providing direction and exercising influence. Yet, there is a complexity in the enactment of these two purposes.

In this section, I develop a conceptual model that focuses on a holistic representation of how instructional and transformational leadership can be conceptualized within pedagogical leadership to provide both direction and influence on teaching and learning. The central tenet is to identify leadership strategies and practices found within each leadership model that are directly connected to supporting and sustaining a focus on continual improvements of teaching in high schools. The conceptual model proposed is visually represented by Figure 2.3.

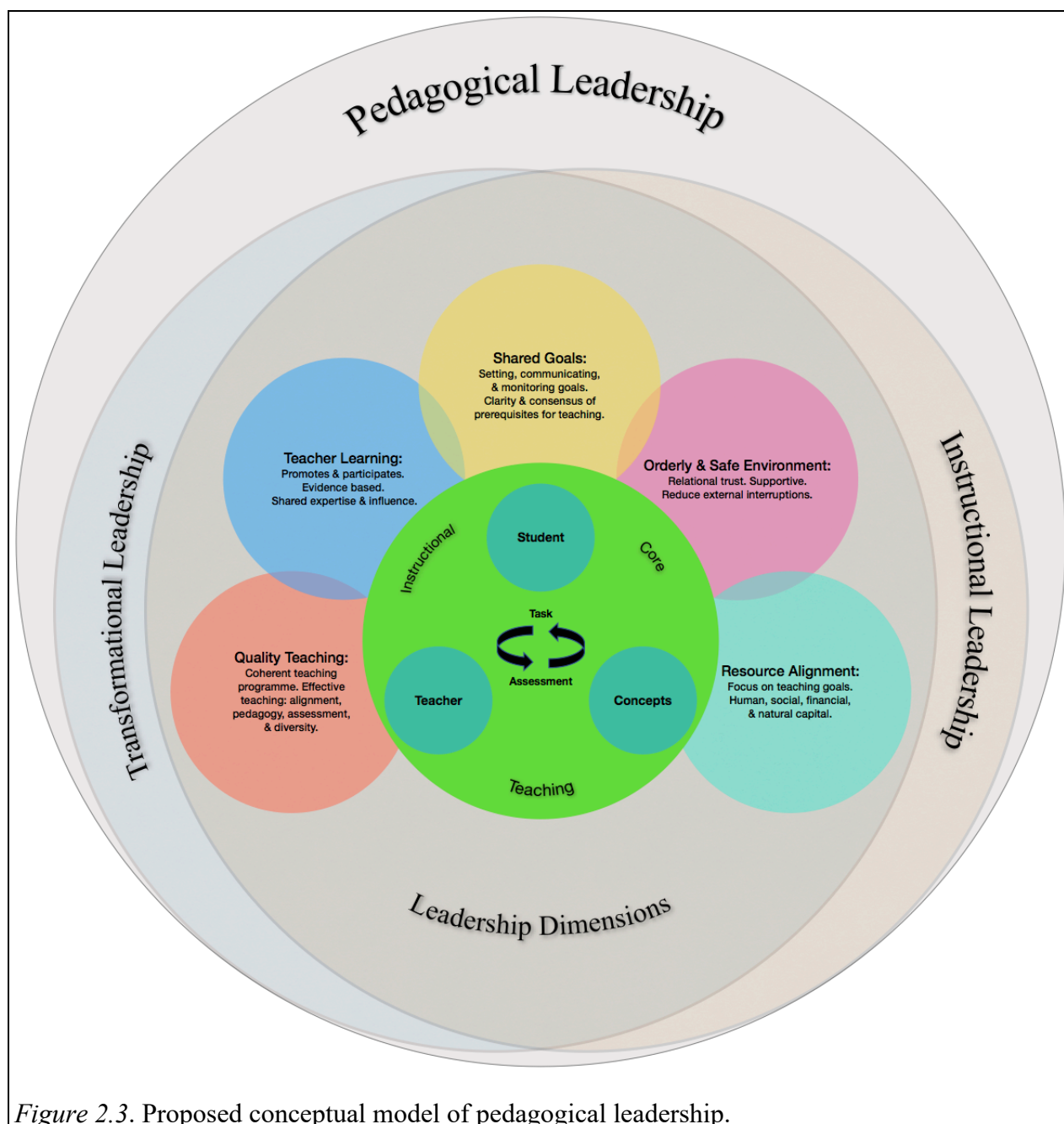


Figure 2.3. Proposed conceptual model of pedagogical leadership.

The construct of the pedagogical leadership model centers on the instructional core and is represented by the central circle. The instructional core is directly connected to teaching and can be viewed as a triangulated concept of the relationship between teachers' knowledge and skill, students' engagement in their own learning, and the presence of academically challenging

concepts (City, Elmore, Fiarman, & Teitel, 2009; OECD, 2013). Doyle (1983) characterized teaching as the tasks being presented to students as they try to understand concepts. Teaching, as a series of complex activities, can be characterized as the actual work of teachers that is purposeful in bringing about the desired learning within students. At the center of the instructional core is a focused on the intent of the academic task and the ability to predict what students know or are able to do (assessment) (Elmore, 2008). In schools with strong understanding of purposeful teaching and learning, teachers believe the academic work takes priority over everything (Louis et al, 2010).

In this model, the leadership activities, represented by the five circles below the central circle, are directly linked to the instructional core and consists of five interrelated leadership dimensions (Robinson et al., 2008).

Represented by the two outside circles, the leadership dimensions interact with the instructional core through two distinct processes of reciprocity, instructional leadership practices (Hallinger et al., 2013) and transformative leadership practices (Leithwood & Sun, 2012) (see Table 2.3). The first, is where the principal holds the teacher accountable for an action or outcome in which the belief is that the teacher has the capacity to fulfill the action or meet the outcome (Elmore, 2000). The second, is where the underlying principles of collaboration, distributed expertise, and mutual influence is central to affecting change within teaching (Hallinger, 2005; Hallinger& Heck, 2010).

Table 2.3***Pedagogical Leadership Alignment of Leadership Dimensions and Practices***

Leadership Dimension	Instructional Leadership Practices	Transformational Leadership Practices
Shared Goals	Frames the school's goals	Developing a shared vision & building goal consensus.
	Communicates the school's goals	Holding high performance expectations.
Resource Alignment		Providing a community focus
Quality Teaching	Supervises and evaluates instruction	Building collaborative structures
	Coordinates the curriculum	Improving the instructional program
	Provides incentives for teachers	Management by exception
	Maintains high visibility	Providing contingent rewards
Teacher Learning	Monitors student progress	Providing intellectual stimulation
	Promotes professional development	Providing individualized support
		Modeling behavior
Orderly and Safe Environment	Protects instructional time	Strengthening school culture

Note: Leadership Dimensions adapted from “The Impact of Leadership on Student Outcomes: An Analysis of The Differential Effects of Leadership Types,” by V. Robinson, C. Lloyd, and K. Rowe, 2008, *Educational Administration Quarterly*, 44(5), p. 656. Copyright 2008 by University Council for Educational Administration.

Instructional Leadership Practice adapted from “Assessing the Measurement Properties of the Principal Instructional Management Rating Scale,” by P. Hallinger, W. Wang, and C. Chen, 2013, *Educational Administration Quarterly*, 49(2), p. 275. Copyright 2013 by Sage Publishing.

Transformational Leadership Practice adapted from “The Nature and Effects of Transformational School Leadership: A Meta-Analytic Review of Unpublished Research,” by K. Leithwood and J. Sun, 2012, *Educational Administration Quarterly*, 48(3), p. 399. Copyright 2012 by Sage Publishing.

Robinson et al. (2008), in a meta-analysis of published research, examined the impact of different types of leadership on student outcomes. Based on this review, five dimensions of effective leadership and their effect on student outcomes were identified: (a) establishing goals and expectations ($ES = .42$), (b) resourcing strategically ($ES = .31$), (c) planning, coordinating, and evaluating teaching and the curriculum ($ES = .42$), (d) promoting and participating in teacher learning and development ($ES = .84$), and (e) ensuring an orderly and supportive environment ($ES = .27$). Each of the five dimensions, in the model, are expressed as circles, indicating that each are an underlying practice of pedagogical leadership. The circles also overlap with each other indicating the reciprocal nature in which each dimension informs the work of each other. Each of the five dimensions rest under the instructional core (teaching) circle to represent the organizational conditions of layering pedagogical leadership. Of note, each leadership model is not distinguished within the model but supports an integrated approach to pedagogical leadership and dependent on the stage of development of a professional culture focused on pedagogical practices. The role of the high school principal, within this model, is built on both individual and collective capacity to work with teachers.

Summary

This chapter has provided an overview of the literature focusing on the embedded challenges facing high school principals in addressing pedagogical practice. As well, an overview of instructional and transformative leadership models as two key, but contrasting, educational leadership models, was provided. In the chapter, I also examined pedagogical leadership as a process incorporating the two dominate educational leadership models, instructional and transformational leadership. Framed within sociocultural theories of learning, pedagogical leadership has been chosen as being the most suitable framework for high school

leaders because it emphasizes the principal's role as facilitating teachers' collective learning focused on teaching. Based on the challenges cited earlier in the chapter, principals come to see themselves as partners, facilitators, and co-learners; building a culture of reflective teaching and creating a continuous ethos of inquiry and adaptation into professional learning in order to improve student learning. The intent of pedagogical leadership is to nurture a disposition of curiosity and purposefulness focused on the process of teacher learning and less on the act of teaching. Key to this work is understanding how principals in large high schools engage in pedagogical leadership through the lens of the instructional core. Specifically, how do high school principals effectively embed a process of professional growth through alternative strategies of supporting pedagogical discussions that are framed within the school's core values and supported by shared leadership?

This chapter does not suggest that pedagogical leadership is the only compelling leadership approach. What I do accomplish in this chapter is to propose further questions on principal norms that require investigation in reference to a deeper understanding of pedagogical leadership, teacher learning, and student achievement framed within high school redesign. Also, I do not focus on the change process being a top-down or a bottom-up orientation. There is an assumption that leadership focused on the process of change is a balance and an integration of both dynamics of leadership. Simply put, I question in what ways do high school principals employ a consistent effort on improving the instructional core with a focus on innovative pedagogical practice beyond a single paradigm model of educational leadership.

Chapter 3

Research Methodology

This chapter describes the research methodology used to explore the four research questions in this explanatory sequential mixed methods study with multiple cases and includes discussion of each of the following areas: (a) philosophical positioning and rationale for research methodology, (b) description of the research study participants, (c) overview of the research design, (d) data collection methods, (e) methods for data analysis and synthesis, (f) ethical consideration, (g) issues of trustworthiness, and (h) limitations and delimitations of the study. The chapter concludes with a summary.

Philosophical Positioning and Rationale for Methodology

To build the rationale for the selection of a research methodology and method(s), researchers must understand their epistemological commitments with respect to the nature and production of knowledge that underlies the inquiry being conceptualized. This epistemological focus permeates every step of the entire research process “from selection of the phenomenon of interest that is put under scrutiny to the way the ultimate report is composed” (Yazan, 2015, p. 136). “Research is, after all, producing knowledge about the world – in our case, the world of educational practice” (Merriam, 1998, p. 3). Therefore, I had to be willing to move beyond the limits of my own perspective.

As described in Chapter One, my own epistemic commitment was dominated by a social constructivist perspective through a mediated process and was social in nature. Social constructivism states that meaning is constructed by individuals as they actively engage with the people and the environment they are interpreting (Vygotsky, 1978). Supporting a social constructivist positioning, the intentionality of this epistemic stance was straightforward in that

the conscious mind brings shape to the object or human experience. Underlying this assumption was that “reality is not an objective entity; rather, there are multiple interpretations of reality” (Merriam, 1998, p. 22). What constructivism suggests is that there are no true or valid interpretations, but that the understanding of an object’s reality is made by the interpretative strategies of the individuals. Research, in the constructivist vein, acknowledges that the researcher gains multiple views of and locates the phenomenon within a web of connections and constraints, in itself a construct (Charmaz, 2014). As a researcher, this:

requires that we not remain straitjacketed by the conventional meanings we have been taught to associate with the object. Instead, such research invites us to approach the object in a radical spirit of openness to its potential for new or richer meanings. It is an invitation to reinterpretation (Crotty, 2005, p. 51).

As one seeks understanding, there is another assumption that needs to be addressed, that of a social constructivist. A social constructivist assumes that people create social reality(ies) through individual and collective actions, a symbiotic interaction (Charmaz, 2014).

The researcher brings a construction of reality to the research situation, which interacts with other people’s constructions or interpretations of the phenomenon being studied.

The final product of this type of study is yet another interpretation by the researcher of others’ views filtered through his or her own. (Merriam, 1998, p. 22)

Meaning directed at an object, has varied meanings, compelling the researcher “to look for complexity of views rather than narrowing into a few categories or ideas” (Creswell & Creswell 2018, p. 8). “We have to reckon with the social origins of meaning in the social character with which it is inevitably stamped” (Crotty, 2005, p.52). The goal of this research was relying on the participants’ understanding of the object within both social and historical contexts (Creswell &

Creswell, 2018). “Thus, while humans may be described, in constructionist spirit, as engaging with their world and making sense of it, such a description is misleading if it is not set in a genuinely historical and social perspective” (Crotty, 2005, p. 54). In other words, my role, as the researcher, was to “make sense of (or interpret) the meanings others have of the world” (Creswell & Creswell, 2018, p. 8).

In order to justify research choices, the philosophical underpinnings must be made evident through the research’s theoretical perspective. Theoretical perspective is the philosophical stance informing the research methodology and methods, and is based on the researcher’s epistemological positioning, thus grounding the methodology within a set logic and criteria (Crotty, 2005). Rather than starting with a theory, the theoretical perspective of this research was one of interpretivism where the research “inductively develops a theory or pattern of meaning” (Creswell & Creswell, 2018, p. 8). Merriam (1998) stated that “the key philosophical assumption, ..., upon which all types of qualitative research are based is the view that reality is constructed by individuals interacting with their social worlds” (p. 98). The foundational assumption for interpretive research is that knowledge is gained, or at least filtered, through a social constructivist lens (Klein & Myers, 1999). In addition, interpretive research acknowledges the relationship of the researcher with the phenomenon being studied and the context in which the phenomenon is situated. As there are no defined variables or testing of hypothesis, interpretive research sets out to understand the phenomenon influences and is influenced by the social context (Rowlands, 2005).

To this point, I had reasoned, from a social constructivist commitment, for an interpretivism perspective in the design of the research in exploring the leadership phenomenon (see Table 3.1). I argue, from this perspective, that a well-conducted inquiry seeks to modify

attitudes and that the inquiry can terminate with a claim. Denzin and Lincoln (2000) described this form of research as a qualitative study, “moments and meanings in individuals’ lives” (p. 3) which involves an interpretive approach to gain a better understanding of the phenomenon being studied. As Mason, (2006) states, qualitative research makes context explicit in explanations, rather than "attempting to control for them or edit them out" (p. 17). Based on the gaps in leadership research literature as cited in Chapter Two, my intent was not to either justify current beliefs or support foundational premises but accept the dualism of both forms of leadership in order to develop new understandings. Seeking answers to this real-world problem of effective leadership skills that focused on supporting innovative pedagogical practices was central to this research.

Table 3.1

Epistemological Positioning of the Study

Epistemology	Theoretical Perspective	Methodology	Methods
Social Constructivist	Interpretivism	Mixed Methods	Multiple Case and Explanatory-Sequential

Note. Adapted from *The Foundations of Social Research*, by M. Crotty, 2005, p. 5. Copyright 2005 by the Sage Publications.

For clarification, the intent of the study was not to be working with principals in designing specific strategies for implementing innovative pedagogical practice. The focus was on identifying and understanding why certain leadership strategies are effective in supporting adult learning focused on innovative pedagogical practices. By understanding the intent of the research in addressing a complex phenomenon, this discourse supports an integrated methodology in which quantitative and qualitative data was collected, analyzed, and integrated; mixed methods

(Plano Clark & Ivankova, 2016). Mixed methods research that focuses on fully understanding the experience of individuals, is one in which the research methodology can produce stronger and more credible evidence of the phenomenon being studied through a complementary and corroborating process (Creswell, 2013). By capitalizing on the strengths of each quantitative and qualitative methods, the researcher has the ability to determine the degree of integration of either method, dependent on the specific research purpose (Creswell & Plano Clark, 2018; Plano Clark & Ivankova, 2016). Within this methodology, the form of mixed methods analysis suspends judgment of the phenomenon, rather centering on understanding the rationale of leadership practice focused on teaching and learning. This methodology allows insight into the leadership processes at play, ensuring a stronger interpretation of the data and the crafting of the conceptual model (Creswell, 2013; Merriam, 1998). The next part of the chapter will discuss the rationale for selecting the methods of data gathering and analysis: explanatory sequential mixed design and multiple case study.

Rationale for Mixed Methods Research Methodology and Methods

Research methods should be designed based on the type of data required to answer the questions being posed (Creswell, 2012; Miles, Huberman & Saldaña, 2014). The research questions guiding this study, calls for a deeper understanding of the critical nature of the principal's role in influencing innovative paradigms of teaching and learning in high schools. The intent of the study was to identify the connection between effective leadership practices, within both instructional and transformational educational leadership models, and the influence of change focused on teaching and learning. As the study was grounded within the reality of the principal, the knowledge claims are framed within a social constructivist positioning (Lincoln & Guba, 2000). The study seeks to understand the social phenomena of the leadership experiences

of the principal by constructing meaning of the experiences in order to comprehend the implications of leadership practice on teacher learning.

However, to develop an even deeper understanding of the conceptual understanding of these social phenomena, both quantitative and qualitative data are required. The rationale for mixing quantitative and qualitative methods was that both types of data do not provide sufficient details of the complexity of the phenomenon on their own (Creswell & Creswell, 2018). As Yin (2014) stated, “mixed methods research can permit researchers to address more complicated research questions and collect a richer and stronger array of evidence that can be accomplished by any single method alone” (p. 65). A mixed methods approach was utilized to increase the possibilities of identifying various patterns of association and to elaborate on the explanation of possible causal connections between high school principal’s leadership practices and cultivating progressive teaching and learning (Creswell, 2012; Miles et al., 2014).

Explanatory sequential mixed design method. As a form of inquiry, and conforming to the theoretical perspective of this study, the mixed methods design directly relates to the main research question framed within the context of ‘how’ (see Table 3.2). Subsequent questions required two type of information, numerical and narrative (Plano Clark & Badiee, 2010). To that end, an explanatory design was selected “to explain how or why some conditions came to be” (Yin, 2014, p. 238). The method’s design refers to the logical sequence that connects the data to the research questions and ultimately to the explanation of such connections within a conceptual framework. As Miles et al. (2014) suggested explanatory design allows the opportunity to collect “constructs – and the presumed interrelationship between them” framed within the conceptual framework (p. 20)

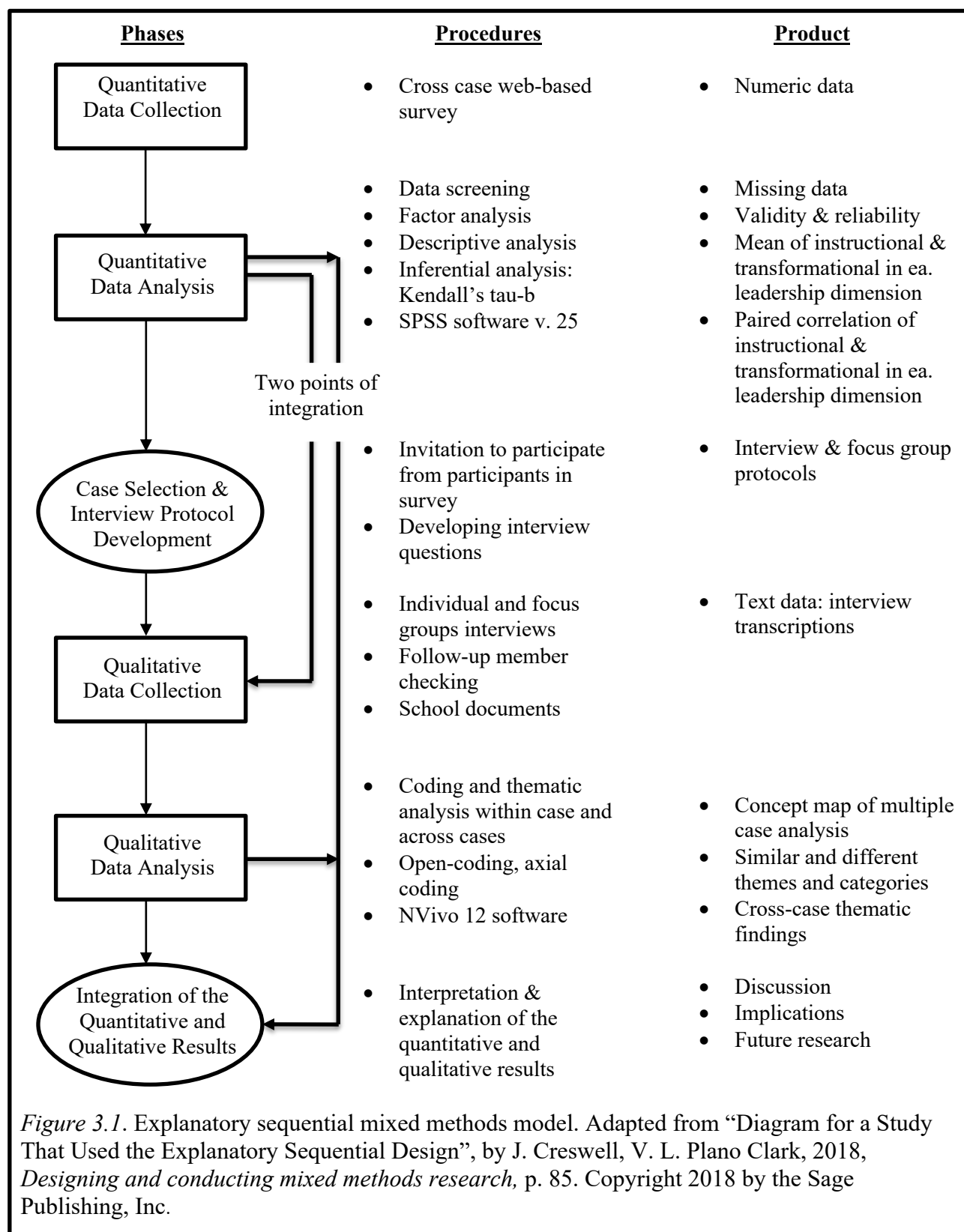
Table 3.2***Dimensions of Research Questions Guiding the Study***

Research Question	Question Design	Information Needed
1. How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?	Content-focused mixed method question. Predetermined design based on literature review and a focus on the integration of the results from both the quantitative and qualitative phases.	Determine ways in which high school principals support innovative pedagogical practice framed within instructional and transformational leadership and the five leadership dimensions of the pedagogical leadership model?
2. To what extent do high school principals shape their pedagogical leadership practices within elements of instructional and transformational leadership framed within five leadership dimensions of effective leadership?	Independent, quantitative question. Predetermined design based on literature review.	Determine if there is a perceived relationship between instructional and transformational leadership within each of the five leadership dimensions.
3. What is the correlation between instructional and transformational leadership within each of the five leadership dimensions of the pedagogical leadership model?	Independent, quantitative question. Predetermined design based on literature review.	Determine the strength of the correlation between instructional and transformational leadership within each of the five leadership dimensions.
4. What themes and patterns do principals, assistant principals, learning leaders, and teachers reveal in their perceptions of the principal's pedagogical leadership practices within the four leadership dimensions?	Dependent, qualitative question. Emergent, sequential design based on data analysis of quantitative phase.	Determine ways in which the principal's leadership practices contribute to the quality development of teaching within each of the four leadership dimensions.

Explanatory sequential mixed method consists of two phases of data collection and analysis: quantitative followed by qualitative (Creswell & Creswell, 2018). The phases are connected by an intermediate stage allowing the second phase to build on the first phase findings (see Figure 3.1); the rationale for this intermediate phase being that the quantitative data and subsequent analysis provide a general understanding of the phenomena (Ivankova, Creswell, &

Stick, 2006). In the first phase, survey data and analysis, along with annual school reports, school development plans, and field notes, provided the initial background in describing the interconnected relationship between instructional and transformational leadership practices when principals are focused on influencing pedagogical practice.

The subsequent qualitative data and analysis refines and extends the findings from the quantitative phase by providing detailed insights into the practices of pedagogical leadership (Creswell, 2012). In order to elaborate on the initial findings, interviews and focus group discussions were conducted. Questions were constructed and reconstructed in regard to developing an encompassed understanding of the complexity of the phenomenon. This method was used to explain certain factors of instructional and transformational leadership practices that had significance on leadership strategies focused on influencing pedagogical practices (Creswell & Creswell, 2018). Of importance was that during this qualitative stage, the research produced findings that were not predetermined in advance and that these findings maybe applicable beyond the boundaries of the study (Merriam, 1998). The priority in the study was given to the qualitative phase, the focus being on an in-depth explanation of the results obtained in the first phase (Creswell, 2012; Creswell; Plano Clark, 2018). To this end, the design of this research was such that details of effective leadership practices of high school principals were identified and unpacked. As described in the next section, this combination of quantitative and qualitative data was useful in considering a case study method (Yin, 2014).



Rationale for multiple case study method. Within the framework of the explanatory sequential mixed methods, the study employed a multiple case study method to add a layer of confidence to the findings (Merriam, 1998; Stake, 2006). Case study method is a strategy found in all three approaches to research, qualitative, quantitative, and mixed methods, and is characterized by multiple definitions and understandings. Seawright and Gerring (2008) described a case study as “the intensive (qualitative or quantitative) analysis of a single unit or a small number of units (the case), where the researcher’s goal is to understand a larger class of similar units (a population of cases)” (p. 296). Yin (2014) described a case study as “both a process of inquiry about the case and the product of that inquiry” (p. 8).

A case study is preferred when examining a phenomenon when the relevant behaviours cannot be manipulated, and the degree of focus is on contemporary as opposed to historical events (Yin, 2014). From my own epistemological commitment, this case study was an inquiry that investigated “a contemporary phenomenon (the case) in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident” (Yin, 2014, p. 16). “Each case is a specific entity”, an integrated system with a boundary and working parts” (Stake, 2006, p. 2). Merriam (1998) stated that “case studies are differentiated from other types of qualitative research in that they are intensive descriptions and analysis of a single unit or bounded system such as an individual, program, event, group, intervention, or community” (p. 19). Creswell (2012) described a case study as “an in-depth exploration of a bounded system (e.g., activity, event, process, or individuals)” (p. 465). For this study, the unit of analysis was bounded by the activities and processes of a principal’s pedagogical leadership practices rather than describing the individual principal.

Within each case are different layers and sources of data. Acknowledging these layers, the unit of analysis was further defined by the interaction of the principal with their assistant principals, learning leaders, and teachers in the principal's practice of pedagogical leadership. Yin (2014) referred to these roles as subunits or embedded cases and allows for consideration of nested context during the explanatory analysis during each stage.

Miles et al. (2014) suggested "multiple cases offer the researcher an even deeper understanding of the processes and outcomes", strengthening the validity of the findings (p. 30). Varying cases can provide a compelling interpretation of the findings (Merriam, 1998). The logic behind choosing a multiple case study was in the ability to examine the phenomenon multiple times, to corroborate and extend the findings of that of a single case. Thus, a third phase has been added to the data analysis, that being a cross-case analysis (see Figure 3-1). Initially, six high schools were identified through a process described in the next section.

The Research Sample

Selecting the cases to study are a crucial step and should relate to the theoretical framework or conceptual model being examined by the study (Yin, 2014). Typically, cases are selected to explore and understand the phenomenon being studied (Seawright & Gerring, 2008). Case selection was based on Yin's (2014) "unusual case rational" where cases represented extreme or unusual situations, deviating from the norm or everyday occurrence (p. 52). Bloomberg and Volpe (2016) referred to this as criterion and extreme sampling, where cases are selected based on their representation of extremes within a set of criteria. Two rationales for this purposeful sampling was relevant to this study: (a) explore cases vital to the research and questions and (b) to compare differences between individuals and settings (Maxwell, 2005). This

form of case selection allowed for a focused exploration of the activities and processes of principal's practice of pedagogical leadership.

As the bounded participant, individual principals and their high schools were purposefully selected from all school jurisdictions in and around a large urban center. Selection of principals and their high schools were based initially on those schools who had indicated their participation in Alberta Education's high school redesign initiative and had exemplified an active and strong commitment to Alberta Education's *Moving Forward with High School Redesign* (2017a). Based on Stake's (2006) suggestion, "the benefits of multiple case study will be limited if fewer than . . . four" are selected, therefore six individual high schools were initially identified (p. 22). These six principals and their high schools were purposefully selected from the participants list based on recommendation from both Alberta Education and the local school authorities. These recommendations were framed on individual school's progressive professional development based on the nine foundational principles outlined by Alberta Education (2017f) and had a demonstrable relationship with teaching and innovative pedagogical practice. Final inclusion in the study was based on individual conversations with principals in describing the intent of the study. During the conversations, principals discussed the process of high school redesign and the active and inclusive approach to innovative pedagogical practices. Based on these conversations, three of the principals excluded themselves from the study. Further case descriptions will be provided in Chapter Four and Five.

Overview of Research Design

The purpose of this explanatory sequential mixed methods study was to identify principals' pedagogical leadership practices that contribute to the quality development of

teaching (see Table 3.2). The study collected data framed within the five leadership dimensions of pedagogical leadership: (a) shared goals, (b) resource alignment, (c) quality teaching, (d) teacher learning, and (e) orderly and safe environment. The data was collected in two phases (see figure 3.1). The first phase was an electronic survey sent to each principal, assistant principal, learning leader, and teacher. The second phase utilized individual face-to-face interviews, focus groups, field notes, and reflective research journals. This section will provide a detailed outline of the study design.

Data Collection Method

The use of a mixed methods approach and triangulation through expansion of the data of this study was critical in illustrating and illuminating the conceptual model of pedagogical leadership. Data was collected from three specific cases, which were high performing Alberta high schools identified through their application of the nine foundational principals of Alberta Education's high school redesign in framing innovative pedagogical practice (Alberta Education, 2017f). The following two sections will describe both the quantitative and qualitative data collection methods of the study.

Phase one: Quantitative data collection. At the start of the first quantitative phase, those who agreed to participate in the study were emailed with an individual secured link to an electronic survey. Participants were provided access for a three-week period. The link could only be used once preventing ballot box stuffing. The survey software saved respondents data as they progressed through the survey allowing them to leave and return at any time. Respondent's name and email were automatically saved with their survey data. This allowed the survey software to send a reminder email with the link at the end of the first and second week to all participants who

had not completed the survey. With the individual link, the software settings allowed for anonymous response by disconnecting the responses from the respondent's contact information.

Two cross-sectional self-developed electronic survey designs were used, the first being sent to the principals and the second to assistant principals, learning leaders, and teachers (see Appendices B and C). For assistant principals, learning leaders, and teachers, the survey was anonymous and was only identified by their participation in a specific case, their high school, and their role.

Part one of the survey collected both contextual and demographic information including: (a) student population, (b) position within the school, (d) years in position at current school, (e) total years in position, (f) education, and (g) subject specialization. The demographic data provided participant profiles with respect to their position within the school's organization. This data provided relevant information to help explain what underlying individual's perceptions of pedagogical leadership may be (Bloomberg & Volpe, 2016).

The second part of the self-developed survey collected data on participants' perceptions of their principal's leadership style that engaged them in developing, supporting, and sustaining their learning focused on innovative teaching practices. The survey instrument was cross-sectional in design and focused on measuring instructional leadership practices using 23 behavioral statements from the Principal Instructional Management Rating Scale (PIMRS) (Hallinger, 1990) and measuring transformational leadership practices using 23 behavioral statements from the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio 2004) and framed within the five pedagogical leadership principles (see Table 2.3). Each item was rated on

a five-point Likert scale: 1. No impact; 2. A small impact; 3. A moderate impact; 4. A large impact; 5. Not applicable.

As commercial instruments, both surveys had been selected for two reasons. First, through various meta-analytical reviews, both instruments had considerable evidence for reliability and validated for measuring specific relationships connected to instructional or transformational leadership in education (Hallinger et al., 2013; Sun & Leithwood, 2012, 2015). Second, both instruments are the dominant survey tools in educational leadership and each design was such that a compatible analysis can be conducted (Robinson et al., 2008). The questions selected and the wording within both the PIMRS and MLQ were modified to reflect the requirements of the jurisdiction ethics approval. Specifically, the representative wanted to ensure questions were not easily taken as specific to an individual context and thus too easy to identify specific principals. Questions selected from each instrument were placed into five categories that map directly to the five leadership dimensions of pedagogical leadership creating a survey question matrix (see Appendix A).

The PIMRS were adapted, with permission from the copyright holder, for application within the conceptual model focused on instructional leadership. This instrument included nine of the ten subscales and modified to apply to the conceptual model for pedagogical leadership: (a) frames the school's goals, (b) communicates the school's goals, (c) supervises and evaluates instruction, (d) coordinates the curriculum, (e) provides incentives for teachers, (f) maintains high visibility, (g) monitors student progress, (h) promotes professional development, and (i) protects instructional time. This included 23 items connected to the nine subscales and cross-correlated with the five dimensions of the conceptual model (see Appendix A).

As with the PIMRS, the MLQ was adapted with permission from the copyright holder and publisher (see Appendices K & L). The MLQ (5X) short form survey, that measures leadership styles across twelve subscales, was the specific version used. As the study was interested in the relationship between pedagogical leadership and the two main learning leadership models, five of the subscales was selected that correlate with transformational leadership styles (Bass & Avolio, 2004). The five subscales include (a) idealized influence attitude (IA), (b) idealized influence behavior (IB), (c) inspirational motivation (IM), (d) intellectual stimulation (IS), and (e) individual consideration (IC) with four questions each. Leithwood and Jantzi (2005) found six studies that supported contingent reward as a sixth component of transformational leadership rather than from the managerial component of the MLQ survey. This conception of contingent reward (CR) as a subscale of transformative leadership style includes three questions. This part of the survey comprises of 23 items connected to six subscales and cross correlated with the five subscales of the conceptual model (see Appendix A).

As the survey has been self-designed, through the modification of two commercial surveys, a check of the validity and reliability of multiple items in the survey, with the study and research questions, occurred through a four-step process. First, a university academic reviewed the survey instrument for both clarity and alignment of questions within the Survey Question Matrix (see Appendix A). Second, a pilot test was conducted. Besides checking for alignment, the pilot also ensured participants “are capable of completing the survey and that they can understand the questions” (Creswell, 2012, p. 390). Participants were asked for feedback on the design of the survey. Data from the pilot group was excluded from the study. Next, an

exploratory factor analysis with Varimax rotation was performed to know whether the items of the survey had similar patterns of response, the construct validity, that can explain the relationship between both leadership styles. The Cronbach's alpha measure was then used to determine the internal consistency and reliability of the multiple items in the survey as connected to each dimension of the conceptual model (Creswell & Creswell, 2018).

The survey was concluded with an opportunity for participants to comment or provide additional information around their perception of leadership practices that contribute to the quality development of innovative pedagogical practice.

At the end of the survey, participants were invited to participate in the second phase of the data collection (see Appendix D). As the survey did not require participants to include their name for confidentiality purposes, those interested in participating were connected to a new form, separate from the survey. Participants provided their full name, preferred email address, and work phone number.

Phase two: Qualitative data collection. The epistemological viewpoint of this study was one of a social constructivist perspective where the researcher was more interested in the participants' views, beliefs, perspectives, and experiences. The end goal is the development of a conceptual framework through the development of elements and understanding the relationships of the elements with each other. In other words, the intent of this study was to look at how the elements align themselves with the original conceptual model. Research designed from a social constructivist perspective "recognizes the mutual creation of knowledge by the viewer and the viewed" (Charmaz, 2000, p. 510). "The discovered reality arises from the interactive process and its temporal, cultural, and institutional context" (Charmaz, 2000, p. 524). Smith (2008)

would describe this as a form of inquiry “that focuses on understanding the meaning, purpose, and intentions people give to their own actions and interactions with others” (p. 460). Based on this discussion and the research method choice on ‘explaining’ did influence the protocol design of this phase (Creswell & Creswell, 2018).

The emphasis of this phase of the study was to gain a deeper understanding and clarification of how principals enact the elements of the conceptual model of pedagogical leadership which support innovative pedagogical practice. As a mixed methods study, the essence of this phase centers on the shared experience and understanding of pedagogical leadership (Creswell, 2012; Merriam, 2009). Findings from the quantitative phase of the study framed the design of the scope and sequence of the semi-structured interview protocol for this qualitative phase (Creswell & Plano Clark, 2018).

The design of the guiding questions was primarily based on the themes generated through the quantitative analysis of the surveys as embedded individual cases. Along with the survey results, a review of foundational documents and other data sources was used to refine the question. Documents included school development plans and annual reports. The thematic questions were framed within the theoretical and conceptual framework of the study. Specifically, questions were open-ended centering on ways that the principal's leadership practices contributed to the quality development of teaching framed within each leadership dimension. To ensure that the interview questions effectively achieve the necessary coverage of the research questions a matrix was constructed focused on determining how appropriate leadership perspectives were to the specific leadership dimension (Bloomberg & Volpe, 2016).

As well, the interview protocol was tested with a principal and assistant principal from two other high schools (see Appendices E, F, & G).

The interviews were conducted on-site of each case and were approximately 45 to 60 minutes in length. The qualitative data was gathered using a digital recording device. Given the epistemological positioning of this phase, including an explanatory emphasis, focus group conversations were chosen as opposed to on-to-one conversations. The exception was the principal interview. The open-ended line of questioning provided flexibility within the interview, as each question was independent of each other, encouraging a conversation designed to elicit specific information related to specific themes. This line of questioning offered participants an opportunity to be introspective, reflecting on their own perceptions, shedding light on their perspectives, and providing opportunities to develop shared understandings (Creswell, 2012). Focus group interviews were also beneficial for uncovering and providing insight into specific factors that may influence the conceptual model as well as seeking ideas that may emerge from the group (Bloomberg & Volpe, 2016).

Those who agreed to participate in the interview were provided the questions (see Appendices E, F, & G) and the research consent form (see Appendices H & I) for review ahead of time. Interviews were face-to-face at a mutually agreed time and location. The participants volunteering for the interviews signed the consent form to participate prior to the start of the interview.

Data Analysis

The data analysis for the explanatory sequential mixed methods study occurred in three sequential steps: (a) descriptive, (b) inferential (correlation), and (c) qualitative analysis using

open and axial coding. Both descriptive statistics and correlation statistics were used to analyze the principals, assistant principals, learning leaders and teachers' survey data sets as individual cases, not as embedded cases of each school. This design was based on the requirements of the school authority to ensure that the questions were asking about perceptions of school-based principals in general.

Data analysis focused on answering two of the research questions, specifically gathering information on “is there an association between the two leadership models and the five leadership dimensions of the pedagogical leadership model?”. The quantitative analysis provided direction in designing the subsequent qualitative phase. The qualitative phase was intended to develop an encompassed understanding of the complexity of the phenomenon framed within the four questions (see Table 3.2). The specific data analysis procedures are described in the next two sub-sections.

Phase one: Quantitative data analysis. Data collected from the modified versions of PIMRS and MLQ survey instruments was analyzed using Statistical Package for the Social Sciences (SPSS) software. For the first part of the analysis, only the assistant principal, learning leaders, and teachers' data sets were used as the principal for each case was one sample and therefore statistical analysis did not work. Data sets from each embedded case were dealt with separately during this stage. Prior to analyzing the raw data, a value or score was added to the data, assigning numeric value to each response category that used a Likert scale. After entering the data into SPSS, the first step of analyzing the data was to assess the data sets for data entry errors, detecting outliers, and missing data. A number substitute was used where missing data

occurs. This was to ensure that the number of overall participants in the data analysis was not reduced (Creswell, 2012).

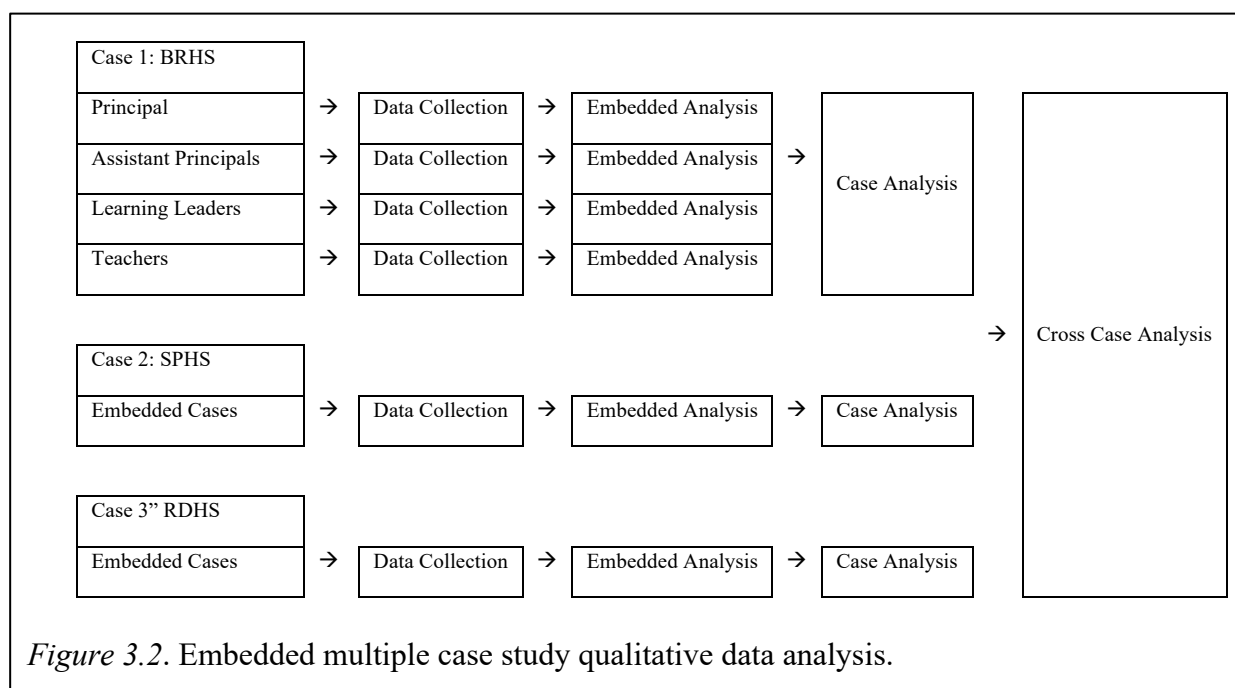
The next step in phase one was the use of descriptive analysis to organize and summarize the data. The intent of this analysis was twofold. First, the descriptive analysis, including mean, was used to describe central tendencies for the individual responses within each case (Gravetter & Wallnau, 2017). The second analysis, variability, provided data on the distribution of each score using range, variance, and standard deviation. At this time, examination of the raw data from the principal survey was used to determine if there were any patterns or association between each of the leadership models and the five leadership dimensions of the pedagogical leadership model.

For the inferential analysis, paired-sample t-tests were used to compare rating means of the four embedded cases perceptions of the practice of pedagogical leadership each of the five leadership dimensions. A correlation analysis was then used to assess the strength and direction of the association between the variables of instructional leadership sub-scales and the transformational leadership sub-scales within each of the five leadership dimensions (Gravetter & Wallnau, 2017). Similar to Spearman's correlation, Kendall's tau-b correlation coefficient was used as this measure has the ability to work with small sample sizes and work with tied ranks as there was a higher potential for the same response when both variable use ordinal scales (Gravetter & Wallnau, 2017; Laerd Statistics, 2018; Walker, 2017). The principal's data was analyzed as Kendall's tau-b allows for single paired observation.

Phase two: Qualitative data analysis. Before analysis of the interview data happened, a professional on-line transcription service was hired to transcribe the recordings into text. In

referencing participants responses, codes were assigned to each participant to maintain confidentiality.

For each case, an embedded case analysis was followed by a case analysis, and then a cross case analysis (see Figure 3.2). In establishing a design for qualitative data analysis, looking for common themes across the data was utilized using a set of techniques that focuses on a two-phase coding process (Creswell, 2012; Saldaña, 2016). The primary design used a structured process situated within the data by using open and axial coding procedures.



Open coding was performed during the first pass through the collected data where multiple data observations were assigned a common meaning connected to leadership practices (Charmaz, 2014; Saldaña, 2016). In an attempt to condense the data, exact words or phrases from

the data, known as *in vivo* codes, were used to categorize (code) each data item (Saldaña, 2016). Within the positionality of this study, *in vivo* coding gives a voice to the participants by using their words to develop the codes. NVivo, a qualitative data analysis computer software package, was used to store and sort codes.

In the second phase, axial coding was used to focus on the initial codes more than the data itself. Focusing on one open coded category (leadership dimension) at a time, the relationship each of the codes had with each other within the category was explored (Creswell, 2012; Saldaña, 2016). In this stage of selective coding, certain conceptual propositions, leadership practices, were identified based on the interrelationships identified by the five categories within this stage and the conceptual model (Creswell, 2012). The selective coding of data, and equal development of each case study, allowed for the illumination and illustration of leadership practices configured within each of the five initial leadership dimensions in terms of their contribution toward the core category of pedagogical leadership.

Phase three: Cross-case analysis. The intent of the multiple case analysis was used to enhance the understanding of the phenomenon under investigation, that being the activities and processes of the principal's practice of pedagogical leadership in influencing innovative teaching in high schools (Merriam, 1998; Stake 2006). Based on the findings and the emerging themes from each of the three cases, a cross-case analysis of identifying commonalities within each of the cases was enacted (Stake, 2006). The selective coding of data from phase two and the matching development of each case study allowed for further development of leadership practices within the conceptual model.

A concept map was used to organize the selective coding from each of the three cases making connections to the five dimensions of leadership within the conceptual model (Yin, 2014). The map aided in drawing connections between the three high schools and allow for modifications to the conceptual model (Creswell 2012).

Phase four: Conceptual distinction of leadership styles. Finally, and as part of the cross-case analysis, a final analysis was conducted to determine if there was a conceptual distinction between leadership styles. Using deductive coding, the analysis was used based on the various themes within each leadership dimensions and their orientation to either or both instructional and transformational leadership.

The following section in this chapter will discuss both ethical considerations and issues of trustworthiness including credibility, dependability, confirmability, and transferability.

Ethical Considerations

Creswell (2012) emphasized the importance of ethical behavior with regard to conducting research including how participants are treated and that findings are fully reported. As the study was mixed methods, ethical consideration needs to be focused on typical ethical issues in both quantitative and qualitative inquiry. Steps were required to be taken to inform and protect the participants including obtaining permissions, protecting anonymity, communicating the purposes of the study, not disrupting work sites, being aware of potential power issues, and not disclosing sensitive information (Creswell, 2012; Merriam 1998). Appropriate ethics application was submitted first to the University of Calgary's Conjoint Faculties Research Ethics Board and then to the appropriate school jurisdictions. After receiving the school jurisdictions approval, individual high school's principals were contacted to secure interest in participating in

the study. At this point, four embedded cases, subgroups, were identified: the principal, the assistant principals (vice-principals), learning leaders (department heads), and classroom teachers. The confirmation of interest to participate by the principal was to confirm the high school as an individual case. An opportunity was then provided by the principal to meet the school's staff and leadership teams to discuss the central purpose of the study and seek consent to participate (see Appendix J). The consent informed the participant of their rights and protections. As the research process involved the enlistment of volunteers, participants needed to understand what was meant by informed consent, confidentiality, the way in which information provided by participants was treated and secured, and the ability to opt out at any time. As well, the surveys were hosted by the UCalgary Survey Tool powered by Qualtrics and was in compliant with Canada's Personal Information Protection and Electronic Documents Act.

As participation was voluntary, participants were given the option to withdraw from either or both phases of the study. For those agreeing to participate in the interview process, pseudonyms were assigned to each participant and the school they work in. Any identifying information was removed from the digital recording before being sent for transcription.

The informed consent forms, along with other items that pertain to the study, was kept in a locked filing cabinet in my office at the University of Calgary. I am the only one that has the key to the filing cabinet. Audio recordings were kept on a computer which was password protected.

During the course of the study, I conducted research in schools in which I had interacted with principals and staff members in the past. This included schools within the jurisdiction where I formally worked as a high school principal. I made a special effort to maintain trust and

confidentiality with the principals, assistant principals, learning leaders, and teachers in each of these schools. I do not believe that any undue pressure to participate was experienced by participants. Principals, assistant principal, learning leaders, and teachers are generally interested in being engaged in research, and my recruitment efforts were successful.

Trustworthiness

Research must continually seek to account for personal influence and perceptions throughout the design, implementation, and analysis of the study (Bloomberg & Volpe, 2016). In this section of the chapter, I describe the steps that were taken within my study to ensure accuracy and credibility of the findings.

For the first phase of this study, being a quantitative method, the survey instrument was based on questions from both the PIMRS and MLQ survey instruments. The validation and reliability process for both instruments have been extensive and supported the constructed items making up the subscale of the studies survey instrument (Avolio & Bass, 2004; Hallinger et al., 2013). As the studies' survey was modified from both of these commercial instrument, the validity of the instrument was assessed using an exploratory factor analysis. The Cronbach's alpha measure was used to determine the internal consistency and reliability of combining both instruments. A detailed description is provided in the next chapter.

Within a qualitative study, in this case the second phase of the study, trustworthiness are the efforts to address validity and reliability that cannot be addressed in the same way as a quantitative study (Lincoln & Guba, 2000). Guba (1981) four criteria that should be considered in qualitative research in considering trustworthiness and are part of the design of the study. These are: (a) credibility in preference to internal validity, (b) dependability in preference to

reliability, (c) confirmability in preference to objectivity, and (d) transferability in preference to external validity.

Credibility

Internal validity seeks to ensure that the study measures what is actually intended. In other words, credibility is “how congruent are the findings with reality?” (Merriam, 1998, p. 201). The following provisions were made to promote confidence in the findings connected to the phenomena being studied (Creswell & Creswell, 2018):

Triangulation. As stated earlier, the strength of this study lies in the use of a mixed methods with a multiple case study approach. To ensure validity and rigor within the study, a variety of data types from different cases were collected (Lincoln & Guba, 2000). When findings from combining qualitative and quantitative data within subsequent and complementary cases, the study is strengthened (Yin, 2014). Triangulation, as a way of describing the combining of two forms of data within the phenomenon, has the ability to improve the inquiry (Creswell, 2012). Triangulation emphasizes the complementary nature of qualitative and quantitative data analysis as a strategy for validation (Klenke, 2016). However, this study design emphasized the elaboration and extension of the findings where the qualitative data augments the quantitative data. The notion of triangulation, in this situation, was less a strategy for validating results than validating methodological proceedings which increase the scope and consistency of the study (Klenke, 2016). The sequential design of this study was such that the quantitative findings influenced the qualitative design of the second phase therefore biasing any comparison. In other words, triangulation was about expansion, how one data set can expand the other.

Member checking. Participants were afforded the opportunity to read the interview transcripts and data analysis and given the opportunity to provide further clarification (Merriam, 1998; Saldaña, 2016). Two participants, an assistant principal and a teacher, provided further detail with respect to their initial responses.

Clarify the perspective of the researcher. As a retired high school principal, the challenge was to suspend all preconceived notions, expectations, and previous experiences related to the phenomena being studied. In the qualitative phase, I recognized my role as a participant during the interview and focus group process. As a former principal, seven years prior, I have known some of the participants through work within the same school jurisdiction. As the researcher, I still had my own sensitivity to the data but needed to ensure that I treated all voices equitably. Finlay (2009) identified an approach in qualitative terms as “bracketing preunderstandings and exploiting them reflexively as a source of insight” (p. 13). This approach of bracketing does not push the researcher to completely suspend beliefs, biases, and assumptions during the research process. Memo writing, a method of bracketing, was used within both the data collection and analysis stages of phase two (Creswell, 2012). Memos took the form of both theoretical and conceptual exploration of my cognitive process as data was collected and analyzed. In this context, my reflexivity became a “process of continually reflecting upon our interpretations of both our experience and the phenomena being studied so as to move beyond the partiality of our previous understandings” (Finlay, 2009, p. 13).

Present discrepant information. Real life is composed of different perspectives that do not always merge into a credible account of a theme (Creswell & Creswell, 2018). As the

researcher, I am obligated to look for variations in the understanding of the phenomena and seek instances that might challenge the emerging findings (Bloomberg & Volpe, 2016).

Tactics to help ensure honesty. Participants had the opportunity to withdraw from the study at any point of time. The underlining assumption “is that, within a permissive atmosphere that fosters a range of opinions, a more complete and revealing understanding” of the phenomena were obtained (Bloomberg & Volpe, 2016, p. 174). In other words, participants in the interview sessions would genuinely be willing to contribute ideas to building a common understanding.

Dependability

In addressing the issue of reliability, dependability is concern with the ability of the research findings to be duplicated by others. The underlying question is one of whether the findings were consistent and dependable with the data collected (Bloomberg & Volpe, 2016). Lincoln and Guba (2000) stressed a close link between credibility and dependability in that the actions within the study focused on credibility goes a long way in ensuring dependability. Yin (2014) also suggested to document the research design and its implementation in detail, thereby enabling future researchers to repeat this study. Details include how organizations were selected, the number of participants involved, any restrictions as to who can participate, the variety of data collection methods and analysis, and the time period for data collection. Other strategies included checking transcriptions for obvious mistakes and making sure that there was not a drift in the definition of codes or a shift in the meaning of codes during coding (Creswell & Creswell, 2018).

Confirmability

The concept of confirmability is a qualitative equivalent to objectivity in quantitative research (Bloomberg & Volpe, 2016). Steps were taken to ensure that the study's findings are the result of the research and not of the perspective and subjectivity of self. Miles et al., (2014) described confirmability as the basic issue being framed in one of relative neutrality. In other words, there needs to be an audit trail back to the original data (Lincoln & Guba, 2000). To create an open view of the decision trail, I created a reflexive journal that reflected on the process of data collection and interpretation. In particular and in regard to the validity threats within an explanatory sequence design, consideration of possibilities for explanations of quantitative results were critical in the design of the qualitative data collection questions (Creswell & Plano Clark, 2018). Field notes and pertinent artifacts were logged, and all interviews transcribed (Bloomberg & Volpe, 2016). As mentioned in an earlier section, triangulation across different sources of data reduced the effect of personal perspectives. Besides the strategies mentioned here, I made explicit my own positionality within the research. This included acknowledging my own assumptions, values, and perspectives, and how they come into play within the research (Miles et al., 2014). I refer you to the "Subjectivity Statement" within Chapter One and the "Philosophical Positioning and Rationale for Methodology" section of this chapter.

Transferability

Transferability, not generalizability, is the ways in which the reader determines whether and to what extent the findings from one particular context can be transferred to another particular context (Lincoln & Guba, 2000; Merriam, 1998). Since qualitative research is specific to a small number of participants and/or organizations, as well as the changing nature of the

phenomenon being studied, results usually do not have enough breadth to provide a reasonable degree of validity when considering transferability (Bloomberg & Volpe, 2016). To address this issue, Creswell and Creswell (2018) suggested that the researcher use thick, rich description of the findings to convey the participants and the settings in order to give an element of discussion of shared experience with the reader. Stake (2006) even suggested that multiple cases, within a broader group, would support a higher degree of transferability.

Limitations of the Study

The intent of the study was to explain and offer a deeper understanding of the conceptual practice of pedagogical leadership. However, the study did contain certain limitations inherent in the research methods and the overall design of the conceptual model. Of primary importance, was the generalizability of the results. Even though statistical generalization is commonly used when doing surveys, Yin (2014) stated that this form of generalization is “a fatal flaw” in case study research as each case is not a “sample unit” and therefore did not adequately represent the larger population (p. 40). Participants were voluntary and may not represent the general view of the school or school jurisdiction. However, this study had the opportunity to provide an enhanced understanding of the practice of pedagogical leadership with the ability to apply the conceptual ideas to a variety of hypothetical populations of ‘like-cases’ and therefore generalizability was not a limitation to the study. “In other words, the analytical generalization may be based on either (a) corroborating, modifying, rejecting, or otherwise advancing theoretical concepts that you referenced in the designing of your case study or (b) new concepts that arose upon completion of your case study” (Yin, 2014, p.41).

Another of the primary limitations of this study involved the data collection methods. In the first phase, the survey data can fall under what is defined as ‘attitudinal measures’ (Creswell 2012). Participants perceptions of the principal’s leadership abilities can be influenced by feelings. Perceptions do not necessarily translate into reality thus maintaining a level of honesty within the data can be difficult. Both PIMRS and MLQ measure the participants’ perceptions of instructional or transformational leadership and not the effectiveness of the principal’s leadership style (Bass and Avolio, 2004; Hallinger, 1990). Even though both instruments were valid, they might miss aspects of the principal’s leadership practice that maybe unique to each participating high school. By having principals, along with their assistant principals, learning leaders, and teachers participate in the study, provided a more complete and balanced perspective. Using an explanatory sequential method also allowed for comparison of the data by probing deeper into the quantitative results (Creswell & Plano Clark, 2018).

Limitations were also inherent within the subsequent qualitative phase of this study. Data collected from interviews, even though targeted, may be biased, inaccurate, and reflexive (Yin, 2014). Personal perspectives in the interview data can be a result of the researcher’s question designs, inability to listen openly without preconceived ideologies or preconceptions, inability to be adaptive to new situations encountered in the interview, and an inability to have a firm handle on the explanatory process. The participant may have a tendency of providing ideas and interpretations that are perceived to be desired by their principal or myself as the researcher. Response as being deemed desirable should have been alleviated for participants through both the confidentiality agreement and participation in the focus groups.

Delimitations of the Study

The overall purpose of this explanatory sequential mixed methods case study was to methodically examine how principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice. As discussed earlier in this chapter, the study was restricted to those high schools who had been purposefully selected from those high schools participating in Alberta Education's initiative on high school redesign within the surrounding area of a large urban center. This decision, while limiting the transferability of the study's findings, allowed an examination of how pedagogical leadership was enacted in high schools where innovated pedagogy was being practiced. A key point was that this study did not examine the degree of effectiveness of this conceptual model.

Summary

This chapter has outlined the research methodology that was used to answer the primary research question of this study which was: How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice? Despite the limitations identified in this chapter, this explanatory sequential mixed methods study with multiple cases was still considered by the researcher as the best methodology to provide insight into how high school principals effectively address the development of teaching through alternative ways of supporting innovative pedagogical growth. Included in this chapter was a discussion of the philosophical positioning and rationale for selecting the research methodology. The participants included the principal, assistant principals, learning leaders, and teachers from three high

schools, with each school representing a separate case. The main data collection methods included surveys, individual interviews and focus group interviews. The data was analyzed and synthesized through both statistical measures of the quantitative data, coding of the qualitative data, and finally a cross-case analysis. Data was reviewed against the conceptual framework of pedagogical leadership. This chapter concluded with a review of ethical consideration, issues of trustworthiness, and limitations of the study.

Chapter 4

Analysis and Presentation of Quantitative Findings

The primary purpose of this study was to understand how high school principals enact pedagogical leadership as they develop, support, and sustain a community of adult learners focused on innovative pedagogical practice. Because this study used an explanatory sequential mixed methods research design with the intent of integrating the quantitative with the qualitative data analysis, where the qualitative phase provided an explanation of specific results from the initial quantitative phase, the analysis will occur over two chapters. This chapter focuses on the descriptive and inferential findings of the quantitative data and the next chapter encompasses the qualitative analysis and findings.

The purpose of this chapter is to provide a broad answer to the primary research question:

1. How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?

The rationale for the quantitative phase is that the data and associated results provided a general picture of the phenomenon of pedagogical leadership which was then used to refine and extend the qualitative phase (Creswell, 2012, Creswell & Plano Clark, 2018; Ivankova, 2014). The purpose of this phase of the study was to examine the relationship between instructional and transformational leadership behaviours related to pedagogical leadership. Specifically, the data and associated analysis looked at participants' perceptions of their principal's leadership practices that engaged them in developing, supporting, and sustaining their learning focused on innovative teaching practices. This chapter has been organized around the two quantitative

research questions associated with this phase of the study in order to provide a logical progression through the data analysis processes and subsequent findings:

2. To what extent do high school principals shape their pedagogical leadership practices within elements of instructional and transformational leadership framed within five leadership dimensions of effective leadership?
3. What is the correlation between instructional and transformational leadership within each of the five leadership dimensions of pedagogical leadership?

The chapter begins with a brief overview of the participating high schools. A more detailed description of these schools will be provided in Chapter Five. Secondly, a discussion will occur focusing on the validity and reliability of the surveys. Next, findings from a descriptive analysis of the data are described framed within the second research question. This is followed with a discussion of the inferential findings associated with the second and third research question. The chapter concludes by summarizing the findings related to both research questions which served to inform the interview and focus group questions for the second phase of the study.

Overview of Participating High Schools

All three of the participating high schools are located in a large urban setting within the province of Alberta, Canada. Recruitment was based on individual school's stage of high school redesign centering on innovative pedagogical practice. This work was being guided by their school jurisdiction's *Three-Year Education Plan* (2019) and reflects components of Alberta Education's *Moving Forward with High School Redesign* (2017a). This focus on innovative

pedagogical practice is articulated within each school's vision and goals which is expressed in their individual school development plan posted on the school's website.

Participants in the study included four categories of certificated teaching staff: principals, assistant principals, learning leaders (department heads), and teachers. Unlike high school department heads, whose role focused on the management of subject specific departments, learning leaders are seen as instructional leaders who support quality teaching. As with principals and assistant principals, learning leaders in these schools are responsible to lead a learning community by collaboratively, nurturing, and sustaining a school culture that supports evidence-informed teaching and learning (Alberta Education, 2018b).

Validity and Reliability Analysis

To assess the construct validity of the scales, and the five leadership dimensions, a factor analysis was performed using the data from the combined surveys. As the data set was small, to examine the factor structure of the survey, with $n < 200$, was employed using an exploratory factor analysis with a Varimax rotation (Fabrigar, Wegener, MacCallum, & Strahan. 1999). A scree plot (Eigenvalues > 1) was used to identify and extract the factors that explained the variance in participants' responses based on each of the five leadership dimensions. When comparing the factor solution, double loading of items was an issue for one question. "Seeks differing perspectives" (quality teaching) under transformational leadership practices and was deleted from the analysis. The resource alignment leadership dimension and the associated two questions were not included in subsequent procedures as the Bartlett's test of sphericity did not indicate statistical significances ($p = 0.085$) $> .05$ and Cronbach's Alpha ($\alpha = .32$) $< .70$ (Kline, 2016). In order to ensure that items grouping in each leadership dimension were actually correct,

a second exploratory factor analysis was run using two factors. The analysis showed a reasonable fit for the four leadership dimensions with instructional leadership and transformational leadership as factors.

Next, a measure of the internal consistency was conducted to assess the survey's reliability. Each item assigned to a subscale of either instructional or transformational leadership within each of the four leadership dimensions had to achieve a Cronbach's alpha value of .70 or higher (Kline, 2016). The reliabilities within each data set indicated that the survey was measuring both forms of leadership across the four leadership dimensions. The alpha value of the instructional leadership subscales ranged from $\alpha = .84$ to .95 as compared to the PIMRS reliability with a range from $\alpha = .78$ to .90 (Hallinger, 1990). The alpha value of the transformational leadership subscales ranged from $\alpha = .93$ to .95 as compared to the MLQ reliability with a range from $\alpha = .74$ to .94 based on a normative sample of 2,154 (Avolio & Bass, 2004).

Quantitative Analysis

To answer the two quantitative research questions, the data from each set of surveys were examined together in order to determine the degree of correlation between the two forms of leadership within each of the five leadership dimensions. This data were critical in looking at possible interactions and conceptual distinctions between the various elements within the conceptual model of pedagogical leadership.

During the first phase of the study, an electronic link to an online survey was sent to certificated teaching staff of the three schools who agreed to participate. After deleting

respondents with missing values, a total of 84 surveys were completed. Table 4.1 shows the response rate of each embedded case.

Table 4.1

Percent of Participants Surveyed

Embedded Case	Sample n	Population N	Percent of Total Population
Principal	3	3	100
Assistant Principals	6	7	86
Learning Leaders	27	44	61
Teachers	51	152	34

Descriptive Analysis

In answering the first quantitative research question, this section of the chapter begins by examining participants' perceptions of their principal's practice of pedagogical leadership, specifically the relationship between instructional leadership and transformational leadership practices. The ensuing discussion is framed within four of the five leadership dimensions as outlined in Chapter 3 (see Figure 2.3). SPSS 25 was used to calculate the statistical means of each embedded case's perceptions of the perceived relationship between instructional leadership and transformational leadership practices framed within four leadership dimensions with a focus on innovative pedagogical practice. Tables 4.2 to 4.5 compare the mean scores of instructional and transformational leadership behaviours related to pedagogical leadership for each of the embedded cases, the principals, assistant principals, learning leaders, and teachers, across the three schools. This section concludes with a discussion of the findings based on the comparison

of participants' perceptions between each of the embedded case and the four leadership dimensions across the three schools.

Principals' perceptions. The results in Table 4.2 exhibit that principals' responses to instructional leadership and transformational leadership practices within each of the four leadership dimensions. Two of the three principals' calculated means were clustered within a close range within each of the four leadership dimensions. Of note, the third principal's calculated means were similar to the other principals on two of the four leadership dimensions, teacher learning and orderly and safe learning environment. Further discussion of the descriptive results will follow at the end of this section.

Table 4.2

Comparison of Principals' Mean Pedagogical Leadership Ratings Across Three Schools

Leadership Dimension	Instructional Leadership						Transformational Leadership					
	School 1 (n=1)		School 2 (n=1)		School 3 (n=1)		School 1 (n=1)		School 2 (n=1)		School 3 (n=1)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Shared Goals	2.98	0.90	3.71	0.49	3.57	0.54	2.72	0.49	4.00	0.00	3.72	0.49
Quality Teaching	2.38	0.52	3.63	0.52	3.25	0.71	2.15	0.90	3.88	0.38	3.72	0.49
Teacher Learning	3.75	0.48	3.75	0.48	4.00	0.00	3.80	0.45	3.80	0.45	4.00	0.00
Orderly/Safe Environment	4.00	0.00	4.00	0.00	4.00	0.00	3.50	0.58	3.50	0.58	3.74	0.50

Assistant principals' perceptions. The results in Table 4.3 exhibit that assistant principals' calculated means for both instructional leadership and transformational leadership practices within each of the four leadership dimensions clustered within a close range of having an impact on innovative pedagogical practice. Of note, the calculated means for transformational

leadership appears to be slightly higher for each of the schools. Further discussion of the descriptive results will follow at the end of this section.

Table 4.3

Comparison of Assistant Principals' Mean Pedagogical Leadership Ratings Across Three Schools

Leadership Dimension	Instructional Leadership						Transformational Leadership					
	School 1 (n=2)		School 2 (n=2)		School 3 (n=2)		School 1 (n=2)		School 2 (n=2)		School 3 (n=2)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Shared Goals	3.43	0.40	3.64	0.10	3.71	0.40	3.79	0.10	3.50	0.10	3.79	0.30
Quality Teaching	3.25	0.00	3.25	0.18	3.80	0.26	3.50	0.54	3.57	0.40	3.86	0.20
Teacher Learning	3.63	0.53	3.50	0.35	3.75	0.35	3.90	0.14	3.90	0.14	4.00	0.00
Orderly/Safe Environment	3.25	0.35	3.75	0.35	3.75	0.35	4.00	0.00	3.63	0.53	3.88	0.17

Learning leaders' perceptions. The results in Table 4.4 exhibit that learning leaders' calculated means for both instructional leadership and transformational leadership practices within each of the four leadership dimensions clustered within a close range of having an impact on innovative pedagogical practice. Of note, the calculated means for transformational leadership appears to be slightly higher for each of the schools. Further discussion of the descriptive results will follow at the end of this section.

Table 4.4***Comparison of Learning Leaders' Mean Pedagogical Leadership Ratings Across Three Schools***

Leadership Dimension	Instructional Leadership						Transformational Leadership					
	School 1 (n=10)		School 2 (n=6)		School 3 (n=11)		School 1 (n=10)		School 2 (n=6)		School 3 (n=11)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Shared Goals	3.77	0.28	3.57	0.30	3.48	0.19	3.94	0.07	3.81	0.30	3.71	0.26
Quality Teaching	3.25	0.43	3.46	0.39	3.69	0.16	3.40	0.46	3.71	0.44	3.61	0.31
Teacher Learning	3.40	0.45	3.08	0.34	3.63	0.32	3.80	0.16	3.73	0.21	3.69	0.26
Orderly/Safe Environment	3.30	0.79	3.50	0.45	3.64	0.50	3.60	0.27	3.50	0.60	3.48	0.52

Teachers' perceptions. The results in Table 4.5 exhibit that learning leaders' calculated means for both instructional leadership and transformational leadership practices within each of the four leadership dimensions clustered within a close range of having an impact on innovative pedagogical practice. Of note, the calculated means for transformational leadership appears to be slightly higher for each of the schools within three of the four leadership dimensions. The exception being orderly and safe learning environment. Further discussion of the descriptive results will follow at the end of this section.

Table 4.5***Comparison of Teachers' Mean Pedagogical Leadership Ratings Across Three Schools***

Leadership Dimension	Instructional Leadership						Transformational Leadership					
	School 1 (n=16)		School 2 (n=15)		School 3 (n=20)		School 1 (n=16)		School 2 (n=15)		School 3 (n=20)	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Shared Goals	3.21	0.59	3.36	0.50	3.31	0.59	3.55	0.58	3.29	0.45	3.35	0.58
Quality Teaching	3.01	0.48	2.89	0.48	3.12	0.43	3.19	0.55	3.05	0.38	3.41	0.39
Teacher Learning	3.13	0.73	3.11	0.40	3.33	0.42	3.50	0.82	3.45	0.42	3.58	0.59
Orderly/Safe Environment	3.47	0.85	3.00	0.68	3.74	0.57	3.36	0.70	3.19	0.46	3.54	0.34

Descriptive findings. In answering the first quantitative research question, analysis of the findings, based on a cross case analysis of the embedded case, revealed a broad consensus among principals, assistant principals, learning leaders, and teachers that principals' practice of instructional and transformational leadership, within the four dimensions of pedagogical leadership, can have an influence on innovative pedagogical practice.

***Finding 1.** Participants perception of pedagogical leadership practices incorporates both instructional and transformational leadership practices.* In other words, participants viewed the principal as actively engaging in both forms of leadership behaviours when focused on influencing pedagogical practice. This finding appears to align with prior research on instructional leadership (Hallinger, 1990, 2011) and transformational leadership (Bass & Avolio, 2004; Leithwood & Jantzi, 2005) and the suggestion that both forms of leadership can be integrated (Hallinger 2003; Marks & Printy 2003).

The intent of this research was not to simply describe the phenomenon of pedagogical leadership but to further understand how principals' practices are perceived in influencing innovative pedagogical practice at the high school level. In an attempt to further explain the relationship between instructional and transformational leadership, an examination of the data revealed two other patterns: (a) the practice of transformational leadership trended higher than instructional leadership within specific leadership dimensions in a number of the embedded cases and (b) there appears to be a direct association of the strength and direction between instructional and transformational leadership. To explain both patterns, the next section will provide an inferential analysis of the data in order to further answer the quantitative research questions and determine if the patterns observed were statistically significant.

Inferential Analysis

Kruskal-Wallis H tests were conducted to determine if there were differences in the embedded cases' level of perceptions of principals' practice of both instructional and transformational leadership between the three schools. There were two reasons for performing these tests. First, there was a limitation placed on the analysis. As approval for the study required the combining of each embedded case, the analysis could not examine similarities and differences between each school in order to examine specific features of each leadership dimension. Second, as case selection was based on Yin's (2014) "unusual case rational", this rank-based nonparametric test was used to determine if there were statistically difference between principals, assistant principals, learning leaders, and teachers' pedagogical leadership ratings across the three schools (Gravetter & Wallnau, 2017). An associated hypothesis was developed in order to operationalize the analysis:

H₀: The distribution of ratings for the embedded cases are equal between each school.

H₁: The distribution of ratings for the embedded cases are not equal in at least one of the schools.

Besides being able to handle small and different size samples, the Kruskal-Wallis H test was chosen based on the assumptions that the dependent variable could be continuous or ordinal and that the independent variables had three independent groups, that being the schools. Distributions of instructional and transformational leadership ratings were similar for all groups, as assessed by visual inspection of the boxplots. Median pedagogical leadership ratings were not statistically significantly different between the three schools, $p > .05$. See table 4.6 to 4.9. This analysis did reveal some variances between embedded cases across schools, but the differences

were not statistically different. Therefore, post-hoc tests were not required and a pairwise comparison between instructional and transformational leadership coming from the same source, in each school, could be conducted, as outlined in the next section.

Table 4.6

Kruskal-Wallis H Test Results for Principals

Leadership Dimension	Instructional Leadership		Transformational Leadership	
	$X^2(2)$	Sig.	$X^2(2)$	Sig.
Shared Goals	2.000	.368	2.000	.368
Quality Teaching	2.000	.368	2.000	.368
Teacher Learning	2.000	.368	2.000	.368
Orderly/Safe Environment	0.000	1.000	2.000	.368

Table 4.7

Kruskal-Wallis H Test Results for Assistant Principals

Leadership Dimension	Instructional Leadership		Transformational Leadership	
	$X^2(5)$	Sig.	$X^2(5)$	Sig.
Shared Goals	0.515	.773	2.721	.257
Quality Teaching	3.529	.171	2.000	.368
Teacher Learning	0.682	.711	1.250	.535
Orderly/Safe Environment	2.250	.325	1.300	.522

Table 4.8

Kruskal-Wallis H Test Results for Learning Leaders

Leadership Dimension	Instructional Leadership		Transformational Leadership	
	$\chi^2(26)$	Sig.	$\chi^2(26)$	Sig.
Shared Goals	4.951	.084	3.627	.163
Quality Teaching	6.058	.048*	3.365	.186
Teacher Learning	4.926	.085	2.494	.287
Orderly/Safe Environment	1.070	.586	0.085	.958

* $p < .05$ indicating statistical difference between schools. Visual inspection of the boxplot indicated one outlier in one of the three schools. When excluded from the data set, $p > .05$.

Table 4.9

Kruskal-Wallis H Test Results for Teachers

Leadership Dimension	Instructional Leadership		Transformational Leadership	
	$\chi^2(50)$	Sig.	$\chi^2(50)$	Sig.
Shared Goals	1.066	.587	5.295	.071
Quality Teaching	2.684	.261	6.622	.036*
Teacher Learning	1.787	.409	2.019	.364
Orderly/Safe Environment	6.147	.046*	5.234	.073

* Denotes that $p < .05$ indicating statistical difference between schools. Visual inspection of each boxplot indicated one or two outliers in one of the three schools. When excluded from the data set, $p > .05$.

Paired-sample t-tests. To examine the perceived pattern of transformational leadership trending higher than instructional leadership, a paired-sample t-tests were conducted. This test was used to determine if there were statistically significant differences of calculated means between the embedded cases' perceptions of principals' practice of instructional and

transformational leadership within the four leadership dimensions. An associated hypothesis was developed in order to operationalize the analysis:

H_0 : The embedded case mean difference between the paired values of transformational and instructional leadership is equal to zero ($\mu_{\text{diff}} = 0$).

H_1 : The embedded case mean difference between the paired values of transformational and instructional leadership is not equal to zero ($\mu_{\text{diff}} \neq 0$).

Assumptions. In order to verify the hypotheses and ensure the validity and reliability of the data analysis, four assumptions associated with a paired-sample t-test had to be met (Gravetter & Wallnau, 2017; Laerd Statistics, 2018).

1. One dependent variable, the embedded cases' calculated means from each of the four leadership dimensions, are measured on a continuous scale.
2. One independent variable that consists of a matched pair, transformational leadership paired with instructional leadership. In order to generate positive t scores, the calculated means for transformational leadership were entered first as the calculated means appear to be higher.
3. There should be no significant outliers in the difference between the matched pairs.

Through visual inspection of the boxplots, no extreme outliers were detected. Seventeen of the 240 paired results were outliers. The decision was made to include the outliers in the analysis as the results of the paired-samples t-test with and without the outliers were similar and did not change any of the conclusions.

4. The difference between pairs' means are normally distributed. In each case, the difference between the ratings for transformational leadership and instructional leadership were normally distributed, as assessed by Shapiro-Wilk's test ($p > .05$).

Principals' perceptions. From the descriptive analysis, there appears to be a pattern where the principals' rating of their practice of transformational leadership was higher than instructional leadership in three of the leadership dimensions, shared goals, quality teaching, and shared goals. The results of the pairwise comparisons of rating means indicated that there are no statistically significant differences (see Table 4.10). The test failed to reject the null hypothesis in each of the three leadership dimensions. Together, these results suggest that principals perceived the practice of pedagogical leadership as incorporating practices associated with instructional and transformational leadership equally. In supporting these results, there are possible explanations. In particular, the need for the principal to be aware and analyze the details of different situations and use this information to respond with appropriate decisions and different actions (Northouse, 2015). In their meta-analysis, Marzano, Waters, and McNulty (2005) described this blended form of leadership as situational awareness and had the highest correlation with student achievement at .33 (p. 43).

In comparing the two forms of leadership, there was a statistically significant differences in the leadership dimension of orderly and safe environment, $t(2) -5.00, p < .05$. The negative t value indicated a reversal in the directionality of the paired difference. In other words, the result suggested that principals perceived the practice of pedagogical leadership as incorporating instructional leadership practices to a greater degree than transformational leadership practices

within an orderly and safe environment, thus rejecting the null hypothesis for this leadership dimensions. For further discussion refer to Finding 5 later in this chapter.

Table 4.10

Paired Samples of Principals' Mean Pedagogical Leadership Ratings (n=3)

Leadership Dimension	Transformational Leadership		Instructional Leadership		Paired Differences			
	Mean	SD	Mean	SD	Mean	SD	<i>t</i>	Sig
Shared Goals	3.47	.68	3.38	.46	0.09	.22	0.70	0.556
Quality Teaching	3.24	.95	3.09	.64	0.15	.36	0.73	0.542
Teacher Learning	3.88	.12	3.83	.14	0.03	.03	2.00	0.184
Orderly/Safe Environment	3.58	.14	3.83	.289	-0.42	.14	-5.00	0.038*

Assistant principals' perceptions. Even though assistant principals' perceptions of principals' practices of transformational leadership were slightly higher than instructional leadership in all four dimensions, the results indicate that there are no significant differences in two of the four leadership dimensions (see Table 4.11). In comparisons of the two forms of leadership, there was a statistically significant difference in the leadership dimension of quality teaching and teacher learning ($t(5) = 2.93, p < .05$ and $t(5) = 2.87, p < .05$ respectively). These results suggest that assistant principals perceived the practice of pedagogical leadership as incorporating transformational leadership to a greater degree than instructional leadership when focusing on quality teaching and teacher learning, thus rejecting the null hypothesis for these two leadership dimensions. For further discussion refer to Findings 2 and 3 later in this chapter.

Table 4.11

Paired Samples of Assistant Principals' Mean Pedagogical Leadership Ratings (n=6)

Leadership Dimension	Transformational Leadership		Instructional Leadership		Paired Differences			
	Mean	SD	Mean	SD	Mean	SD	<i>t</i>	Sig
Shared Goals	3.69	.21	3.59	.29	0.10	.33	0.70	.516
Quality Teaching	3.61	.27	3.44	.32	0.21	.17	2.93	.033*
Teacher Learning	3.93	.10	3.63	.35	0.31	.26	2.87	.035*
Orderly/Safe Environment	3.83	.30	3.58	.38	0.25	.59	1.04	.348

* Statistically significant mean difference at the 0.05 level (2-tailed)

Learning leaders' perceptions. Learning leaders' perceptions of principals' practice of transformational leadership appear to be slightly higher than instructional leadership in all four dimensions. The results of the t-test indicate that there are significant differences in three of the four leadership dimensions (see Table 4.12). In comparisons of the two forms of leadership, there was a statistically significant difference in the leadership dimension of shared goals, quality teaching, and teacher learning ($t(26) = 3.29, p < .05$, $t(26) = 2.49, < .05$, and $t(26) = 2.76, < .05$ respectively). These results suggest that learning leaders perceived the practice of pedagogical leadership as incorporating transformational leadership to a greater degree than instructional leadership, thus rejecting the null hypothesis for the three leadership dimensions. For further discussion refer to Findings 2, 3, and 4 later in this chapter.

Table 4.12

Paired Samples of Learning Leaders' Mean Pedagogical Leadership Ratings (n=27)

Leadership Dimension	Transformational Leadership		Instructional Leadership		Paired Differences			
	Mean	SD	Mean	SD	Mean	SD	<i>t</i>	Sig
Shared Goals	3.82	.23	3.61	.28	0.21	.33	3.29	.003*
Quality Teaching	3.56	.41	3.42	.38	0.14	.29	2.49	.020*
Teacher Learning	3.76	.22	3.50	.44	0.26	.48	2.76	.010*
Orderly/Safe Environment	3.52	.45	3.48	.61	0.05	.75	0.32	.751

* Statistically significant mean difference at the 0.05 level (2-tailed)

Teacher's perceptions. Teachers' perceptions of principals' practice of transformational leadership appear to be slightly higher than instructional leadership in all four dimensions. The results of the t-test indicate that there were significant differences in two of the four leadership dimensions (see Table 4.13). In comparisons of the two forms of leadership, there was a statistically significant differences in the leadership dimension of quality teaching and teacher learning ($t(50) = 4.68, p < .05$ and $t(50) = 6.22, p < .05$ respectively). These results suggest that teachers perceived the practice of pedagogical leadership as incorporating transformational leadership to a greater degree than instructional leadership, thus rejecting the null hypothesis for two of the four leadership dimensions. For further discussion refer to Findings 2 and 3 later in this chapter.

Table 4.13

Paired Samples of Teachers' Mean Pedagogical Leadership Ratings (n=51)

Leadership Dimension	Transformational Leadership		Instructional Leadership		Paired Differences			
	Mean	SD	Mean	SD	Mean	SD	<i>t</i>	Sig
Shared Goals	3.43	.47	3.33	.47	0.10	.57	1.23	.225
Quality Teaching	3.22	.46	3.03	.44	0.19	.29	4.68	.000*
Teacher Learning	3.56	.56	3.25	.52	0.31	.36	6.22	.000*
Orderly/Safe Environment	3.37	.52	3.36	.67	0.01	.62	0.11	.910

* Statistically significant mean difference at the 0.05 level (2-tailed)

Overall, the paired-sample t-test indicated a significant difference between the two forms of leadership within the leadership dimensions of quality teaching and teacher learning. The next section will determine if the perceived practice of instructional and transformational leadership, within pedagogical leadership, are positive and highly correlated with each other in each of the four dimensions.

Kendall's tau-b (τ_b) rank correlation coefficient. In order to answer the second quantitative question, a Kendall's tau-b rank correlation coefficient was utilized to determine if there was a correlation between instructional and transformational leadership practices that focused on influencing innovative pedagogical practice and if there was, determine the strength and direction of the association. Even though there appears to be a correlation based on the calculated means, this analysis examined the strength of correlations. For this part, an associated hypothesis was developed in order to operationalize the analysis:

H₀: There is no correlation between instructional and transformational leadership practices within each of the four leadership dimensions of the pedagogical leadership.

H₁: There is a correlation between instructional and transformational leadership practices within each of the four leadership dimensions of the pedagogical leadership.

Due to the small sample size, a non-parametric correlational test, Kendall's tau-b rank correlation, was performed in order to answer the third quantitative question. The Kendall's tau-b analysis measured the strength of the relationships between instructional leadership and transformational leadership, as paired responses, within each of the four leadership dimensions. The Kendall's tau-b determined the strength of concordance, or degree of agreement, between paired responses made by participants. Statistical significance was computed at 95% and a confidence level of $p \leq .05$ (Walker, 2017).

Assumptions. In order to verify the hypotheses and ensure the validity and reliability of the data analysis, three assumptions associated with a Kendall's tau-b had to be met (Laerd Statistics, 2018).

1. Two variables that are measured on a continuous scale. The variables in question are instructional leadership and transformational leadership practices using the rating means from each of the four leadership dimensions.
2. The two variables represent paired observations. With 87 participants there was 348 paired data sets.

3. There is a monotonic relationship between the two variables. Scatterplots revealed the monotonic relationships.

Cohen's (1988) standard was used to evaluate the strength of the paired correlation. The strength of association of specific coefficient values are provided in Table 4.14.

Table 4.14

Strength of association of specific coefficient values

Strength of Association	Coefficient Value
Small (small correlation)	> 0.1
Medium (moderate correlation)	> 0.3
Large (strong correlation)	> 0.5

Note. Adapted from *Statistical Power Analysis for The Behavioral Sciences* (2nd ed.), by J. Cohen, 1988, p. 227. Copyright 1988 by the Lawrence Erlbaum Associates.

Principals' perceptions. The results indicated a perfect positive association between instructional leadership and transformational leadership practices in each of the four leadership dimensions, which was statistically significant, $\tau_b = 1$, $p = .01$ (see Table 4.15). Therefore, the null hypothesis was rejected, and the alternative hypothesis accepted. The results did suggest that principals' perceptions of principals, focused on supporting innovative pedagogical practice, would exhibit both instructional leadership and transformational leadership practices to the same degree. The perfect positive association could be attributed to a very small sample size ($n = 3$). As the sample size was small there is a greater probability that the correlation will move closer to $\tau_b = 1$ and the correlation maybe unreliable (Gravetter & Wallnau, 2017). However, the statistical significance for each leadership dimension was $p < 0.01$.

Table 4.15

Correlation Between Instructional and Transformational Leadership

Leadership Dimension	Principals n=3	Assistant Principals n=6	Learning Leaders n= 25	Teachers n=51
Shared Goals	1.000*	1.000*	.386**	.324*
Quality Teaching	1.000*	.786**	.409*	.630*
Teacher Learning	1.000*	.784**	.417**	.425*
Orderly & Safe Environment	1.000*	.402**	.464**	.334**

Note: The samples within the first two cases were relatively small for this type of data analysis ($n < 10$); therefore, no significant inferences can be drawn (Walker, 2017).

* Correlation is significant at the 0.01 level (2-tailed)

** Correlation is significant at the 0.05 level (2-tailed)

Assistant principals' perceptions. There was a strong, positive association between instructional leadership and transformational leadership practices in three of the four leadership dimensions, which were statistically significant, $\tau_b > .050$, $p < .05$ (see Table 4.7). Therefore, the null hypothesis was rejected, and the alternative hypothesis accepted. Even though the sample size was small, the findings suggested that assistant principals perceived principals, focused on supporting innovative pedagogical practice, would exhibit both instructional leadership and transformational leadership practices, the exception being the fourth dimension, orderly and safe environment.

The fourth dimension, orderly and safe learning environment, was a moderate positive association between instructional leadership and transformational leadership practices, which was statistically significant, $\tau_b > .030$, $p < .05$. The most feasible explanation for this occurrence is explained in the role of the assistant principal in these high schools. Each assistant principal

does not have an assigned teaching load. Through my own experience in high schools, much of the assistant principal's assigned time centers on their responsible for ensuring positive behaviour in a portion of the student population. Research confirms this inference, assistant principals are typically assigned managerial tasks dealing with crisis and conflict (Armstrong, 2012; Sun & Shoho, 2011). When considering an orderly and safe environment, assistant principals may perceive their response from a managerial perspective rather than a leadership perspective. This, in turn, may have created a degree of randomness affecting one or both variables, so the direct relationship is not strong.

Learning leaders' perceptions. There was a moderate, positive association between instructional leadership and transformational leadership practices in the four leadership dimensions, which were statistically significant, $\tau_b > .030$, $p < .05$ (see Table 4.7). Therefore, the null hypothesis was rejected, and the alternative hypothesis accepted. These findings suggest that learning leaders perceived principals, focused on supporting innovative pedagogical practice, would exhibit both instructional leadership and transformational leadership practices.

Teachers' perceptions. There was a moderate, positive association between instructional leadership and transformational leadership practices in three of the four leadership dimensions, which were statistically significant, $\tau_b > .030$, $p < .05$ (see Table 4.7). Therefore, the null hypothesis was rejected, and the alternative hypothesis accepted.

The second dimension, quality teaching, was a strong, positive association between instructional leadership and transformational leadership practices, which was statistically significant, $\tau_b > .050$, $p < .05$. As these schools were identified as demonstrating innovative pedagogical practice, the most feasible explanation for this occurrence could be clarified in that

teachers perceived principals, focused on actively supporting innovative pedagogical practice, implemented both formal and informal supervision practices.

Inferential findings. Findings from the descriptive analysis revealed a substantial agreement that both instructional and transformational leadership practices are used where principals are actively influencing pedagogical practice. This analysis also identified patterns and trends that required further exploration. To expand on these findings, the inferential section analyzed the perceived pattern of transformational leadership trending higher than instructional leadership and the strength of the relationship of instructional and transformational leadership in tandem within the four leadership dimensions.

***Finding 2.** Within the leadership dimension of quality teaching, assistant principals, learning leaders, and teachers' perceptions of the practice of transformation leadership is significantly different than that of instructional leadership.* There is strong evidence that principals practicing pedagogical leadership exhibit a higher degree of transformational leadership within the leadership dimension of quality teaching. There are a number of possible explanations for this finding. For example, this finding may be explained in that pedagogical leadership has a focus on teachers (Hattie, 2015; Robinson et al., 2008). On examining quality teaching, in a transformational leadership environment, the principal tends to focus on developing a collaborative environment (Leithwood & Sun, 2012). Whereas, in the instructional leadership environment, the principal's focus tends to be on supervision and evaluation of teaching (Hallinger et al., 2013).

***Finding 3.** Within the leadership dimension of teacher learning, assistant principals, learning leaders, and teachers' perceptions of the practice of transformation leadership is*

significantly different than that of instructional leadership. There is strong evidence that principals practicing pedagogical leadership would exhibit a higher degree of transformational leadership within the leadership dimension of teacher learning. This finding, connected to teacher learning, appears to align with prior research where principals are actively involved in teacher professional growth (Robinson et al., 2008). Even though the principal is seen as a source of instructional advice, the complexity of high school may be such that the role of the principal is perceived as a coordinating rather than being a direct influence on teacher learning (Robinson et al., 2008). In other words, the principal's role is in providing intellectual stimulation and support rather than monitoring progress (Hallinger et al., 2013; Leithwood & Sun, 2012).

Finding 4. *Within the leadership dimension of shared goals, learning leaders' perceptions of the practice of transformation leadership is significantly different than that of instructional leadership.* From the learning leaders' perceptions, there is evidence that principals practicing pedagogical leadership exhibit a higher degree of transformational leadership within the leadership dimension of shared goals. There are a number of possible explanations for this finding. For example, this finding may be explained where, in large high schools, learning leaders take a more active role within this dimension. This would mean that transformational leadership tends to focus more on teachers and teaching, setting a vision and creating common goals (Robinson et al., 2008). In contrast, instructional leadership tends to focus more on the student where the principal defines the goal-oriented improvements by centering on student academic outcomes (Hallinger, 2005).

Finding 5. *Within the leadership dimension of orderly and safe environment, the principal's perception of instructional leadership is significantly different than that of*

transformational leadership. Principals' perception of the practice of pedagogical leadership exhibit a higher degree of instructional leadership within the leadership dimension of orderly and safe environment. Even though this leadership dimension can be broad in scope and purpose, based on personal experience, there is a responsibility of the principal to provide clear behavioral expectations in order to foster positive student-teacher relationships. Findings from other research supports the idea that the work of the principal, within instructional leadership, focuses on developing and consistently enforcing clear expectations (Hallinger, 2012; Robinson et al., 2008).

Finding 6. *Analysis of the data, using the Kendall's Tau B, indicated that there was a moderate to strong positive association between instructional and transformational leadership within each leadership dimensions.* The fact that there is a correlation between both forms of leadership only indicates that there is a higher probability that both forms of leadership exist within each of the four leadership dimensions of pedagogical leadership when principals' are focused on influencing pedagogical practice. The correlation does not indicate that one form of leadership influences the other.

Chapter Summary

This chapter presented six findings from the quantitative analysis of the data. The findings provided insight into the primary research question, "How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice? The findings were organized based on the second and third quantitative research question.

The primary findings appeared to indicate that pedagogical leadership constitutes an integrated approach of both instructional and transformational leadership. The data also demonstrated a rank correlation of both forms of leadership paired within each of the four leadership dimensions of pedagogical leadership.

The data also indicated that there was some difference in principals, assistant principals, learning leaders, and teachers' perceptions of the principal's pedagogical leadership practices and instructional and transformational leadership within certain leadership dimensions.

While this phase of the study was looking for confirmation of the relationship between instructional and transformational leadership practices that focused on influencing pedagogical practices, the study was also looking at developing a deeper understanding of what are the key leadership practices of pedagogical leadership. The quantitative phase, on its own, was unable to determine the common themes and patterns of practices within each leadership dimension of pedagogical leadership. However, the findings from the first phase of the study, with the brief discussion of prior research, served the purpose of providing the foundation for the elaboration of themes and patterns for the next phase of the research study. The interview and focus group questions were constructed to illuminate and illustrate principal pedagogical leadership practices and determine any differences in perceptions between principals, assistant principals, learning leaders, and teachers. The next chapter provides the analysis of the data and the findings from the second, qualitative phase of the study.

Chapter 5

Qualitative Data Analysis and Findings

In examining the phenomenon of pedagogical leadership, this study used an explanatory, mixed methods approach comprised of a sequential quantitative and qualitative phase. The primary intent of this design is to use a qualitative phase to explain the initial quantitative results (Creswell & Plano Clark, 2018). The previous chapter outlined the initial quantitative phase which entailed both descriptive and inferential analyses of pedagogical leadership perception surveys. The key finding that emerged from Chapter Four was that pedagogical leadership involved an integrated approach of both instructional and transformational leadership within four leadership dimensions. In this chapter, the qualitative phase, provides an opportunity to expand upon the statistical findings by exploring participants' perspectives in more detail (Creswell & Plano Clark, 2018; Ivankova et al., 2006).

In order to effectively answer the primary research questions, the content of the interview and focus group questions was grounded in the findings from Chapter Four and were used to frame the scope and sequence of the semi-structured interview and focus group protocols (Plano Clark & Ivankova, 2016). Because the goal of the qualitative phase was to explore and elaborate on principal practices within each of the four pedagogical leadership dimensions, the intent of the questions was to identify common themes and patterns of participant's perceptions of principal's pedagogical leadership practices, which included recognizing similarities and differences within perceptions. The semi-structured interview and focus group protocols consisted of nine open-ended questions (see Appendix E). The first question aimed at developing a contextual understanding of their school with respect to development of innovative pedagogical

practice framed with Alberta Education's *Moving Forward with High School Redesign* (2017a). The next eight questions focused on expanding the six quantitative findings framed within the four research question. As these questions were open-ended, the initial wording of the questions varied based on the uniqueness of each group. Questions focused on the primary behaviours of their principals as they focused on innovative pedagogical practice framed within each of the five leadership dimensions. Two distinct processes of reciprocity were used to frame the questions with respect to developing a stronger understanding of the relationship between instructional and transformational leadership practices (Elmore, 2000; Hallinger, 2005).

This chapter presents the case and cross-case analysis which resulted in 10 findings (see Table 5.1). The chapter begins with a detailed background description of each of the three participating high schools to establish the context for the qualitative analysis. This is followed by a discussion of the findings from the cross-case analysis of interviews and focus groups' interviews in order to develop themes and patterns of pedagogical leadership practices. In order to answer the study's research questions, the findings in this chapter are summarized within each of the leadership dimensions, (a) shared vision and goals, (b), quality teaching, and (c) teacher learning, in order to clarify and elaborate on the results from the quantitative analysis. Only three of the five leadership dimensions will be included in the discussion. The reason for excluding the two leadership dimensions, resource alignment along and orderly and safe environment, will be discussed in the next section of the chapter.

Exclusion of Two Leadership Dimensions

This section will discuss the reasoning for excluding two of the leadership dimensions, (a) resource alignment; (b) orderly and safe environment. Resource alignment, in context of the

study, refers to how principal leadership practices used resources to effectively and purposefully cultivate and sustain communities of adult learners focused on innovative pedagogical practice. Principals, in the study, were quick to illustrate that resource alignment was “connected to budgets.” However, they each shifted the conversation away from monetary resources to one of human and time resources when probed around influencing pedagogical practice. The alteration in the theme of the dialogue clearly aligned with two of the five leadership dimensions, shared goals and teacher learning.

The first emphasis being on ‘shared vision and goals’, specifically focused on ‘building commitment’. As explained by Chris, one the principals, a big part of this work “is having the right people in the right seat on the bus”. Devin stated, “there is a very strong desire, particularly of learning leaders and staff members, to have particular skill sets.” Alex described in detail:

Staffing is a very direct discussion that, again, is linked to what is the work that you're doing in your classes. Trying to resource to address some really significant gaps and how is it that you can either redeploy, reallocate, come up with creative ways of problem-solving.

The second focus of the principal conversations on resource alignment had a theme of time as a resource of ‘maximize learning time’; an emphasis on ‘teacher learning’, specially ‘dedicated time’. Based on these two reason and lack of quantitative data to enhance the discussion, the decision was to exclude the dimension of resource alignment

With respect to the leadership principal of an orderly and safe environment, Robinson (2011), stated, “much of the knowledge leaders need to do this work well is embedded in the previous four dimensions” (p. 125). In each of the discussions centered on this dimension, principals were

adamant that this work centered on sound pedagogical practice that linked clearly to the other three dimensions. Chris stated that this dimension centered on “establishing an environment and culture” of quality teaching. Chris elaborated:

We started where we had a plan, it's not cast in stone, and I guess it's connecting the dots of teaching and learning. If we've got kids skipping, kids wandering the halls, I guess it's not just about being responsive and reactive, but really uncovering. So, what's that telling us? I call it, connecting the dots to teaching and learning.

Devin added, “it’s about being agile and being able to adjust, it’s into a class, what are you witnessing, what are observing?” Alex expand this connection to paying attention to innovative pedagogical practice:

But the other part of it is that just as we've tried to help kids engage in novel and/or high-risk situations and not worry, we're showing them that not only is failure okay, but failure is normal. We're trying to build up their resiliency, and we do that along the way and say it's okay. You'll be fine.

School leadership is a key variable in teacher working conditions, student learning conditions, and school performance (Marzano, 2003). Based on the conversation with various participants, it was evident that distinguishing orderly and safe environment from that of shared goals and quality teaching would become repetitive. Therefore, the decision was to exclude the dimension of orderly and safe environment.

Table 5.1

Summary of Qualitative Findings

Leadership Dimensions	Qualitative Findings: Principal Practices
Shared Vision and Goals	7. Developing relationships 8. Building alignment 9. Building commitment 10. Capacity building
Quality Teaching	11. Establishing teacher standards 12. Active observations 13. Shared leadership 14. Intentional collaboration
Teacher Learning	15. Supports a culture of inquiry 16. Providing dedicated time

In accordance to the School Jurisdiction's Agreement *to Conduct Research*, analysis of the data was from an amalgamation of individual responses within each embedded case and then across cases. Despite the overwhelming similarities between individual principal practices, variability could be found within practices that would identify the unique context of individual schools and associated principal. In order to maintain anonymity of individual high schools and associated participants pseudonyms were used.

Context of Participating High Schools

As case selection was identified as one of the connecting points between the sequential phases of this mixed method study, the only established guideline for the follow-up qualitative

analysis was the researcher's ability to return to the participants for the second round of qualitative data collection (Creswell & Plano Clark, 2018; Ivankova et al., 2006). This section provides further context into the selection of each of the three participating high schools based on Alberta Education's *Moving Forward with High School Redesign* (2017a). The high schools, as individual cases, were purposefully selected from a participants list based on recommendation from both the Alberta Education and the local school authorities. Six high school principals and their schools were identified. After initial discussions, three of the principals excluded themselves from the study.

As most participants in the study had taught in other high schools, within the same jurisdiction, initial interview and focus group discussions centered on what made their school distinct from other high schools in relation to innovative pedagogical practice. Part of the discussion reflected participants' perceptions of the complexities associated with teaching at high school and how leadership teams were organized to support teaching. As a result of these discussions, two key elements emerged, leadership team organization and a focus on innovative pedagogical practice that help to frame pedagogical leadership practices in these high schools. Both of these elements will be discussed next based on responses from participants in both interviews and focus groups, school websites, and school documents.

Leadership Team Organization

The larger the school, the more complex the leadership organization becomes in order to effectively connect teaching and learning (Beatriz, Deborah, & Hunter, 2008). Each of the three leadership teams was comprised of the principal, assistant principals, and learning leaders. In

defining the challenge of school size, Taylor, an assistant principal, spoke about this reality as compared with colleagues from other schools:

Comparing to the size of my high school they were talking about the staff of 13 and they are all in the same 'row' boat and they are all going in the same direction. When the discussion came to me, it was an interesting conversation, because we do the work with our 20 learning leaders. To turn the rudder on a 'cruise' ship is going to take you significantly longer to get everybody moving in that direction.

As principals, both Chris and Devin have worked at elementary and junior highs and describe how the leadership work in high school was unique. Chris stated, transforming pedagogical practice in high schools 'is such an enormous task.' To address this challenge, various participants discussed the role of the learning leader as not perceived as a management role but one requiring them to be a pedagogical expert in order to influence teaching. As an example, Devin stated, "there is no way we could be doing what we are doing without the learning leaders, who are really driving this forward." A number of learning leaders commented on how their role was different at their current school as shown in these sample comments:

At this school, the principal relies on the learning leader to implement ideas. (Drew)

The expectation of the principal is the same of the APs (assistant principals), the same of the learning leaders, as far as leadership style, in a large building like this. (Aang)

When I first started here my mind was kind of blown by the expectations of LLs (learning leaders) here. Because I came from a fairly traditionally base, you get the department head, you order some staples and paper clips. (Kai)

They reinvented the idea of a learning leader here. (Jan)

The complexity of school leadership goes beyond the capacity of a single person (Marzano et al., 2005). While the organization and responsibilities of the leadership teams varied between the three schools, participants discussed the importance of these roles in high schools. In particular, they acknowledged variables such as size and complexity of the individual disciplines in emphasizing the importance of these leadership roles.

Focus on Innovative Pedagogical Practice

In each of the focus groups, participants clearly articulated the importance of pedagogical practice framed around a shared, yet evolving, vision of teaching and learning. One principal, Chris, shared their perspective on their pedagogical focus, “there needs to be clarity in the vision, clarity in purpose.” Chris talked about clarity as “intentional” in framing the work to ensure that the focus was neither “nebulous nor esoteric.” Each school described a focus on the design of rich learning tasks that allows accessibility to a wide range of learners through multiple entry and exit points. Key to this work was a transformation to outcome-based assessment where there was “a broadening of assessment as essential for learning and growth, not just marks.” The key focus was on the student learning experience and not on student performance. In explaining the difference between these two ideas, a learning leader, Sahiloh, described a past experience:

As a relatively new teacher, I remember being called to the principal's office to review how well my students did on their diploma examination (provincial standardized examination at grade 12). He was concerned that my results were lower than other schools. The essence of the conversation focused on how I was going to raise my marks. There was no conversation about students' unique talents and abilities. When I started here (current school), I had to make that mental shift. It was not just knowing your (subject) content, but it is knowing your learner, what are some of the stumbling blocks as students begin to delve with understanding, what are the barriers or assumptions? It is not about how do I make myself look better or how do I make the school look better.

Several teachers described a shifting mindset that moves away from "the bell curve and there is going to be some that don't make it." As one teacher, Ezra, stated, "first of all, we don't get to determine what success looks like for our kids, they do." One principal, Alex, elaborated on this idea, "we need to build success for these students, help them find their way, maybe it isn't that straight route to get where they want to go, but is about helping them become better learners." A learning leader, Drew, described this focus as the;

Foundational piece behind that (referring to pedagogical practice). This is what builds the structure and supports, what is going to help people to make the shift, impact teacher practice.

Each school also has dedicated time within the timetable where teachers have further opportunities to "extend and support student learning." This time is for the teacher to provide opportunities for enrichment or interventions for individuals' learning. Opportunities were also provided for students to participate with their own teacher or another teacher in credit rescue or

credit recovery outside of their normal timetable. Before the end of the current semester, students receive extra support, credit rescue, in order to get back on track. If students are unsuccessful with a course, they have the opportunity to "recover" the credit after the semester has ended instead of retaking the entire course.

Each of these schools have demonstrated a shift in mindset through a modification in pedagogical practice that addressed the need for flexible learning environments. The next subsections will provide further details of what each school was doing with respect to a focus on innovative pedagogical practice.

Bill Reid (Case 1). Bill Reid High School (BRHS) is a grade 10 to 12 public high school with a school population of 1300 students. The principal has been at the BRHS for four years and has over 18 years as a principal. The school has been concentrating significant work on innovative pedagogical practice for the last seven years. As an assistant principal stated, "the focus here is really moving practice forward around assessment and instructional design and is interwoven in our day-to-day practice."

The big change from a "traditional high school" was the detracking of Grade 10 core subjects that include English, Mathematics, Science, and Social Studies. Approximately 140 students were placed intentionally in mixed-ability heterogeneous groupings for the entire school year with four core teachers. Tracking in high schools, also known as ability grouping or streaming, refers to the grouping of students into different courses according to students' achievement. With detracking, BRHS scheduled a daily block time of 150 minutes for the entire school year in which four core teachers were assigned. Traditionally, high school courses within the school jurisdiction were semester with individual core classes being approximately 80

minutes. Teachers at BRHS reflected on how detracking created a community of beliefs that reshaped their instructional practices:

Most importantly you have four people that know those 140 kids really well and so they're looking at it as a whole child whole student thing because they sit down and talk about the kids and again, it's not in isolation.

You are able to adjust your teaching and can group and re-group the kids as you need.

The idea of detracking focuses on addressing the problem of varying educational backgrounds of students as they enter high school. Tracking segregates students into separate courses with constant instructional time (Alvarez, & Meban, 2006). Within these schools, detracking holds fast to equitable standards for all by varying the instructional time and academic supports.

Susan Point (Case 2). Susan Point High School (SPHS) is a grade 10 to 12 public high school with a school population of 1800 students. The school has a diverse student population, 49 languages spoken and 65 countries of origin. The principal has been at SPHS for four years with a total of eight years as a school principal. The principal described their focus as “a change in teaching practice” as “not to close doors on students.”

As with the previous school, grade 10 used a detracking model where four core teachers work with a community of approximately 160 students in a 150-minute block of time for the entire year. Unique to grade 10 was something called “Inquiry Friday.” A teacher described this time as “you would walk into a community where all 160 students are together with all of their

teachers, and they are digging into an inquiry-based task that has cross-disciplinary outcomes, an interdisciplinary approach.” In this model, the school was placing less emphasis on competition at the grade 10 level and focusing on individual and group accomplishments.

Robert Davidson (Case 3). Robert Davidson High School (RDHS) is a grade 7 to 12 public high school with a school population of 1000 students. The school has a number of programs that center on integrating diverse and complex learners into the regular high school program. The principal has been at RDHS for 2 years with a total of 7 years as a school principal.

RDHS has been focusing on innovative pedagogical practice for a number of years due to the unique learning dimensions of their students. The school has been constantly re-examining the assumptions about pedagogical approaches to serve the learners whose needs warrant more individual learning pathways within a regular high school program. In a discussion with both learning leaders and teachers, they were constantly making adjustments to their teaching practices. The very nature of the learners requires diverse task development with multiple entry and exit points, “no matter what you teach.”

This section has provided further insight into each of the three participating high schools. Two key elements, leadership team organization and focus on innovative pedagogical practice, provide an understanding of the work each school has undertaken that distinguishes them from other high schools in relation to innovative pedagogical practice. The following section provides a discussion of the qualitative findings.

Qualitative Analysis

Through this qualitative analysis phase, 10 findings emerged to advance our understanding of the complexity of the phenomenon of pedagogical leadership framed within the primary research question, “How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?” Specifically, this phase of the study focused on answering the following research question, “What themes and patterns do principals, assistant principals, learning leaders, and teachers reveal in their perceptions of the principal’s pedagogical leadership practices within the four leadership dimensions?” The following three sections are a discussion of the 10 findings with details that illuminate and illustrate themes and patterns of principal’s leadership practices as shown in Table 5.1.

The following discussion uses ‘thick descriptions’ as a way of looking at the details from each case, taking into account both the contextual nature of schools and participants experiences (Creswell & Creswell, 2018). As the purpose of this study was to gain insight into the principal’s practice of pedagogical leadership, discussion of these findings is framed within the three leadership dimensions. Prior to discussions of the findings, commentary is provided on participants’ perspective of leadership practices connected to each leadership dimensions. Findings will then be identified and described using a balance of “particular description” (quotes from participants and field notes), “general descriptions” (are the quotes typical of the data as a whole), and “interpretive commentary” (provides a framework for understanding the theme being discussed) (Merriam, 1998, p.235). A list of participants, using pseudonyms, with their role within their school is provided in Table 5.2.

Table 5.2

Pseudonyms and roles of participants

Interviews	Focus Groups		
Principals	Assistant Principals	Learning Leaders	Teachers
Alex	Taylor	Drew	Lee
Chris	Sam	Aang	Ezra
Devin	Lou	Avery	Jay
	Max	Kai	Jaz
	Pat	Jan	Sasha
	Shawn	Rae	Nat
		Shane	Pat
		Cat	Maria
			Sal
			Rex
			Mau

The findings within the three leadership dimensions do not assume that they and associated principal's practices were entirely discrete. The overlap of all three dimensions is indicated within the pedagogical leadership model, which will be discussed in Chapter Six.

Shared Vision and Goals

First, the word 'vision' was added to shared goals as a modification to the original conceptual model. Conversations with various participants clearly indicated that 'vision' has equal significance to 'goals'.

All three principals provided evidence of the importance of having both a clear direction and a strong influence over teaching, framed within a vision and a set of goals. Principals, along with their staff, identified the foundational role of the principal as connecting both the school

vision and the idea of shared goals with the work in classrooms. Specifically, participants described the work of the principal as not strictly about communicating the goals but centering on building a shared understanding of the goals with respect to teaching and learning. One principal, Chris, described their focus on goals as the way of framing their work of influencing pedagogical practice, “it’s with purpose, it’s with intentionality, and it’s for the betterment of kids.” Assistant principal Taylor stated, “this is the primary step a principal takes when building the school culture” and “key in moving the work forward.”

The key questions principals asked themselves, with respect to shared goals and influencing teaching, was “how is this impacting student learning?” Key in moving the work forward was a sense of direction that influences the culture of the school. In describing the culture of teaching at their school, assistant principal Sam explained:

Because it is not just the teacher’s growth, but you are asking the students to make a cultural shift as far as their learning. When I ask students “what are you working on?”

And they said, well, the learning intentions are dot, dot, dot, and they know what they are doing here.

Several of the learning leaders talked about how the vision and goals have made a significant difference in the pedagogical growth at their schools:

I do feel that that direction is important. I feel like it's pretty strong in this building. Like the direction is there and the commitment to the vision of what the school is. (Avery)

We talk about goals a lot and I think the culture at the school is what has made a huge difference. (Kasi)

The goals help us focus and is embedded part of the culture now. (Aang)

Acknowledging the idea of shared goals, a learning leader, Shane, described the principal as the person “building in the structures and the supports that are going to help people to make that shift to whatever you want, so if you really want to impact teacher practice, you got to build in a lot of things underneath.”

Teachers saw the principal as “the captain of the ship” (Sasha), and the principal “is usually a year or two down the road from the rest of us as their thinking is about sustainability” (Nat). “In a large building like this, it is maintaining a focus on the big picture” (Sasha).

Teachers, within these schools, identified the principal as the person who was “explicitly” setting the direction and “ensuring alignment of the vision and goals.” One teacher, Pat, stated:

The role of the principal is really key in this area. By setting the tone in the building, ensuring teacher's feel supported and creating a sense that we are all in this together working towards a common goal, this goes a long way towards fostering a growth mindset in the staff which then leads to a willingness to try and innovate.

Several teachers talked about their principal as being:

A passionate leader with a clear vision which can be extremely persuasive and evoke positive change. (Jaz)

A principal who has a clear vision and can bring teachers together and consider and value their input towards a unified goal is extremely powerful. (Jay)

On the basis of the analysis of the data, four findings have been identified that principals' practice when focusing on developing a shared vision and goals connected to pedagogical practice. These practices, (a) developing relationships, (b) building alignment, (c) building commitment, and (d) capacity building, will be discussed in the following four subsections.

Finding 7. Developing relationships. When examining the idea of building a shared vision with common goals, there was a real appreciation for the principal actively 'cultivating' relationships with teaching staff. Repeatedly, participants discussed and embraced the idea of building positive and trusting relationships with the teaching staff as being critical if the principal was to influence teaching. As Maria, a teacher, stated, "relationships come first." Participants believed that principals build the structural and cultural conditions necessary to support innovative teaching practices and they believed that the foundational piece of the principal's work was building collaborative relationships. The data, within this theme, relates to the importance of building strong individual support.

Alex, a principal, described their practice of developing relationships as an "invitation for teachers to engage freely in discussing with them what worked or did not work, what I learned about these students, or, I did not achieve what I wanted, but I am going to tweak it and it will be better next time." As Chris stated, "this happens in so many ways." The principals all agreed that the work begins with the little things, the thank-you cards, the short emails, brief conversations in the hallway, coffee in the staff room prior to start of the school day, and the fireside chats. As Chris explained, "it's all about promoting the small things to help achieve that larger goal." Each principal noted that key in building relationships goes well beyond the small steps. Each talked

about the importance of being transparent and authentic, of being visible, and by building trust in order to create a sense of community with shared vision and goals.

Principals recognized the importance of leveraging a shared vision and goals through relationship building by being transparent and authentic with their staff. In our conversations, each principal took care to acknowledge the importance of holding themselves visibly accountable to the work. They talked about being present when the hard work was being done, “it is about the big things” (Chris). Devin described how they purposefully shared their personal professional growth plan around the Leadership Quality Standard (Alberta Education, 2018b) as a way of demonstrating how their work parallels the work teachers were focused on with respect to the Teacher Quality Standard (Alberta Education, 2018c). Chris concurred:

It’s rolling my sleeves up and being involved and doing it with the teachers. There is an impression that there is just a different connection with the teachers. If I am doing the work with teachers, and the APs, and if they see us doing the work and being in the trenches with them, learning the work and doing it, I think that just continues to build the importance of the work.

They talked about a balance between being self-assured and a willingness to learn from others. As Alex stated, “it is about admitting to mistakes, but it is also actively correcting those mistakes.”

Assistant principals identified the key practices of being visible and open communication that their principal demonstrated as a way of developing relationship. Pat discussed the principal being highly visible in the school, “being present in everyone’s classroom.” In one school, the administrative team meets weekly and identifies which classroom each of them will visit that

week. These visits were not meant to be formal or perceived to be evaluative. Pat and Shawn also discussed the importance of being accessible for both formal and informal conversations. They talked about the principal's ability of hearing everyone's voice and their perspective. Pat and Shawn also talked about how teachers were encouraged "to come to us and talk about what they are seeing or what they are understanding." Taylor described the importance of considering teacher's opinions, "the art of building these relationships is taking time to hear everybody's voice and everybody's perspective" and "to understand individuals' positionality with respect to pedagogical practice as this is a journey of continual improvement." Through these conversations, assistant principals saw the principal encouraging teachers to try new teaching approaches framed within the goals. Taylor shared a story where the principal, over several conversations, encouraged a Mathematics teacher to consider a form of cooperative learning through mixed-ability grouping.

A number of participants in the study talked about the importance of the principal encouraging and promoting diversification in the process of building relationships. Learning leaders talked about how their current principal focused on teachers' motivation by investing time into building relationship that was characterized by individual considerations. As an example, Ang paraphrased a conversation that their principal had with an individual teacher, "so, depending on where you are at in your (learning) process there still time to shift things, for you to make the shifts that are necessary. Other learning leaders stated:

I think that an admin can build in their staff the sense that we are supported wherever we are at. (Kai)

So, then when there is a problem, you work together to problem solve, or tweak, or adjust; allowing us that collaboration time to work with the pedagogy. (Rae)

Common throughout all the conversations, that centered on developing relationships, was a focus on ‘cultivating’ trust. Assistant principals, in particular, talked about relational trust as key in building a shared vision and goals. Taylor described the importance of principals developing relationships “as the pieces of getting the critical mass on board and it starts with trust.” Lou mentioned, “it is about creating that space for the teachers to take some risks and to fail and have it be okay.” Shawn saw their school transitioning away from a “yes culture” and “allowing teachers to try different things, different partnerships, and share their learning, especially from their mistakes.”

Learning leaders agreed that a focus on innovative pedagogical practice “starts with trusting your teachers” (Avery). They talked about how the principal “makes me feel wanted” (Drew), “makes me feel good to be part of the team” (Aang). Learning leaders talked about trust with their principal and how:

This leads me to understand the value of something or the purpose of what we are doing.
(Shane)

There is a trust and openness, so allowing us to speak openly and freely about our experience as a way to (connect to) the school goals. (Drew)

There is a lot of trust, so I feel like it is growth that I need to do, and I am continuing to do, and I feel like it is the right time. (Rae)

Learning leaders also talked about the regard they have for principals building trust in a large school. As Rae stated, we “respect that the (principal) role is complicated, but they stressed the need to build in their staff the sense that they are supported.” Upon reflecting on a previous school’s principal, Cat stated that there was:

Zero trust between an administrator and the teaching staff. I mean, everything got micro-managed to a significant level. Not a lot happened in moving the work forward. I feel here, you are able to try something with your team or individually in your practice that may be is not going to work out. Maybe it is going to crash and burn. But you're not necessarily going to be hung out to dry if it does. I feel there is a tolerance for risk taking that is vital.

Teachers expressed similar ideas of principals investing time into building individual relationships centered on trust. One teacher, Sal, described how “it comes from a willingness to work with teachers, take a risk, be in their classrooms, participate with their kids, come down in their (teacher’s) prep, just ask questions, and encourage them to keep going.” Drew, echoed a similar point:

It is all about the journey. (The) principal can take risks themselves in terms of allocating and freeing staff up to do things like this and giving it a chance. We are professional in

the sense that I know if something is going terribly wrong. It just means that I am going to work quicker to loop back and fix that.

Others stated:

I would not have asked if I really thought the door was going to be slammed in my face.

So, I think the approachability, saying things like “everything's on the table, give it chance, we will reevaluate, and the worst I can say is no. (Jay)

I value feeling trusted as a professional. (Jaz)

A teacher, with a similar experience to Cat (learning leader), described how they “did not have the trust” of the principal “so I started hanging back and taking a more passive role” (Sal). They went on to say, “one of the first things they can do is let you go and find out if it is going to work, rather than dictate.”

Another teacher, Maria, when describing the difference between their current and previous school made an insightful statement about building relationships:

A principal is ideally someone who is able to assert a sense of leadership without having to "prove" their role with stereotypical "boss" like tendencies, which can come across as aggressive and controlling. When their teachers are treated with trust for the work that they do, the sense of moral increases, which, ultimately, produces a stronger, collective workforce. Trust is everything!

Several of the assistant principals discussed the importance of the ‘difficult conversations’ with respect to building relationships and trust. Lou stated:

You do build trust even when you have to have difficult conversations if you do them respectfully. Rather than ignoring bad practice, you're still addressing it but in a respectful way, I think that they'll come out on the other end of the difficult conversation feeling more "okay, this person is looking out for me and they're trying to develop me" and that will build the trust as well.

Max goes onto say, “these difficult conversations are important, not only in creating a level of accountability, but to invite people into the journey.”

In summary, principals and assistant principals in the study clearly acknowledged that teachers have a strong “moral compass” that guides their teaching. Given the opportunity to develop professional relationships, learning leaders and teachers talked about the positive impact that relationship building has had on their teaching. As a finding, participants agreed that the principal requires a level of ongoing persistence and thoughtfulness in developing professional relationships. Embedded in this practice is a degree of interpersonal exchanges centered on being transparent and authentic, of being visible, and a commitment to building trust. This section demonstrates that building relationships allows the principal to understand the needs of teachers in order to focus on a shared vision and goals.

Finding 8. Building alignment. Goal alignment or strategic alignment refers to the process in which the principal keeps teaching staff focused on the ‘right’ vision and goals of the school. Principals expressed the importance of building goal alignment by having clarity in teaching goals, being able to articulate the background of the goals, and being able to see them

being met in the classroom. Alex stated, “intentionally in staying true to the vision and letting it evolve at the same time, but also avoiding what is distracting.” To do this, Alex discussed the importance of having a process by which they were “able to help teachers see how they contribute to the goals.” Chris stated:

Initially building that framework, like how you have good bones, of what you want to accomplish. It's like being the maestro of a symphony. You work with your different sections in that symphony, or in the whole orchestra, but it's that you have to be so knowledgeable and responsive, and you need to know what will help you get what you need from people. It's about being agile and being able to adjust.

Building alignment, as a pedagogical leadership practice, participants talked about the importance of conversations, building background knowledge, checking for gaps, being attuned to individual needs, and the process of on-boarding.

Principals discussed the importance of open conversations as a process for building goal alignment. Chris talked about both the formal and informal conversations as “the ongoing conversations about the shared goals.” Devin talked about the importance of “conversations around the three-year education plans and personalizing learning.” Other participants in the study also discussed building alignment through ongoing communication. As an example, Nat, a teacher, stated, “it is things like staff meetings, where the principal is reminding us to think about those things that are important for me, the big picture, kind of refocus us a little bit.”

In order to build alignment, learning leaders and teachers felt the principal needed to start with the background of the goals. Jay, a teacher, expressed this concern by stating, “as a principal, remember that not everyone has the same background that you have.” Another teacher,

Nat, stated “you’re so immersed in the world of principal and you're immersed in these discussions, you have this assumption that everyone else around you also know it.” A learning leader, Jan, indicated that “before dealing with the details, you as learning leaders, you as teachers, need to understand the philosophy, the underlying or overarching idea that we're trying to accomplish here.” In describing their principal, Jaz, a teacher, stated how the person had “a strong pedagogical belief that is rooted in research and who is willing to support their staff by sharing their understandings.”

Each group discussed the importance of a reference point, going back to the foundational documents and “how does what we are doing align with them” (Avery). As Kai, a learning leader, pointed out:

We maybe don't quite align with what we're doing and so there needs to be direct support where the principal says, “Here's some resources you can access. Here's some things to model it off of and actually try to improve those things for the sake of overall teaching our students.”

As part of building alignment, Lee, a teacher, discussed that the role of principal, “to help you understand those goals and visions that may have not been generated at the school level but are being laid down.” As another teacher stated:

I may not agree with the vision, but I need to know what it is. I'm on the ship, I need to know what direction we're going, and so for me it's not innuendo, it's not masked. I can't see how to apply it when I don't see where the goal came from. (Ezra)

Part of building the background knowledge for alignment is the process of consultation. As Rex, a teacher, indicated, “if the school development plan is really supposed to guide our vision, and if the staff have had very little consultation in it, then our goals aren't aligned.”

Closely connected to building background understanding is addressing a sense of ambiguity. Teachers suggested that they were okay with “a primary directive” (Sal). Ezra responded:

I don't mind there being a year focus or a goal focus in one direction, because that gives me the parameter to then ask questions that we can divert or make a different path within. However, I don't want to end up with a whole lot of time talking, and then at the end something would be created at the last minute, literally an eleventh hour, hail-Mary that to me was insufficient.

Rex indicated the importance of “a few quicker straight lines, not to dictate how, because I understand that we wanted the pathways to form naturally, but if we had a few more directions given to us, there would be less uncertainty” Teachers also discussed the issue of fear connected with ambiguity. Jay stated that:

If that (vision and goals) wasn't clearly articulated, then the path to get there would not be as obvious. The light at the end of the tunnel wasn't there to guide you, so the fear was, I'm going to do something wrong and then by default, you go back to the classical pedagogy.

One of the challenges of building alignment is that the principal looks for the discrepancies or gaps in peoples' thinking. Principals talked about the importance of understanding how individual teachers were aligned with the shared vision and goals. Chris

discussed “being in tune with your people and helping them, really being organic and grassroots.” One assistant principal, Max, stated, “the principal does a lot of work holding the frame in order to create a common language.” Max furthered clarified the point on discrepancies and the importance of building clarity of the vision and goals:

Something that's in our vocabulary, something we know, at the forefront or else things can slowly start to revert back to areas that you don't want them to be. Staff need to continually come back to the foundational documents, so literally sharing those documents, reviewing them, revisiting those documents, but also having them in our daily conversation. So virtually every conversation we have we're talking about the work, so we have a certain way of being.

Lou, another assistant principal responded with a similar comment, “they need to check our assumptions, that it's all going well, and not assume that things are where they should be.”

Taylor summarized alignment of teachers’ understandings with the goals by finding out “who's on board on the goals” remembering that “it doesn't look the same for everybody.”

Assistant principals described the process of aligning teaching with goals as an enduring challenge that focused “on intentionally building coherence.” Taylor noted, “in high school we have so many disciplines within a building, with their own ways of thinking and how things should be done.” Shawn highlighted this point for clarity “everyone has their own vision of what it's (refereeing to pedagogical practice) going to look like.” Sam added, “teachers know their strengths and that the strengths that they bring are different from each other.” Sam went on to say that the challenge for the principal was how “we gather the through line from the system work,

our professional learning, and our system meetings, for our staff.” However, there was a caveat, as noted by Shawn:

I don't think anyone feels too compelled to take the idea of a cookie cutter. I think people know it does not need to fit cleanly, it needs to fit our school culture and the parts that work here.

The other challenge for principals, identified by participants, was in addressing alignment with new staff. In building alignment, the principal needs to know what teachers believe and understand with respect to the vision and goals, even when teachers were new to the school. In discussing the concept of on-boarding, Chris, a principal, stated:

Having new people coming in, that changes things. We've been discussing how it's so important that, even though there was a big push on that particular goal in the beginning (several years ago), and we feel like there is a common understanding, that there is more need for us to reevaluate and make that (alignment of goals) at the forefront every year. We need to do a little better at not assuming that things are where they are and that we need to keep addressing it in a way for everyone on staff.

Aang, a learning leader, said, “because people come and go, but we've established some norms that are important to keeping the ship going in the right direction.” To address this issue, Drew, a learning leader, described the process of building alignment as “much like we address our students on a case by case basis.” Another learning leader, Avery stated, “it is important they (new teachers) take their time to get to know what our current direction is and understand how this is influencing the embedded culture.”

As demonstrated in this subsection, one of the empowering conditions of principals' leadership practice is in the process of building alignment, synchronizing pedagogical practices with the school's vision and goals. Through a focus of purposeful conversations, connecting goals to critical background knowledge, taking the time to check for misalignment, being attuned to individual teacher needs, and the process of on-boarding of new staff all ensures that everyone is "rowing in the right direction" (Taylor, assistant principal).

Finding 9. Building commitment. Fostering a shared commitment means going beyond the process of building a collective understanding of shared vision and goals. A collective commitment means there is a willingness to be actively involved within the vision and goals of the school. Principals described commitment as being key in generating the momentum to move forward. Going back to Chris's metaphor of good bones, commitment is "the backbone, is what connects everything, gives strength, a willingness to do it." This section will summarize the findings of how principals build commitment towards a shared vision and a set of common goals. Specifically, participants discussed the importance of finding the right people and tapping into their potential through a process of nurturing, collaboration, and active involvement framed within specific challenges of the high school setting.

Referring to Collin's (2001) well-known quote, principals talked about the challenges of building commitment by finding the right people for the bus and placing them in the right seats. Chris explained that it was more than finding "people who believe in what we were doing, live what we were doing, and contribute to helping us build this vision?" Chris talked about asking the hard questions centered on "is this the place you want to be" and "are you willing to commit to our vision and goals?"

Assistant principals talked about how the principal needed to focus on “the critical mass” and build a sense of commitment. Taylor stated:

Do we really believe in what we're doing and therefore, if you're on that ship, it's like, well, I either have to jump on board or I have to jump off?”

All principals agreed that commitment needed to be a process where conditions were created for teachers to be nurtured steadily and overtime. Alex talked about developing commitment through a cultivating process.

One of the things that I've come to really learn and understand is that any kind of leadership in a school, particularly for it be effective, is really like what happens in my gardens. It is about taking those steps in moving and improving. Sometimes I move plants. And if I move a plant, and I want to put it in a place where I think it will receive better care, better sun, less sun, better soil drainage, whatever. In leadership, we make changes like that and what happens where that plant came from? Other plants flourish. This is the real insight when you make a change in one area, you make room for other people - and that's no criticism of this plant, this person, this program - amazing things will happen. This plant will flourish over here, and if we move something or present it differently, or talk about it differently or whatever, others will flourish as well. And that's the big part of the ‘we’. How do we make room for everybody? Not every plant blooms early. Not every plant is brilliant in color. We all do things in different ways and how can we provide the best conditions for that? There's no one way in which all people can thrive or flourish within the school. So how do we make room for that? How can we be inclusive? How can people be heard? How can they be understood? And how can we put

all of that together and take a look at it? And again, just like a garden, it's three to five, to seven to nine years later, that you really notice what's happened.

Principals were quick to point out the challenge of 're-examining' teaching practices. Devin articulated the struggle "in developing teaching excellence in a culture of entrenched practice." Principals recognized various reasons for this "entrenchment of practice." However, as Chris adamantly stated, "these are not excuses." They saw the importance of building commitment as a way of challenging resistance. Chris talked about "having the courage" to challenge current practices. Chris then responded:

I am the person who stood in front of the staff and said, "here's what we're about, and there is no room for you to close your door and say no, I'm not buying in. You're either in or you need to talk to me about, how can I help you find a new place? There is no hiding."

Alex stated, "I will say, 'ultimately, I'm making the decision on that' (referring to teaching)."

In building commitment through an obligation to learn, principals talked about providing the right level of challenge so that individual teachers do not feel overwhelmed or that they were not capable of meeting the expectations set-forth. Devin discussed the need for teachers to feel successful as they "stretch their practice." To this, principals discussed the importance of being active listeners, asking probing questions to unpack what teachers really understand. Alex expands:

Often, teachers do not have the knowledge or understanding of what this (type of teaching) could look like in their classroom. They don't know what they need with respect to addressing the vision. This is where push-back occurs.

Members of each school's learning leaders team also talked about how commitment building was challenged by the embedded culture found in high school teaching. Pat, a learning leader described "the importance of being aware of the informal communities that exist."

To address push-back, principals acknowledged how critical for them to unpack the situation. Devin talked about "having conversations and it was good for me to kind of get a sense of who my teachers are, what they were struggling with or bumping up against." They all talked about making a strong effort to get to know their teachers, having one on one conversations through "fireside chats." The principals saw these conversations as a worthwhile investment of time, as this gave them an appreciation of the individual's level of commitment which included the ability to celebrate and set direction for further support. A question, used by Chris, "how do you see yourself in the school development plan?" was typical of what principals asked. As Alex stated, these types of questions allow the principals to "uncover different preferences, different understandings, and possible misinformation." Referring to the intent of these conversations, Chris pointed out, "really my role is as an advisor" and "are we providing the supports for what we truly believe in."

Teachers saw the benefits from such conversations. As one teacher, Sal, stated, "the principal does not hear the conversation outside their office, so you want to encourage them to come to you." According to another teacher, these conversations meant there was a "feeling of being empowered when you are asked about a need or a want and the principal is willing to work on or talk to you" (Rex). Teachers appreciated these conversations:

I found the fireside chats useful. We can kind of chat about whatever is on our mind.
(Nat)

I've been working towards this and they'll say, Oh, you know, another teacher is talking about working towards that as well. Why don't you go connect with that person? (Jaz)

As principals discussed, the key to building commitment towards a shared vision and goals is also providing the opportunity for teachers to collaborate in order to build alignment of their teaching with the school goals.

To develop a high level of commitment, assistant principals also talked about collaboration and the importance of ensuring teachers feel genuinely part of the process. From an assistant principals' perspective, building commitment centers on the idea that "everybody is pushing in the same direction" (Taylor) and there "is a team environment that's not top down" (Pat). Shawn stated, "too often they just go into their classroom, close the door, and do their own thing." Taylor, in describing active participation in building commitment, stated:

Not that simple, it's not a book, here, read this book and do this. And I think for teachers and admin that want the answer, that's the struggle. That's the biggest struggle I see because there's lots of people ready to work. They know what they want, they know the end goal but it's how to get there and that there's not necessarily one way to do it.

Learning leaders, at these high schools, talked about the importance of trust with respect "to commitment." Kai expressed the importance of trust, "that idea that everyone has a role to play and having admin allow people to make their own decisions, based on a guiding document, is probably the most important and empowering piece of being here." Lee described "the personal level of flexibility."

In the same line of thinking, teachers describe how principals need to provide a level of autonomy to encourage commitment. As Pat stated, “teaching is a very personal profession so it's very difficult for people not to take it personally.” In describing their principal, Maria stated, “the fact that the leadership is opening their own views and understandings to what others are asking for, being transparent with discussion, and reassuring that we are truly working together.”

In discussing the idea of building commitment, several assistant principals talked about the importance of clear messaging. Taylor talked about having “a specific vision of what teaching should look like and encourages everyone to contribute to the vision.” Max pointed out “the principal needs to look at pedagogical practice and challenge, influence, support, and encourage teachers.” To do this work Shawn talked about how the principal needed to share their “passion” for the work, stepping in “and getting dirty.” The assistant principals talked about how these actions make clear what teaching should look like in the classroom. As Max explained, “it is important that the principal models what this could look like in the classroom.” One principal, Chris, supported this point and stated, “that modeling for them, is about the active involvement in the professional learning of staff.”

Teachers affirmed the importance of principals modelling as a way of building commitment to the shared vision and goals. Mau articulated:

If you want me to try something new, then model it with us, so if you talk about, "Here's some ways to engage students," rather than we're at a staff meeting and we're all sitting there banging our heads on the table because we're just listening to someone talk about it.

The teachers also discussed the importance of clarity and consistency as the principal build's commitment to the vision and goals. As Sasha stated, the principal needed to make clear "here's where we want to be in our practice and we're going to work on it for a couple of years, and then people would feel comfortable about how they get there." Some teachers talked about their prior experiences where principals "continually reinvented expectations every year or two" (Sal). Ezra stated:

Teachers put a lot of time and effort into developing resources, processes and programs.

Often, I have seen principals manifest a reinvention of a process. Over time, this results in teacher burnout and a lack of willingness (by staff) to engage in a new process.

As Jay pointed out, "teachers are really uncomfortable with the leap, depending on where they are coming from, and so I think what we needed is that the principal does not add too much on the plate at one time." Building commitment, as a principal practice "should be seen at the beginning as a bit more of a stepping-stone approach" (Ezra).

This section has clearly demonstrated that the principal practice of building commitment towards a shared vision and goals illustrated how this leadership work goes beyond simply having teachers being involved in the work. Even though there were specific challenges in high school settings, the pedagogical leadership practice centered on building a commitment that is unwavering, that encourages a level of dedication within teachers to advancing pedagogical practice. This practice involves tapping into the potential of individuals through a process of developing, collaborating, and active involvement.

Finding 10. Capacity building. To sustain commitment to a vision and goals, the three high school principals discussed the importance of harnessing leadership talent and taking the

time to develop a set of leadership skill set. They referred to capacity building as the ability to create a system of change by drawing upon the strengths of various individuals, specifically centered on the work they do with assistant principals and learning leaders. Returning to Chris's metaphor of a skeletal system, if commitment was the backbone of the skeleton then capacity building is "initially building a framework (around the backbone), of how you have good bones of what you want to accomplish." Devin emphasized that the work, centered on pedagogical practice "cannot be done in isolation, behind closed doors." With a high level of commitment of working together, cooperatively, participant saw capacity building as a process by which the principal supported the development of their own knowledge and skills of teaching. Chris described their role "as being a coach, building capacity within my assistant principals and learning leaders to help them see themselves as leaders of learning as well." The following section describes the practice of leadership capacity building in large urban high schools and the associated actions as ways of building an authentic culture of continuous improvement. Discussion will center on elements of this practice including establishing and communicating clear directions for the leadership role, developing an internal system for growth, and building trust to foster innovation.

In describing the demands of working in a large urban high school, each principal discussed the importance of leadership capacity building, empowering and supporting others to move the work forward. Referring to size of the school, Chris stated, "the challenge is in building the capacity of each and every teacher in realizing the school might have this goal." Chris described the challenge, "in a big building you can kind of get lost." Devin, who has worked at other schools, described the difference by stating:

It is so different being a high school principal to do this work. Sometimes I pine for the days when I could just pull all my staff together in a classroom and let's have a quick conversation.

Alex described the work as:

Trying to turn a ship in a bathtub. It's time consuming. It's long. It's rewarding. It's interesting.

The three principals agreed that capacity building was not a form of delegation or downloading. They discussed the importance of leadership capacity building, focused on a shared vision and goals, as being necessary in creating and maintaining the culture of pedagogical growth within high schools. Devin responded to why this form of capacity building was important, “building capacity with my assistant principals and learning leaders help them see themselves as leaders of learning,” Devin went onto say, “simply, I cannot do the work on my own.” Through their assistant principals and learning leaders, these principals have developed a unique relationship with their teachers with respect to pedagogy. Devin shared how important these relationships were:

This is the through line to teaching and learning. In this case for me, it's been always thinking about building the learning leaders' capacity to do that work. It really is about distributed leadership. It's about leaders of various departments and teams doing the work with their folks, assessing, coming up with shared tasks, with shared processes, with shared ways of doing things, with building this culture of, we're in this together.

In each of the three schools, assistant principals clearly saw their role as working alongside principals in capacity building. With reference to size and capacity building Lou

shared how important the role of the learning leader, “they have much more reach, I think, than we do from the office.” Max added, “that goals within the school needs to be brought forward by LLs (learning leaders) because they're in effect the APs (assistant principals) working with the 10 or 13 people within their department.” Taylor talked about how, “LLs have conversations with them (teachers) because they're the ones that are driving the work within their departments.” Principals and assistant principals, in each school, focused on capacity building of learning leaders as a joint effort. This perspective was confirmed by both the learning leaders and teachers. The focus of the next part of this section centers on how principals, in these schools, built the capacity of learning leaders.

During the interviews, principals discussed the continual challenges of building the capacity of learning leaders with the opportunities for authentic input into the structures and resources of meeting the vision and goals of the school. Simply stated by Chris, “how do we empower them to move the work forward?” Alex answered the question by stating that learning leaders “need to feel empowered to do that work properly and given the resources, time, energy, to be able to care for their staff and still teach.” Taylor, an assistant principal, talked about “setting up a system or a way within their building to help their master teachers (learning leaders) help the teachers that are not necessarily struggling but just not necessarily on board or moving in the right direction.”

During the interviews, assistant principals discussed the intentional actions that transpired in the leadership meetings which supports capacity building of learning leaders. They emphasized the importance of creating time within meetings that focus on the vision and goals of teaching. Max talked about “separating out the information, the lists, and this is what's happening

stuff, and really create time and carve out time in the schedule for those meetings to talk about practice and student work.” Lou discussed separating the “business stuff” and leadership development “as a good call because you can get bogged down with the details and the nuts and bolts, you can get caught, almost lost sometimes in the business or every day.”

Within the practice of leadership capacity building, the structure of the dedicated time is critical. Principals discussed the importance of providing the time during leadership meetings to discuss leadership issues and concerns. Alex talked about the importance of “giving lots of space for them to talk.” Devin described the dedicated time “as really looking at the work together.” Chris further explained the purpose of this time, “these meetings are a time of sharing their experiences, their hardships, their things to celebrate.” Alex further described this dedicated time within the meetings, “as the point where learning leaders are honest about their struggles.”

Connected to these conversations, Max, an assistant principal, talked about, “being willing to make those adjustments (to the agenda) and be flexible and move things forward even if it doesn't look like what you intended to initially.”

In examining the data from each of the three high schools, there was a high level of reciprocity between the administrative team and the learning leaders that was assumed with respect to capacity building and moving teaching forward. In particular, there was an understanding that the principal has direct influence on teaching, particularly through their work with learning leaders. At the same time, there was a dynamic condition in which the principal was influenced by the assistant principals and learning leaders. This conception of mutual influence was prevalent throughout the data. In describing this interaction, Alex, a principal, clearly stated, “so I'm learning from them, I get to see how they're leading the work.” Chris,

another principal, expressed, “I understand where they're coming from when I watch my LLs work and lead because they're the experts.” Teachers affirmed the reciprocal relationship principals have with learning leaders. As an affirmation, Lee, a teacher, stated, “they (learning leaders) have a responsibility to inject not just what's coming down, but also supporting our work going up.”

Modelling leadership practices played a key role in capacity building of learning leaders. Lou, an assistant principal, described modelling as “being really mindful, I think of it as a thread that's interwoven, that something that starts happening in every learning leader meeting.” Another assistant principal, Max, explained the intent of modelling:

We are modeling it (pedagogical leadership) as a leadership team because ultimately, it's (the school) too big. We can't be everywhere to model it, so it's being modeled now within the leadership team. It's our learning leaders who are guiding this work. They're taking that model and they're using it with their team.

Assistant principals discussed the importance of using rich conversational protocols as a way of modelling the work. Max, explained these protocols as, “a lot of growth-based conversations and a lot of those big really important conversations.” Max described the conversation protocols in this way:

They are not challenging in the sense of "what you're doing is wrong" but having those real conversations with thoughtful questions like, "okay, why do we do this?" And "How could we move this forward?" And getting learning leaders to really think about that and then in turn they take it back to their team. And they kind of have the same thoughtful questions with their team, so it's kind of works all the way down.

Lou talked about being deliberate in their modelling, “being really mindful, it's a thread that's interwoven.”

Linked into capacity building of learning leaders' leadership, assistant principals discussed the importance of celebrating milestones but also emphasized the importance of going beyond these points. They talked about the importance of collecting appropriate evidence in order to show insight into the work. Devin discussed the importance of “evidence of how the work is moving forward.” But as Alex stated, “it's not just telling your stories, it's not just talking about the shiny sparkly stuff that's being talked about, it's problems of practice.” Chris expressed, “the challenge rests within that vision or goals, they're (learning leaders) able to begin to identify those problems and practices and then bring it back to the leadership team.” Alex further stated the need to “talk about what they're (learning leaders) doing with their teams, with the evidence they have gathered that they're having success, bring examples or evidence or anecdotal stories.”

One of the challenges of capacity building of learning leaders, that assistant principals discussed, centered on finding the right people to take on the role. Taylor articulated this point by describing “getting the right people on board who are going to be able to understand the vision and are going to be able to move it into their particular teams on a day-to-day basis.” As well, Sam stated, “if pedagogical change happens, it needs to happen through disciplines.” Each assistant principal team talked about the importance of pedagogical content knowledge at high school and why learning leaders should be master teachers within their discipline. As an example, Sam explained:

Need to be very masterful in your subject in order to do the flexibility pieces and have that inclination towards an openness to that work. Need to be able to come alongside their teachers to help move and engage in those teaching practices because I think these people have some great practices that are fantastic.

There is a caution here as specified by Alex, a principal, “you really need to be conscious; somebody may be a great subject teacher, but they may not be the best subject learning leader in terms of moving the practice forward.” Chris stressed this point, “you are really counting on them for that pedagogical advancement.”

Learning leaders “feel the principal's role is really important in building our own leadership skills” (Aang). They comprehend the importance of their own role in moving teaching practice forward framed within the school’s vision and goals. Maria described the principal’s role as being different at this school as compared to previous schools and experiences, “they are open to sharing their leadership, that's kind of a hallmark of our leadership in the building.”

During a similar discussion at another school, Jan stated:

When I first started here my mind was kind of blown by the expectations of learning leaders here. Because I came from a fairly traditionally base, you get the department head to order some staples and paper clips. I definitely have influenced teacher practice. What we do is a lot of is tweaking, a lot of task-based focus, looking at task development and outcome base practice. And I think the reason why you're hearing me not say that it just changing teacher practice is because it's been six years and so it's so embedded in the practice.

As part of the leadership team, the learning leaders recognized the level of trust the principal has in their own ability to actively move practice forward. Mau enthusiastically stated, “we have their support in a way that builds a comradery that you need to support this whole process of redesign, which is categorically hard, it's a shift in thinking.”

Of interest, teachers discussed the learning leader role as having a bigger impact on their teaching than the principal. Teachers, in each school, described the importance of making changes to teaching practice through individual disciplines with a direct connection to the importance of pedagogical content knowledge. As Lee specified:

Well it is nice to see principals in the classroom and offer encouragements and suggestions for new teaching ideas and methods, not all principals are well-versed in the uniqueness of each discipline. I have worked with principals who are so engrossed with large over-arching goals that are difficult to implement at the classroom level. This is especially true for outcome heavy subjects such as math and science.

Teachers discussed the importance of the learning leader role in fostering changes within individual discipline areas. Sasha clearly stated, “you need very masterful teachers in your subject in order to do the flexible pieces through an openness to the work.” From the teachers’ perspective, they saw the principal as “reinventing the idea of a learning leader” (Nat). Ezra further delineates the role of the learning leader in their school:

Empowering is delegation with the intent to build capacity and acknowledge others for their contributions. Big picture leaders find it easier to step away and in my experience that allows teachers and PLC (professional learning communities) to feel reaffirmed in

the trust that they are at the helm in determine best practices in their daily work with students and colleagues.

In summary, this subsection has examined capacity building as a principal practice in developing shared leadership focused on building a shared vision and goals. Evidence from the data revealed a view that leadership capacity building, in large high schools, is through a practice of building an internal resource of new leaders with rich and innovative ideas. This practice goes beyond delegation, the work is about building leadership capacity in others in order to influence teaching. Discussion centered on the importance of investing in both the present and future, by building an internal system for developing leaders.

This section has discussed four principal leadership practices that provide the conditions for the principal to develop a shared vision and goals of pedagogy. The next section will summarize the analysis of the data connected to quality teaching.

Quality Teaching

The concept of quality teaching was clearly articulated by participants in this study. There was an emphasis on teaching that actively engaged students in their own learning. In each school, participants discussed the process of creating intellectually challenging tasks with corresponding outcome-based assessment tools. Taylor, an assistant principal, explained that task design and out-come based assessment “is central to the work through-out the school.” In describing the difference from previous schools, a learning leader spoke to the work on task design and outcome-based assessment, “the work is intentional, making clear to students how each learning task is connected to specific outcomes.” An assistant principal, Sam, made clear that teaching, in their school, was focused on individual learners:

The focus is on multiple entry and exit points where tasks look at the outcomes for the various levels of performances and design tasks that now all students can be part of.

Students do not have to be working in silos, but really, they are learning from each other.

A lot of entry points for students.

Sam went on to state:

The focus is on making the learning visible to the students. I would not have traditionally seen this in another high school.

In discussing what quality teaching looked like in their school, Drew, a teacher, stated, there is “a community structure that is different here, the emphasis is on a high level of collaboration between teachers, there is a real sense of shared pedagogy.”

In examining the extent to which high school principals enact pedagogical leadership practices framed within quality teaching, four findings have been identified. These findings or practices, (a) establishing teaching standards, (b) active observations, (c) shared leadership, and (d) intentional collaboration, will be illustrated in the next four subsections.

Finding 11. Establishing teaching standards. Participants described the importance of the principal establishing and adhering to a set of teaching standards and competencies that focus on quality teaching.

Even though quality teaching in Alberta is guided by the *Teaching Quality Standard* (2018c), principals talked about the challenge of working with teachers in defining what constitutes quality teaching based on the school vision and goals, a “school-wide framework.”

As a Devin respectfully said:

There are still some entrenched practices here despite, and I think that's what wakes you up at night. Despite focused, concerted effort on learning leaders, and despite painfully obvious conversations in staff meetings, and despite all of the PLCs (Professional Learning Communities) and articulating the expectations. "Well, I'm going to shut my door and I'm going to do what I've always done because you too shall pass, or I'm going to be still be here, and I know this works."

As Alex stated:

It's intentionally staying true to the vision of teaching but also avoiding what is distracting. It's about helping the teachers understand kind of what that (teaching) should look like.

In discussing how they influenced teaching standards and the associated competencies at their school, Chris responded, "with different ways of deepening their sense of understanding about how they can help support students and their learning." Chris goes on to say:

It's not checking up on people, but it's checking in with people. It's making sure that you're helping them understand what is expected. People don't go astray or go off-task or do their own thing just because.

Devin described this work as making clear how teaching should be organized, "really having teachers look at how can they design those rich, robust learning tasks." In discussing the teaching standards, Chris described the work as:

Really pushing teachers in task design, it's really pushing teachers in looking at how are they incorporating formative assessment and making adjustments (to their teaching)

along the way to make sure they're responsive, if this isn't working for this student, how can I make those adjustments?

Principals, assistant principals, and learning leaders discussed the importance of being able to adjust expectations with respect to the teaching standards. Key questions such as, “why is this happening?”, “what are you having trouble understanding?”, and “how can we help you understand?” can trigger change. As a learning leader, Lee, stated:

Well, maybe this is something we need to rethink, we need to redesign, we need to re-engineer or maybe it's time we need to put it on the back burner for now. It's not something we're going to accomplish at this point.

Teachers also talked about the importance of teaching standards as a framework that described quality teaching. Jaz saw the principal as the person “promoting pedagogical innovations within the school.” As Maria stated, “I have taught in three different high schools under three different principals, and a common theme with respect to innovative pedagogical practice, seems to be that the principal directs teachers as to what constitutes innovation.” However, there was a concern voiced by numerous teachers in the study. Sal, in describing their previous principal’s leadership practice, stated:

It seems to be a top-down phenomenon that may or may not make sense in every classroom/for every teacher. In other words, as a classroom teacher, I would like teachers' voices to be heard by principals in determining whether innovative pedagogical practice should be applied in every context, rather than being told that we need to implement this new strategy regardless of whether it is practical or applicable.

Sasha made the following statement as a reflection to a top-down approach to implementing a teaching standard, “teachers do not need to be monitored, or given "rewards", to ensure they are implementing these innovations, it's simply part of being a professional.”

In summary, the principal practice of establishing teacher standards works towards a higher level of alignment of quality teaching. Principals understand that there was a complexity in supporting teachers with their professional practice. The study indicated that, through established teaching standards and associated competencies, principals were able to clearly communicate their expectations on what quality teaching can and should look like in their schools.

Finding 12. Active observation. Principals, in discussing ways of ensuring quality teaching, talked about the importance of active observation. Principals understand that the word ‘active’ delineates a notion of being purposeful with the goal of stimulating professional growth. Devin commented, “the principal needs to know their staff’s teaching practices.” Chris elaborates, “the better you know your staff, the better you can support teaching practices, but also understand what's going on in any particular department from a general perspective, not every detail and again, not that that would ever be needed.” Alex talked about the role of active observations as a way of, “engaging in the growth of teaching practices.” The findings suggest several strategies for active observations that have intentionality focused on affirmation of quality teaching.

Active observations can be both informal and formal. However, each set of participants clearly distinguished formal observations as connected to teacher evaluation and teacher certification and thus had limited effect on the overall quality of teaching. A number of learning

leaders described a more informal approach to active observations, “simply ducking in and out of classrooms” (Drew), “being invited to participate in what students are doing” (Kai), or “varying degrees of formality to determine what kind of supports teachers need” (Shane). Chris, a principal, emphasized the importance of the informal aspect of observing by explaining, “it’s the incidental conversations, it’s being out in the halls and having good relationships because, at the end of the day, that makes a huge difference in teaching.” Sam, an assistant principal, described this form of observation as, “walking the halls, it's leadership by walking around.”

Principals described a common thread to observations that was active, the principal’s intentionality of observing quality teaching. In discussing the purpose of these observations, Chris talked about being, “conscious of what are you observing in the classroom, what do you notice.” Devin described going into the classroom as, “a way of checking your assumptions in order to understand how to move the practice forward.” Alex talked about, “what kind of supports do they (teachers) need to be able to do that properly or well to support our kids.” Alex described the intent of observing as understanding, “understanding means that I can be more supportive in terms of when they come to me, whether it be about resources, whether it be about how to teach, or whether it be time to do certain PD (professional development) that they want to do.”

Assistant principals also concur with the intention of active observations. Sam stated, “there's intentionality in your visits and that you're looking at the vision of our school, what evidence do I see of that and how can I support you as an individual teacher.” Finally, as stated by Taylor, “it’s seeing what's going on, understanding the strengths and the knowledge that our teachers have, this is the first piece.”

In the process of the various forms of active observations, principals talked about the ensuing conversations that was critical to active observations and quality teaching. Chris stated:

You go into a class, what are you witnessing? What are observing? And then being willing to have those conversations. These conversations focus on teaching in a way that is reflective of our beliefs.

An assistant principal, Sam, talked about, “those natural conversations taking place inside the classroom or in the hallway, more informal’, yet still centered on “how are you moving your practice forward and what does this look like?”

Part of the intent of these conversations is affirming, with teachers, the quality of their teaching. Along with this affirmation, Chris, a principal, talked about the importance of letting “teachers know that they are building that shared vision.”

Teachers, during the focus group, really appreciated the idea of the administrative team “dropping-in” to their classroom. Teachers valued the time when principals “stick around and talk about those pieces, the rationale, and what’s working” (Ezra). Other teachers shared similar perspectives of active observation stating:

It’s about knowing what we are doing in the class, often is how and in which directions I am growing as a teacher. (Pat)

Someone would actually come in and we sit down, and they'd be like, this is good. (Rex)

Often is asking (the principal) how and in which directions can I grow as a teacher. (Nat)

It's not about attacking you; it's about getting professional feedback. (Drew)

Another facet of active observations were those intentional conversations the principal may classify as “difficult conversations.” Devin confirmed the importance of “having those tough conversations with teachers in a non-evaluative way but in a way of how we move this forward.” Based on their observations, Chris described the follow-up ‘difficult conversation’:

Cannot be afraid of hard conversations So there are times when the principal, I think, needs to take a hard conversation, one-to-one behind a closed door, in support of all of these things we've talked about.

Alex added:

If you have teachers who aren't necessarily able to do what it is that you need them to do, helping them attempt to get better, helping them find their way. In the conversation, I peel those layers of the onion back. I ask what did you learn? How did you know? What would you like to see?

Assistant principals also discussed the importance of having the ‘difficult conversation’.

As Max stated:

Those difficult conversations, so many of them had to happen, to get practice to move forward, but if it's done in a respectful way and it's done in a way that people feel like they're seeing this not as a judgmental way, but asking those questions so they almost start to see where things are. Kind of pushing them and challenging them in a way.

Learning leaders also discussed the challenges of having these difficult conversations. In some cases, these conversations were more than “collegial”. In particular, Aang mentioned:

How do you give feedback to a teacher who's been at this for 20 or 30 years versus some of our teachers who are brand new to the profession? It looks completely different.

Drew talked about, “them (the principal) addressing struggling teachers very differently from a teacher who's brand new to the profession.”

Teachers discussed the importance of principal’s being “super involved” with “lots of face -to-faces” and “open conversations.” However, they expressed a common concern around active observations not being a process of open dialogue. They talked about the need for “respect of teachers' professionalism and autonomy, within reason, if it's earned, a degree of professional independence on how we teach” (Mau). In one conversation, Jan compared their current principal’s practice of active observation with that of previous principals:

I found that working for principals who have faith in their staff and look for the positive inevitably motivate their staff and instill a confidence within the teachers. On the other hand, I have found in teaching environments that leaders who are micro-managers seem to create a negative atmosphere that feels more like policing and stalls teaching practices rather than innovating and inspiring practices from their staff. However, being visited by my principal for informal pedagogical discussions and input encourages me to feel valued as a colleague and an active member of the staff community.

In summary, the study indicates active observations, as a principal leadership practice, is a core approach in considering ways to have engaged conversation about quality teaching. This

practice is purposeful in that the intent is to further develop the knowledge, skills, and professional attitudes towards innovative teaching.

Finding 13. Shared leadership. In seeking a more systemic approach to quality teaching, principals and assistant principals discussed the importance of building leadership capacity of learning leaders in order to move pedagogy forward. There were two primary determining factors for developing these approaches at high school, size and pedagogical content knowledge.

Participants in the study, who have a leadership role, discussed the issue of school size in reference to ensuring quality teaching. As Chris, a principal, stated:

How I'm going to move the pedagogy forward? It has to be a shared approach, because there's no way with the size that we can be everywhere, there's no way that they could simply count on us (principal and assistant principal).

Sasha, a learning leader described the importance of their role based on the reality of school size:

As a group, the principal can only support it (quality teaching) to a certain degree. They talk about the philosophy, they are involved with the teachers, involved with the PD committee in terms of what topics we're addressing and looking at. But I mean, our admin is super involved with actually trying to give feedback to as many teachers as they can. It's very difficult on the staff of 90 people with four administrators, you're not going to get into every classroom all the time. It's just not going to happen, so this is where the role of the learning leaders comes in.

The second factor, pedagogical content knowledge, centers on a compliance factor that is “a little different at high school” (Devin). Principals discussed how students, and ultimately

teachers, were held accountable for successfully meeting outcomes for each course in order to earn credits. As a synthesis of both pedagogical knowledge and discipline knowledge, Alex talked about the challenging of understanding quality teaching within individual disciplines and “how a concept is organized for learning.” Devin described their challenge by stating, “how can I go into a physics class and decide that this is good physics teaching and learning when I have never taught science?”

Teachers support this perspective:

I struggle with this (referring to pedagogical content knowledge) when someone doesn't know the subject area. (Ezra)

You cannot be jack of all trades. (Nat)

I want to be working with a person who knows the material well, they know their subject area. (Mau)

Many of our principals are so far removed from the discipline that they are not considered legitimate and therefore, are ineffective in terms of the influence they can have. (Rex)

In these schools, principals take an active role in sharing leadership by developing learning leaders' skill sets. As Devin stated, “how do I build capacity of learning leaders to take a look at those things within their teams.” There was a focus on mentorship of learning leaders as

described by the Chris, “it's my learning leaders and the work that I do with them. Alex talks about “purposeful work I try to do with them is what's going to really influence teaching practice. Devin talked about capacity building as “trying to create that through line between what it is LL’s (learning leaders) are learning about task design, assessments, and conceptual understanding (referring to quality teaching).”

Learning leaders talked about the expectations of their role being different. As an example, Kai said, “it's so different from than what I’m accustomed to at other schools. Jan stated, “it’s definitely is a big shift.”

In particular, principals discussed building skills sets centered on constructive conversations. As Chris stated, “helping them (learning leaders) have those open-to-learning conversations with teachers who are taking a left turn, who aren't following what we're doing.” Much of the work with learning leaders was done during leadership meetings. Each school had made changes to the meetings, not only in duration, but format. As Alex described these meetings, “it's not just show-and-tell time, the conversations tend to be a collegial discussion.” As Chris stated, there is an intentionality within the meetings, “to support the work of the learning leaders a bit more meaningfully, those rich, rigorous conversations.” Devin talked about structured conversations:

What are the questions you're asking each other in this work? So, how are you going to be bringing this back to your PLC? What’s the look for? What's the protocols you're going to use in this work?

As part of encouraging learning leaders to share the leadership work, assistant principals talked about “the need to trust.” Taylor talked about giving learning leaders, “accurate

information without being micromanaged.” Both Lou and Max described how the principal made a change to the meetings where each month one “learning leader presents a “problem of practice” they were currently working on. Max described how in big buildings, “if you are not being mindful of the work in these meetings, it can kind of get lost.” Lou talked about how these meetings have “become part of the culture of the school.” Sam talked about the quality of the conversation, “a lot of the wisdom and the forward momentum is in the conversation here.”

Learning leaders described these meetings and conversations as an opportunity to “share the work-load” (Drew). Kai discussed the framework of these conversations:

Well how do you do this, what am I going to do with this, or I have this situation. And so that hopefully there's always someone there to help you when there's questions and to help you with the how I do this right now.

Principals, in describing the practice of shared leadership, discussed the role of the learning leader as being that of a mentor, especially for new teachers to the school. As there was staff turn-over each year, principals talked about the importance of making teachers welcomed and providing the appropriate supports in aligning teaching with the vision and goals of the school. Chris talked about the unique challenges at their school:

Having new people coming in, that changes things. It's so important that even though there was a big push on that particular practice in the beginning (referring to several year ago), we now feel like there is a common understanding, that there is more need for us to continue to make that (particular practice) at the forefront every year.

Chris goes on, “having a learning leader intentionally working together with those teachers new to the profession or new to the school.” Alex described the expectations, “making sure that the

learning leaders support and help the teachers, especially bringing new teachers in, understanding the teaching focus.”

As previously discussed by principals, teachers talked about being new to these particular schools, “it definitely requires some time for them (as new teachers to the school) to wrap their heads around what is happening.” Learning leaders and teachers discussed how in previous schools, “there was informal mentorship happening within the department” (Rae). At their current schools, the learning leaders discussed the intentional focus on mentoring. As Jaz stated:

I will link up that person with at least a couple of other teachers that have common courses with them. I encourage them to work with other staff members. It’s guiding. It’s part of the culture. It’s a lot of one-on-one conversations.

This subsection has discussed the principal leadership practice of shared leadership. Even though this practice mirrors the finding of capacity building, there is a concentration on pedagogical content knowledge. The study indicated that based on the size and the demand of pedagogical content knowledge at high school, principals recognized that they cannot be the lone instructional leader. Shared leadership acknowledges the substantive role learning leaders play in developing quality teaching within these settings.

Finding 14. Intentional collaboration. In all three schools, the leadership teams and teachers discussed “intentional collaboration” in planning and designing quality teaching. Intentional collaboration refers to the principal leadership practice of a formalized and strategic approach to group interactions that centers on developing quality teaching.

Principals, in each school of this study, expected teachers in each department to “work together to increase student learning.” In discussing teacher isolation, Chris was very adamant, “I

will not let teachers close their door and teach in their own way.” In describing the formalization of the collaborative process, Chris emphasized:

We provide a high quality, equitable experience for all students, regardless of which teacher. There’s shared planning of activities so that you're not in the teacher's class that gets to do all the good stuff. So that you're not disadvantaged by having teacher X or teacher Y.

Chris also saw intentional collaboration as an “opportunity for teachers to see, if I'm struggling with this, what are some ways that I can seek internal help to try and improve my practice.”

Intentional collaboration provides opportunities for teachers to “expand their repertoire of teaching strategies.” Alex talked about the level of risk taking within departments as, “a willingness to try different approaches”. Devin talked about:

If we expect high quality teaching, we need to tap into the strength of teachers. It raises the bar for everyone, so that the teacher who's strong in that area becomes a leader, becomes the one who helps develop the skills of those other teachers.

In describing what intentional collaboration looked like in their school, Taylor, an assistant principal, said, “they all are not in their own individual rooms trying to get the best mark they can in their classes.” Drew, a teacher, stated, “we have an incredible staff, and every time we meet, we work through, we grapple through hard, big thinking.” Aang, another teacher, stated, “we collaborate, as we really need to understand our discipline.”

As part of the intentional collaboration, two of the three high schools have been active in using Instructional Rounds (City et al., 2009) as way of making teaching public. As described by one principal, this form of collaboration provides time for teachers, “to get into each other's

classrooms and do some observations and bring that evidence (teaching) back to their team.” The other principal talked about the visits being intentional, “focused on a specific instructional practice.”

Teachers, in these two schools, discussed the power of these classroom visits with respect to influencing their own practices. They all expressed their gratitude:

Having opportunities to visit other people's classrooms or watch them teach. (Lee)

I like that we've been supported in actually visiting each other's classrooms and giving feedback. (Ezra)

The ability to go into this classroom, that we had this year, is you could see how people model what you are talking about. (Maria)

This has been one of the most helpful things. (Mau)

I think that's really powerful and helpful, having someone in the room to see how you're doing is pretty helpful to see if you're meeting your goal. (Rex)

Through the process, teachers talked about how they could “focus on a specific instructional practice” (Lee) and “re-examine your own practice” (Maria). They discussed how, at first, being observed by another teacher was “intimidating but in the end revitalizing” (Maria). They saw this as a positive experience with respect to influencing their own practice.

To summarize, the study indicates that the leadership practice of intentional collaboration focuses on developing more rigor in the development of quality teaching. Teachers, along with their principals, believe “that pedagogical growth is my responsibility and not necessarily my principal's” (Maria). Intentional collaboration encourages open communication where principals can encourage a growth mindset through the interplay of quality teaching ideas.

The last four subsections have discussed the findings connected to principal leadership practices in developing quality teaching. The next section will discuss the two findings associated with the third leadership dimension, teacher learning.

Teacher Learning

The leadership dimension of teacher learning takes on the notion of a growth-oriented mindset, the belief being that the practice of teaching is not fixed but can be changed. Principals responded to the notion of teacher learning as a “long-term commitment to supporting pedagogical growth.” As Chris stated, “professional learning is part of the school culture.” Alex talked about how professional development “provides continual help, a structure to support pedagogy.” A key question facing principals, examining pedagogical change, centered on “what do teachers need to know with respect to the established teaching standards?”

Assistant principals had similar comments. Teacher learning, as described by Max, “has a main focus, your teaching practices, and so that is something that you do need to always make sure that you are working on and having as a focus.” Lou described the importance of staying focus on teacher learning:

It's so easy to push it aside when you have a million other things to do. It's about keeping that conversation alive, keeping it as constantly your touchstone, and not like oh well we did that teaching practice last year.

In describing principal practices centered on teacher learning, Chris, a principal critically discussed their own practice, “I have to be knowledgeable, I have to be part of the learning, and I have to be invested in it.” This section will examine the extent in which high school principals enact innovative pedagogical practice framed within teacher learning. Two key principal practices have been identified and will be discussed, (a) supports a culture of inquiry and (b) providing dedicated time.

Finding 15. Supports a culture of inquiry. Principals described teacher learning as professional development by “fostering a culture of inquiry.” The pedagogical leadership practice of supporting a culture of inquiry centers on encouraging teachers to examine diverse points of view in order to foster deeper understanding. Critical to this inquiry is a focus on a problem of practice that has been collaboratively identified through a process of data analysis and supported through current literature review.

This culture of inquiry was described as shifting the aim of teacher learning from a simple model of best practice to an increased focus on professional learning that was continually informed by evidence of student learning. As Alex stated:

It's not asking what kind of professional development you need? It's about the questions you have about a certain 'current' practice based on what is happening in the classroom.

In each school, the focus of inquiry “centers on the idea of a problem of practice” (Devin). As described by a learning leader, “the idea of problem of practice focuses on student

learning and our practice” (Jan). Alex, a principal, described supporting a culture of inquiry by identifying problems of practice as asking:

What are the dilemmas that you face? What did you notice? What did you find?

As an example of identifying a problem of practice, Alex, described the following situation:

Kids were having difficulty maintaining their school-based performance level in novel situations and high-risk performance tasks. In particular, kids who were performing well (on standard assessment tools), they dipped. How can we adjust modify and improve our instruction, and the teaching, and the learning experiences that we have for these students?

Chris, another principal, discussed, “there is a lot of work around not jumping into fads, so really just paying attention to the work (in reference to the problem of practice), a growth mindset.”

A culture of inquiry has a collaborative component that employs an evidence-based decision-making process in order to identify the problem of practice. Principals identified the challenges in identifying problems of practice based on current classroom practices throughout the school. As Alex stated, “it’s simply not asking what are problems that you see, but how do you know?” Chris asked teachers, “how do you know you’re making a difference, what is the data or the evidence telling you within the context of your own students?” Principals talked about the importance “of establishing a base line.” This included “very traditional ways” of establishing the base line through diploma exam analysis. Alex described the process of inquiry as “asking what are the questions that you have about practice and how students are doing, what does that data mean for us within those contexts?” Devin stated, “it’s being explicit, based upon not just a perceived need, but based upon a data-informed need.”

Assistant principals, in each school, affirmed the importance that the principal leads the inquiry and that the process was data informed. Shawn, an assistant principal, responded, “not just looking at the diploma marks to see how well we did or how bad we did, we are looking at what's behind the data.” Pat talked about the data becoming part of a “constant conversation.”

Alex, a principal, described the process of data analysis as highly recursive:

Looking at data, knowing what your gaps are, knowing what's the issue, what's the problem that you're trying to solve. It means going back and looking at it again. And again. And again.

Ezra, a teacher described how the principal's leadership practice of inquiry identified and supported the problem of practice at their school by using an urban planning analogy:

When urban planners design a park, they make some basic pathways. But then they leave the trend to the citizens to show them where the secondary pathways should be made.

The secondary pathways will be the footpaths that they will later come and pave after the humans have shown them the quickest path they walk. Because you're going to build these paths, and no one is going to use them unless you listen, and you watch the wear pattern.

Each principal talked about moving away from the standard practice of individuals and departments reviewing their own data. Alex commented about the unique way of using the data, “we changed our approach that it isn't as lockstep.” Lou, an assistant principal, provided further clarification, “understanding the data is something we're evolving because again, people can become very attached to their own data or their department's data and you can make a lot of excuses.” “The switch has been in how we are using data with learning leaders,” explained Chris.

Learning leaders have been asked to look at each other's data and identify trends. Key in this process was a "deeper unpacking of the data" and connections between disciplines, even those outside of 'core subjects'. Alex shared several examples of how learning leaders found common patterns in other disciplines. As an example, "our Fine Arts learning leader said, 'this is exactly the same thing that I see with our kids'."

Teachers also talked about the importance of their role in "shedding light on the results" As Ezra adamantly stated:

I think we're incredibly naïve, as an organization and profession when it comes to quantitative data, and I think we live in a world where there's a constant obsession with gathering it, but we don't have the skills, training, or time to actually analyze it. With our principal, this is brought to my awareness. We're given a chance to explain our side of the data. I think being given a chance to explain, be listened to, and have a chance to discuss it is helpful.

Principals discussed the importance of "multiple sources of data", especially evidence based on student work. Devin described how they encouraged the idea of standard setting, as another form of data gathering "that's moving forward the school goals, connecting to the school development plan, and again, our professional learning." Chris echoed similar thoughts of multiple sources of data, "the different information gathered from student work is important for both teaching and learning."

When discussing the importance of creating a data-informed culture of inquiry focused on teacher learning, Chris, a principal, also added the following piece, "what we're doing is

evidence-based, but now is also research-based.” The role of the principal, in these schools, centers on being up to date with research on teaching. As explained by Chris:

We have a limited amount of time. There are some things to read, some things to research, and to seek more information about, before actually saying, okay, here's what ‘this is’ going to be about. Find out as much as you can.

As Alex stated:

It's not good enough to say, okay, I've read that book on teaching. I have to be up to date, I have to be knowledgeable, and I have to be able to back what I'm saying with research and with evidence.

Devin talked about, “how research allowed us a common entry point into the work,” when addressing a problem of practice, “it was really research-based.” In discussing the role of research, Alex indicated:

As a principal I'm not willing to risk and experiment anything with students' learning. This pedagogy is founded, it is grounded in good research.

Assistant principals also confirmed the importance of the principals using research to inform teaching. Sam described their principal as someone who “is a constant reader, reading, reading, reading, really just taking in what is the research saying, and sharing it back out to us.”

Taylor stated:

It's critical for the principal to continue to grow because they are often the source for those pieces of wisdom as we would grapple through. They are a constant learner.

Learning leaders and teachers, in these schools, expressed an appreciation for how their principal makes the linkage between their professional learning and research. As part of the inquiry process, teachers discussed various ways principals shared research:

Recommending literature and researchers' theories. These are the foundations, this is why we're working towards these the big goals, here's where you can learn about how to put it into your own practice. (Jaz)

Actually, they put copies of books in the Learning Commons that teachers can check out. (Sasha)

Gives us a piece of text, discusses a quote, and how that fits into our own practices and how we might use it moving forward. (Nat)

We spent the morning (referring to a professional development day) talking about the research as a whole school and then given time in the afternoon to work with people that teach the same courses. Then you can actually talk about for your specific course, how can you take what you learned that morning and apply it. (Jaz)

Kai, a learning leader, said, "it's all the changes that are made for specific reasons and they're research-driven." Ezra, a teacher, stated, "it's exciting to find new ways of doing things and we're learning a little bit about the reasons behind it as well."

The study illustrates the importance of principal pedagogical leadership practice focused on a culture of inquiry that supports teacher learning. Within the complexity of teaching, principals focused on the process of influencing pedagogy in their school that required them to challenge teaching beliefs through a process of inquiry that incorporates evidence in identifying a problem of practice. Even though there was an emphasis on creating a data-informed culture, participants agreed on the importance of research informed practice as part of the collaborative component in teacher learning as a process of inquiry.

Finding 16. Providing dedicated time. Participants discussed that a goal of teacher learning is for the principal to effectively provide dedicated time to support multiple learning opportunities. This subsection focuses on ways in which principals, in this study, established dedicated time to create a strong culture of teacher learning

Devin, a principal, talked about, “more purposeful work, in terms of individual teachers, is providing time to build stronger connections to their own professional learning.” In discussing teacher learning, Max, an assistant principal, stated, “it’s providing opportunities for our learning, focusing on moving teaching practice forward.” Another assistant principal, Shawn, echoed a similar comment, “a structure time that supports pedagogical growth.” In each school, formal professional learning time was provided through common planning time, professional learning communities, staff meetings, and through outside organizations.

The leadership teams and teachers talked about the importance of taking the time for effective collaboration and reflection that focused on pedagogical growth. In each case, dedicated time was considered to be a form of professional development. This time’s primary purpose was to bring teachers together to collaborate on professional learning opportunities that

focus on teaching. To meet the challenge of “dedicated time”, principals talked about a timetable design in which teachers, within the same discipline or learning community, have common planning time. Chris talked about the value of this “time resource” and the embedded responsibility of teacher learning. Chris stated, “within the group, they are responsible for being able to come up with their recommendations about what they think they should do with the time.” Sam, an assistant principal, talked about, “how teachers have a common preparation period every day, so they are together every day, conversing about students and their own learning.”

Professional learning communities (PLCs) or community of practices were seen as another form of dedicated time. Chris, a principal, described how PLCs “provide powerful learning opportunity for teachers”. In discussions with the principals, they talked about both the challenges and complexities of effectively using PLCs for teacher learning. These challenges included times to meet, accessing appropriate resources, and the ability to push back from an embedded school culture. Principals discussed the need for PLCs to be an ongoing process in which teachers take the time to work collaboratively in a process of inquiry and “action-based research.” Chris described the very essence of the PLCs as “a focus on and a commitment to learning.”

Inherent in the success of PLCs was the constant connection to the vision and goals of the school. Principals discussed the importance for ensuring clarity in the work within PLCs, that there was no ambiguity with respect to individual commitment to the work. As a Devin stated:

I need to know what they are doing, what they need, what’s next from them, and then work with them on that. I mean, I could go through my list and tell you what they’re

doing in their PLCs, what's going on with their teachers, what their plans are, supporting them – but also being really hands on and really purposeful with them.

Principals were key in shaping what teachers undertake within the PLCs. Assistant principals discussed that PLCs cannot be seen as an occasional event, a meeting time, or an opportunity to complete a task like “mark entry or lab preparation”. As described by Pat, “PLCs are typically department-based, but what's different here is that they're held distinct from department meetings.” Sam described the principal’s practice going beyond providing dedicated time for teacher learning:

The principal has the biggest impact on PLCs, they are not satisfied with stagnation, so they're continuing to talk about, so what's next? And, how do we sustain this?

Each principal, in reference to size and complexity of the high school, discussed the importance of supporting the learning leader in guiding the work within the various PLCs. As a collective process, Devin talked about the importance of:

Every single learning leader organizing the professional learning time and works with their teams. And then they're also looking at evidence of student learning in those PLCs to inform their next steps.

In guiding the work, Chris stated, “I'm there, I'm not necessarily leading it, but I'm working collaboratively, alongside with the learning leader, working as a mentor.” At one school, the principal ensures that either themselves or one of the assistant principals was attached to each PLC. Taylor, an assistant principal, described the PLCs at their school, “as one of the best places that I've seen support growth, especially when admin gets to the PLC meetings.”

Learning leaders, in each school, discussed how their principal “is heavily involved with our PD (professional development) committee” (Avery). Kai discussed how the principal, “directs us on how to use our PLC time in terms of the majority of that work during PLC, not talking about planning, but is it more around teaching practice.” Referring to a previous school, their experience with PLCs, and the importance of having the principal monitor PLCs, Ezra, a teacher, stated:

So, PLCs can sometimes feel dictated to, this is your directive, and I feel like being railroaded by someone's personal agenda. It's a lack of understanding of sort of what the intent and goals are of this school, there is a disconnect with the PLC.

Teachers, within these schools, saw PLCs as a focused opportunity for growth, working within a small group of teachers with a shared interest of expanding their knowledge on a particular topic. As several teachers described their PLCs at their current school:

The direct support comes from key people. It's not just admin. It could be a PLC with a learning leader, that could be your strong support. But it's also the indirect support of the other PLC members. (Lee)

It's not about throwing away everything and starting new, which is quite radical. This is how it has been played out at other schools, but it doesn't happen here. (Ezra)

There is patience with the practice of change, this is very helpful. (Jaz)

In each of the three schools, staff meetings were viewed as opportunities for learning. Principals ensure there was dedicated time for teacher learning and reflection on pedagogical practice at each of the meetings.

Just as important, principals talked about creating flexible learning times. In describing work with individuals, Devin stated:

I would say that generally speaking, just based on the number of staff, that do come and talk to us, and say, “we're struggling, what do I do?” And so just being able to sit and talk through and think through with them. Or be present in the classroom.

Alex added:

So, taking a look at who are you working with? Can we do some check-ins later? Can you pair up with somebody? Do we have some mentorship for you? So, it can be based upon individuals. Stuff (referring to ‘canned’ programs and research) isn't always the answer either. And so, we often look at the individual, what is it you're trying to achieve? What's the gap that you're trying to achieve? What's the problem you're trying to solve?

Teachers reflected on how their principal finds the time for conversations that are not confined to a formal setting or time. Maria talked about the “casual conversation in the classroom or as they walk the hallway.” Where Sal stated, “the principal sharing insights and best practices is sometimes best done informally, whether at a quick hallway chat or unscheduled meeting.”

Finally, teachers talked about the importance of the principal providing dedicated time for reflection on their own individual learning:

What my principal can provide me with is the time to learn and reflect. If it is solely on my time, then it won't get done until the summer when I am rested, and I have some intellectual space to learn something new! (Ezra)

I think it's important for principals to allow time for self-directed professional development and growth throughout the year. (Sal)

A huge impact could be made for teachers if principals create a healthy balance between professional development time and teacher personal time. The professional development won't have an impact if teachers are not given organizational time to reflect, re-organize, and re-tool their practice. If the introduction to the innovative idea is not paired with organizational time to change things, then teachers will always just resort to what they know and have been doing. The teacher may have been impressed with the new idea and would like to try it, but without some designated uninterrupted preparation time they will not be able to confidently implement it into their practice and classes. (Maria)

In summary, principal's pedagogical leadership practice, centered on teacher learning, indicated the importance of providing dedicated time for both professional learning and reflection. This time helps to improve pedagogical practice by allowing teachers the opportunity to share best practices with each other. This time could be used to look at students' work or plan curriculum, performance tasks, and alternative assessments. Finding time within the timetable

was seen as the most effective way of contributing to meaningfully teacher learning rather than before or after school time.

The last two subsection have identified the key leadership practices that supports a culture of teacher learning. The data, within both findings, revealed principals having a strong focus on supporting and developing a culture of teacher learning. This focus on teacher learning demonstrated an approach reflective of transformational leadership (Day et al., 2016). Yet, there was an emphasis on instructional leadership that puts responsibility on the principal to focus on the core business of schools in enhancing effective teaching (Robinson et al., 2008). This data was reflective of an integrated leadership approach.

The next section will examine the reason for excluding the two of the five leadership dimensions within the conceptual model of pedagogical leadership.

Chapter Summary

The advantage of utilizing an explanatory sequential mixed methods approach is in the complementary use of qualitative and quantitative data analyses in offering a deeper comprehensive examination of pedagogical leadership (Creswell & Plano Clark, 2018; Ivankova, 2014). The analysis of the pedagogical leadership survey, in Chapter Four, revealed a common theme; instructional and transformational leadership were integrated into the practice of pedagogical leadership within each of four leadership dimensions. In reference to the primary research question, “How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?”, the quantitative findings were unable to develop a deeper understanding of the practice of pedagogical leadership. The intent of the second phase of the

study was not to simply compare the results from the two forms of data but to delve further into the qualitative results in order to provide further insights into the practice of pedagogical leadership (Creswell & Plano Clark, 2018; Ivankova et al., 2006; Tashakkori & Teddlie, 2010).

This chapter presented 10 key qualitative findings of pedagogical leadership practices as a result of the analyses of interview and focus group discussions. These findings were organized within one of three leadership dimensions (see Table 5.1). Data from interviews and focus groups illustrated the multifaceted and complex nature of pedagogical leadership. The use of thick description required the analysis from numerous sources of data in order to create an authentic portrayal of pedagogical leadership practices (Creswell & Creswell, 2018; Merriam, 1998). The use of common sources of data between each case, including interview and focus group responses to each leadership dimension, revealed the multifaceted and complex nature of pedagogical leadership (Yin, 2014). Even though individual schools could not be identified, comparing and contrasting the data revealed a notable similarity between each of the schools, the cases, and the associated embedded cases of principals, assistant principals, learning leaders and teachers. The most prominent finding is that the perceptions of assistant principals, learning leaders, and teachers had comparable insights into the themes and patterns of pedagogical leadership practices within each of the three leadership dimensions.

This explanatory sequential mixed method study, in answering the primary research question, was designed to provide a descriptive picture of high school principals leadership practices through the lens of pedagogical leadership. Examining the quantitative and qualitative data has provided an overall framework for principal leadership practices that effectively and purposefully cultivate and sustain communities of adult learners focused on innovative

pedagogical practice. Even though each of the three leadership dimensions has been developed in a sequential format, they are mutually supportive of each other. The discussion in both Chapter Four and Five has also shown that the leadership style of high school principals, who demonstrated pedagogical leadership, reflects a practice that appears to be fluid between instructional and transformational and leadership styles. Evidence has demonstrated that the relationship between principals' instructional and transformational leadership style and principals' practice, framed within each of the three leadership dimensions, are linked through their intentional practice of pedagogical leadership.

Even though there was a degree of interaction between the quantitative and qualitative findings from both chapters, further discussion is required as a means of ensuring consistency between both sets of findings in order to achieve interpretive rigor (Ivankova, 2014). Chapter Six will provide insights into the integrated findings connected to the conceptual model of pedagogical leadership. This will include a short overview of the leadership conceptions that influenced both the design of the study and the conceptual model of pedagogical leadership.

Chapter 6

Analysis, Interpretation, and Synthesis of Findings

The purpose of this study was to provide an understanding of how high school principals enact pedagogical leadership as they develop, support, and sustain a community of adult learners focused on innovative pedagogical practice. The overarching mixed methods research question addressed in this study was, “How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?” As the approach to this mixed methods study was sequential, rather than convergent, this chapter provides an analysis, interpretation, and synthesis of findings through a process of integration by means of expansion and explanation (Creswell & Creswell, 2018; Ivankova, 2014). In addressing the overarching research question, analytic categories were created centered on identified principal practices of pedagogical leadership. These categories are discussed in detail by grouping and interpreting findings from the corresponding quantitative and qualitative phases of the study (see Table 6.1).

The chapter begins with a brief overview of the purpose and design of the study. This will be followed with an integration and interpretation of the quantitative and qualitative findings. This will be followed with a discussion of the conceptual model of pedagogical leadership, as framed within the integrated findings categories.

Table 6.1

Integration of Pedagogical Leadership Quantitative and Qualitative Data

Leadership Dimensions	Quantitative Findings	Qualitative Findings	Integrated Analysis: Integrated Findings
Instructional & Transformational Leadership	1. Principals demonstrated pedagogical leadership through both instructional and transformational leadership practices. (F1)		<i>IF 1. Integrated Practice of Instructional & Transformational Leadership:</i> The principal practice of pedagogical leadership enacts elements of both with emphasis on different combinations dependent on time and purpose and will exhibit a higher degree of transformational leadership practices.
	6. Moderate to strong positive rank correlation with instructional and transformational leadership paired within each leadership dimensions. (F6)		
Shared Vision	F1, F6	7. Developing Relationships	<i>IF 2. Developing Relationships:</i> Building professional relationships for sustainable commitment.
	4. Learning leaders' perception of principals who demonstrate pedagogical leadership have a tendency to exhibit a higher degree of transformational leadership in shared vision. (F4)		
	F1, F4, & F6	8. Building Alignment	<i>IF 3. Building Alignment:</i> Aligning pedagogical practice with established vision & goals.
	F1, F4, & F6	9. Building Commitment	<i>IF 4. Building Commitment:</i> Concentrated focus on providing a framework for engaging teachers.
	F1, F4, & F6	10. Capacity Building	<i>IF 5. Capacity Building:</i> Principal focuses on integrative leadership development with the intent for these leaders to engage others in the work.
Quality Teaching	F1 & F6	11. Establishing Teacher Standards	<i>IF 6. Establishing Teacher Standards:</i> Principal establishes standards as to what counts as quality teaching.
	2. Principals who demonstrate pedagogical leadership have a tendency to exhibit a higher degree of transformational		

	leadership in the leadership dimensions of quality teaching. (F2)		
	F1, F2, & F6	12. Active Observation	<i>IF 7. Active Observation:</i> Monitoring the work and mediates to improve quality teaching.
	F1, F2, & F6	13. Shared Leadership	<i>IF 8. Shared Leadership:</i> Leading a high school requires multiple leaders.
	F1, F2, & F6	14. Intentional Collaboration	<i>IF 9. Intentional Collaboration:</i> Principals incorporate and implement processes that embraces collaboration.
Teacher Learning	F1 & F6 3. Principals who demonstrate pedagogical leadership have a tendency to exhibit a higher degree of transformational leadership in the leadership dimensions of teacher learning. (F3)	15. Supports a Culture of Inquiry	<i>IF 10. Supports a Culture of Inquiry:</i> providing the intellectual stimulation, increases awareness of problems of practice, and supports the development of innovative and creative solutions.
	F1, F3, & F6	16. Provide Dedicated Time	<i>IF 11. Provide Dedicated Time:</i> Collaboration through increased time to effectively support multiple learning opportunities for teachers.

Overview of the Study

The purpose of this explanatory sequential mixed methods study was to describe the phenomenon of pedagogical leadership practices of high school principals in influencing pedagogical practice. As discussed in Chapter Two, there was limited research on a holistic representation of how instructional and transformational leadership can be conceptualized within pedagogical leadership to provide both direction and influence on teaching and learning. The rationale for examining this phenomenon was to address the gap found in other educational

leadership studies by directly exploring how high school principals and other members of the teaching staff perceive the principal's practice in the implementation of change that focused on teaching. With a better understanding of the practice of pedagogical leadership, these leadership practices will be effective in influencing teaching and the wide range of sustainable student achievement. Such insights would support principals, school leadership teams, and school jurisdiction leadership teams in developing effective leadership practices.

This research used an explanatory sequential mixed methods design that consisted of two distinct data collection phases (Creswell & Creswell, 2018). The decision for this approach was based on the priority, implementation, and integration of the quantitative and qualitative approaches (Creswell, 2012).

The first phase, the quantitative phase, involved the collection and analysis of numeric data from leadership surveys that examined participants' perceptions of the perceived relationship between instructional leadership and transformational leadership practices framed within five leadership dimensions with a focus on innovative pedagogical practice. The five initial leadership dimensions of, (a) shared vision and goals, (b) resource alignment, (c) quality teaching, (d) teacher learning, and (e) orderly and safe environment, were based on Robinson et al.'s (2008) meta-analysis of published research on different types of leadership connected to student outcomes. Two of these dimensions, resource alignment, and orderly and safe environment, were excluded, as discussed in Chapter Five. Both descriptive and inferential analysis were used to assess the strength and direction of the association between the variables of instructional and transformational leadership within the five leadership dimensions (Creswell,

2012; Gravetter & Wallnau, 2017). Findings from this quantitative phase have been presented in Chapter Four.

The second phase, the qualitative phase, was designed to elaborate and extend the findings from the first phase (Creswell & Plano Clark, 2018). Protocols for interviews and focus groups were constructed based on the general findings from the statistical findings in Chapter Four. In this phase, data analysis provided an in-depth view of principal practices that contribute to pedagogical leadership. Thematic analysis of the data, at two levels, was conducted within each embedded case and case (Charmaz, 2014; Creswell, 2012; Saldaña, 2016). As a way of increasing the scope and consistency of the study of the data, a cross-case analysis was used to identify commonalities of leadership practices across each of the embedded cases (Klenke, 2016; Merriam, 1998; Stake, 2006). This phase helped to answer the primary mixed method research question in a more comprehensive way (see Chapter Five). The qualitative phase developed an encompassed understanding of the complexity of the phenomenon of principal pedagogical leadership practices.

Criteria for selecting participants was based on identifying urban high schools who had demonstrated significant work on Alberta Education's *Moving Forward with High School Redesign* (2017a) centering on innovative pedagogical practice. Three schools were selected, and participants involved certificated teaching staff including principals, assistant principals, learning leaders, and teachers.

Integration and Interpretation of Quantitative and Qualitative Findings

Mixing in explanatory sequential mixed methods design can take on two forms: (1) connecting quantitative and qualitative phases through the development of the qualitative data

collection protocols grounded in the statistical results (Quan – qual) or (2) integrating quantitative into the qualitative results while discussing the outcomes of the whole study and drawing interpretations (quan-Qual) (Ivankova et al., 2006). This section focuses on the second form of mixing, integrating the findings from the quantitative with that of the qualitative phases of the study in addressing higher quality inferences (Tashakkori & Teddlie, 2010). This process will allow the findings from the second phase to further elaborate and extend the statistical findings from the quantitative phase in describing the phenomenon of pedagogical leadership (Ivankova et al., 2006). The integrated findings are used to answer the primary research question but also possess significance in what they can add to current research and implication for future research on pedagogical leadership practices. These interpretations will also be augmented with relevant literature.

Integrated finding 1: Integrated practice of instructional & transformational leadership.

In addressing the primary research question, analysis of the quantitative data inferred that principals enacting pedagogical leadership demonstrated practices that reflect both instructional and transformational within each of the leadership dimensions. This would suggest that these principals, focused on pedagogical leadership, do not rely on one leadership model. Rather, they “draw differentially on elements of both instructional and transformational leadership and tailor (layer) their leadership strategies to their particular school contexts and to the phase of development of the school” (Day et al., 2011, p.253). These findings aligned with prior research. Marks and Printy’s (2003) research on active collaboration to enhance teaching concluded that an integrated form of leadership had significant influence on the quality of pedagogy. Other comprehensive reviews of research studies had reached similar conclusions (Day et al., 2016;

Hallinger, 2011; Leithwood & Sun, :2012; Louis et al., 2010; Printy, Marks, & Bowers, 2009; Sun & Leithwood, 2015).

The inferential analysis indicated learning leaders and teachers perceived principals, practicing pedagogical leadership, exhibit both instructional and transformational leadership to a limited degree. The moderate correlation can be explained by the particular challenge of principals in larger high schools and their limited ability to influence teaching (Beatriz et al., 2008). To achieve engagement with a larger number of teachers, principals, in this study, used a shared leadership approach where learning leaders had significant influence over teaching. As suggested by Marks and Printy (2003), this shared approach created a perception that there is lack of a hierarchal orientation within leadership structure and can attribute to a democratic and participative movement that is perceived to empower teachers.

The quantitative analysis reflects current research by providing clear evidence of the importance of instructional and transformational leadership in the practice of pedagogical leadership. Including both instructional and transformational leadership in the same conceptual model was important in allowing their merits of practice to be uncovered. Principal's pedagogical leadership is highly strategic, and the quantitative analysis pointed to the importance of both instructional and transformational leadership in their practice.

The quantitative analysis also revealed the perception that principals, enacting pedagogical leadership, demonstrated a higher level of transformational leadership than instructional leadership. Findings from Robinson et al. (2008) meta-analysis would suggest the opposite, transformational leadership is less likely to result in change. Instructional leadership had a stronger effect on student achievement as there is a strong focus on the “core business of

teaching and learning” (p. 636). However, several meta-analyses of research have made counter claims. The meta-analysis concluded that there cannot be a rigid division between both forms of leadership, that school leadership is the application of a range of leadership practices that are dependent on organizational conditions (Leithwood & Sun, 2012; Printy, Marks, & Bowers, 2009). Principals “achieve success by progressively layering combinations of strategies and actions to fit their purpose” (Day et al., 2011, p. 19). As each participating high school in this study has had a strong focus on developing innovative pedagogical practice over an extended period of time, one could infer they are in a different phase of the school’s improvement journey. Day, et al. (2016) study revealed that “principals progressively built the individual and collective capacity and commitment of staff” (p.226).

Based on this discussion, principals place different emphasis on different combination of instructional and transformational leadership practices based on time and purpose. Before proceeding to the other analytic categories, a critical discussion is presented in order to frame the integration or mixing process. Even though the research literature clearly delineates the role of the principal in each of the leadership models, in espousing the school goals and establishing a school culture focused on improving instructional practice, there is still a limited specificity within this literature as to what educational leadership practices lead to increased student achievement (Goldring et al., 2015; Heck & Hallinger, 2014). Neither leadership models “acknowledge the complex range and combinations of strategies, actions, and behaviors that successful principals employ over time in striving to improve their schools” (Day et al., 2016, p. 226).

Part of understanding the delineation of the leadership roles, interpretive commentary is used in the next part of this mixing phase, discussing the extent and ways in which the quantitative findings are associated with the qualitative results in making connection between key principal practices, leadership dimensions, and both instructional and transformational leadership (Creswell & Plano Clark, 2018). To facilitate this form of discussion, a cross-case analysis of the qualitative data, using deductive coding, was used to distinguish between instructional and transformational leadership. Based on Hallinger's (2011) distinction between instructional and transformational leadership, a pre-set coding scheme used two distinct processes of reciprocity, each representing one of the leadership models. The first, instructional leadership, is where the principal holds the teacher accountable for an action or outcome in which the belief is that the teacher has the capacity to fulfill the action or meet the outcome (Elmore, 2000). The second, transformational leadership, is where the underlying principles of collaboration, shared expertise, and mutual influence is central to affecting change within teaching (Hallinger, 2005; Hallinger & Heck, 2010).

However, there is a caution to be noted. There is a potential for a mechanistic view in categorizing various principal practices into either one of the two leadership models. As a form of categorial thinking, there is a potential for limiting leadership practices rather than developing and expounding alternative ways of doing things (Male & Palaiologou, 2012). This form of thinking lacks the fluidity between leadership models and could lead to "stereotyping", forgetting the multitude of variations that exist within and between each leadership model. Based on the primary research questions, the intention of this study was not to categorize various leadership practices into instructional or transformational leadership but to identify the complex

range and combinations of leadership practices. In order to address this issue and effectively develop a deeper and coherent explanation, the following integrated analysis are organized within the three leadership dimensions, as in Table 5.1. Limited commentary will be made as to where these practices situate themselves within either instructional or transformational leadership. The following three sections will discuss the notion of a more holistic pedagogical leadership approach in the development of innovative teaching.

Shared Vision and Goals

A school's vision and goals are a set of clear statements as to what the school is trying to achieve. From a pedagogical perspective, the vision and goals are a way of looking forward, to unify, to motivate, to guide, and inform teaching. School's vision and goals not only reflect those of their school jurisdiction but also the unique context of the school. In order to engage in the vision and goals of the schools, conditions need to be developed that consider both commitment and development of capacity of those who are responsible for achieving them (Robinson, 2011). Maslow, in describing shared vision and goals, observed that in exceptional teams:

The task was no longer separate from the self. . . but rather he identified with this task so strongly that you couldn't define his real self without including that task (as cited in Senge, 1990, p. 205).

The ability to articulate a clear and compelling message is the “moral purpose” of the principal (Fullan, 2001, p.4). The following four sections discuss the key pedagogical leadership practices in which principals “cultivate” the conditions for shared vision and goals focused on innovative teaching.

Participants in the study talked about principals taking a strong stance with respect to shared vision and goals. They expressed the importance of principals creating a shared sense of purpose. This would indicate a strong focus on transformational leadership strategies relating to inspiring and supporting individuals. Principals also discussed a tandem approach of building a shared vision and goals. Devin, talked about “collaborating and sharing the vision”, but also “promoting the goals.” Chris, illustrated this tandem approach when they stated;

It’s about ensuring each and every teacher realizes that the school has this goal. But it is also about encouraging and supporting teachers to take risks, to increase their capacity to be progressive, to know that it's okay to differ in their focus.

There was an emphasis on articulating and accomplishing school goals, which is characteristic of both instructional and transformational leadership and was reflective of principal practices (Hallinger & Heck, 2010; Leithwood & Sun, 2012).

Integrated finding 2: Developing relationships. Robinson et al.’s (2008) meta-analysis suggested that a principal’s focused on staff relationship rather the core business of school is less likely to effect student outcomes. However, findings from this study indicated the importance of building relations as the initial steppingstone in working towards a shared vision and goals. Leadership is a relational activity between the principal and teachers and is understood as an interaction rather than an action (Spillane et al., 2004). Alex, Chris, and Devin, principal participants in the study, spoke of having a disposition towards “developing and building relationships” in promoting forms of collaborations in developing innovative pedagogical practice. In discussing limits to growth of an organization, Senge (1990) talked about the importance of achieving leverage by spending time in developing relationships. The intent

behind developing these relationships rests on advancing a shared understanding and commitment to the value and goals of the school (Leithwood et al., 2004). Devin spoke of “relationships starting in different places” because people come with different understandings “of the vision and the work.” The principals believed that, in order to build the structural and cultural conditions necessary to support innovative teaching practices, the foundational piece of their work is building positive relationships. As Chris stated, “there is a deliberate investment of time” in response to developing relationships.

Principals talked about the importance of getting to know their school as a “professional community”. They talked about being deliberate in their work, engaging teachers in conversations in a variety of ways. These conversations could be both informal such as hallway conversation and a more formal process including “fireside chats”. As Alex, stated, these conversations help to identify priorities, build commitment, and where necessary, begin a process of problem solving.

Teachers, in discussing relationship building, talked about the importance of the principal having a visible presence particularly in their classrooms, “being actively involved”, being “engaged with students” aimed at building relationships. High schools are typically larger, and participants recognized the challenge for principals in being visible. Sam, an assistant principal discussed the “challenge of being out and about.” Taylor, another assistant principal, talked about the day-to-day activities of the principal where they are, greeting staff in the mornings, walking the halls, dropping in on classrooms, actively engaging in student learning activities, and being part of staff development activities. Principals recognized that these activities afford the

opportunity to reinforce the vision and goals of the school by observing first-hand the climate for teaching and learning.

In providing a clear vision, Avolio and Bass (2004) talked about the leader “building trust and respect to work collectively toward the same desired future goals (p. 19). Robinson (2011) described this relationship building process in terms of developing a level of trust in which there is mutual respect. Part of building relational trust is the ability of the principal to have honest and even difficult conversations. Creating an environment that emphasizes open conversations is critical in creating a culture with a strong focus on learning (Robinson, 2011). This openness creates an environment of trust, where communication becomes a shared responsibility in developing a common reality centered on the vision and goals of the school. Several assistant principals talked about the importance of the principal “building the relational trust” in order to establish a culture “where courageous conversation can occur”. The intent behind these forms of conversation is to check for alignment and commitment to the goals without alienation. This form of conversation challenges assumptions of individuals or groups within the school and allows a process of problem solving to occur. Marks and Printy (2003) talked about “engaging teachers in a collaborative dialogue about these issues and their implications for teaching and learning was essential (p. 392). This type of conversation provided the necessary feedback in order to move the work forward. Le Fevre and Robinson (2015) referred to this type of conversation as “open-to-learning conversations”.

Participants also discussed how principals should find the opportunity to model their own beliefs about teaching, acting in an authentic way. Teachers discussed the importance of the principal “being an authentic leader as critical in building trust in other” (Jay). They talked about

the principal “walking-the-talk”, “that there is a willingness to take ownership and share in the responsibility for mistakes.” Chris, a principal, also talked about being authentic “in recognizing their own shortcomings” in response to aspects of teaching, especially at high school.

Building on the work of Burns (1978), relationship building, as an instrumental practice of instructional leadership, would focus on short-term goals. Everyone would benefit from the interaction with each other but with only short-term effect. The practice of relationship building, from a transformational leadership perspective, is a more open-ended process that infers a more sustainable commitment to the explorations of possibilities. The nature of the findings would suggest a stronger orientation towards transformational leadership. Building professional relationships gives principals the opportunity and a means for teachers to develop commitment towards common goals (Bass & Riggio, 2006; Burns, 1978).

Integrated finding 3: Building alignment. Building goal alignment refers to the strategies used by the principal to ensure the school is working towards the established vision and goals, functioning as a whole. Rather than just articulating the goals, goal alignment refers to how the school vision and goals are embedded “into the fabric of the school” (Robinson & Timperley, 2007, p. 251). Alignment, within the context of schooling, emphasizes the standards and expectations of practice that support teaching (Hallinger, 2011). Senge (1990) discussed “relatively unaligned team” as wasting energy by serving cross purposes. In contrast, he described an aligned team where individual energies are harmonized with less wasted energy in which synergy develops. In other words, there is a commonality of purpose through a shared vision and a set of shared goals. Participants in the study expressed the importance of having goal-alignment structures. Chris, one of the principals, talked about “a planned process of

aligning instructional practice with school's goals, particularly when you are ensuring 'its' happening."

In order to cultivate deeper insight into the connection between goals and teaching, principals emphasized that they are not monitoring alignment of curriculum, instruction, and assessment. Devin emphasized alignment as "about building clarity." There is also a level of reciprocity in which the process of building alignment can be viewed as being mutually influential in shaping teaching (Hallinger, 2005; Hallinger & Heck, 2010). Devin talked about the idea of reciprocity, "it's (goal alignment) not coming from me, it's lifted and supported through them (learning leaders)."

Alex, a principal, talked about "a conscious act of continuous reinforcing of the vision and goals in order to move forward." Chris talked about the importance of developing "key messages", clearly communicating the main points of the vision and goals that will inform teaching. Chris also discussed the importance of "being strategic in centering all forms of communication around these key messages", particular with new teachers to the school.

The principal's practice of building alignment, as identified by participants, centered on the importance of "providing background knowledge" of the school's vision and goals. With this knowledge, individuals were able to challenge their own conceptual understanding. Participants discussed the importance of "building their own confidence in their work based on a deeper understanding" of what elements are shaping the vision and goals. Once again, key messaging and dialogue played a role in constructing the alignment with goals.

One of the challenges for a principal, particularly in a larger high school, is looking for discrepancies or misalignment of goals and teaching. Tied in with developing relationships,

participants talked about active consultation that checks for these misalignments. They discussed the importance of having voice, not only in response to the need for autonomy, but understanding how their constructs may be misaligned with the school goals.

Based on this discussion, the process of developing alignment of pedagogical practice, with a shared vision and goals, is critical when focused on influencing teaching. The premise being that, through a planned process, teaching staff would align instructional practice with the school's goals. The qualitative data indicated that the principal's role was to ensure that teachers have taken the necessary steps to align their instructional practice with both school and district's goals. Principals, in two of the schools, emphasized that these goals were "non-negotiable." All three principals discussed the importance of accountability to "determine the degree of alignment." As one teacher stated, the principal established "the parameters and lines and then we work within them" (Jay). Hallinger (2003) described this direct focus on teaching, as an act of reform, reflects a first-order change process, thus aligning with instructional leadership. Jay went on to describe their principal's leadership practice, as it impacts teaching, as an open process, where "one has the flexibility to anchor practice to specific goals." This type of insight reveals a strong connection to a transformative leadership focus centering on second-order change, one in which the principal generates the capacity for teachers to build alignment (Hallinger, 2003). This points to the fact that both the instructional and transformational leadership can be conceptualized within the principal's practice as they build alignment between the school vision and goals and pedagogical practice.

Integrated finding 4: Building commitment. In order for a school to excel the principal needs to "discover how to tap people's commitment and capacity to learn" and "where goals

provide a sense of mission” (Senge, 1990, p. 3). The practice of building shared vision and goals fosters commitment rather than compliance. “Pursuit of the goal becomes attractive because it provides an opportunity for reducing the gap between the vision and the current reality (Robinson, 2010, p. 48). Commitment, from a teacher’s perspective, is the psychological bond that an individual has with teaching (Chestnut & Burley, 2015). Commitment refers to the ability of the individuals in achieving specific goals as they work towards mastery (Louis, 1998). In order to meet these goals, commitment must be considered as a form of motivation that drives the teachers own learning activities (Chestnut & Burley, 2015). Educational literature describes various forms of commitment in teaching (Firestone & Rosenblum, 1988). For this study, the focus on pedagogical leadership centered on innovative teaching and, thus, the integrated finding of building commitment refers to the:

commitment to the body of knowledge needed to carry out effective teaching. In schools, particularly within rapidly changing fields, teachers must be energized to access and incorporate new ideas in the classroom and curriculum (Louis, 1998, p.4).

The principals, Alex, Chris, and Devin, talked about the challenges of obtaining and building a shared commitment to change, framed within the school vision and goals. Chris, talked about the challenges of “not letting the teacher close their door and teach in their own way.” Chris further elaborated, the intent is “having high quality, equitable experience for all students, regardless of which teacher.” Devin saw building commitment as a process “of providing different opportunities to engage in the work” and “to come together.” Alex drew on a metaphor of gardening where one is constantly attending to the needs of both the team and the individual in growing a collective commitment to build the capacity to innovate. The intent of

building commitment is to avoid what Robinson and Timperley (2007) called “privatized practice” (p.253). Commitment to the school’s vision and goals is about supporting a norm of practice where teachers, collectively, analyze their practice in response to where they truly want to be.

The challenge for the principal is to discover how to tap into teacher’s commitment to learn. Using Alex’s garden metaphor, fostering commitment is a form of nurturing individuals to achieve the school’s goals. Framing this idea of nurturing, principals and assistant principals discussed Collin’s (2001) metaphor of the bus. “It is better to first get the right people on the bus, the wrong people off the bus, and the right people in the right seats, and then figure out where to drive” (p. 41). Chris talked about having the right people and “how individuals could contribute to help building this.” Having the right people is also about unearthing possible shortcomings in order to know how to generate and sustain long-term commitment. Devin talked about building a “proactive” culture, being involved in a process of practical problem solving centered on a “problem of practice.” Principals saw nurturing as a long-term process of building commitment where everyone is engaged in a process of inquiry.

Critical to creating a high-level commitment to teacher learning, principals were quick to point out the importance of creating a teacher culture of collaboration. Chris talked about supporting professional development through “collaboration with others within the department.” Devin saw professional collaboration as a “structured support system that folks are engaged in.” Collaborative cultures, which by definition, have developed relational trust, are powerful when they are focused on the right thing (Fullan, 2001). Schools who have a high ethic of collaboration, makes them especially receptive to teacher learning (Senge, 1990). To increase

commitment of teachers, there needs to be a “transparent and shared process” of problem solving (Robinson, 2011, p. 39).

In order to mobilize teacher’s commitment to learning, participants pointed out the importance of providing the appropriate challenges for individual teachers. Robinson (2010), in discussing gaining goal commitment, talked about the importance of teachers’ ability to achieve the goals and where current reality falls short of the vision. Principals talked about the “gap” between what is desired and what actually exists. Alex talked about building commitment by “looking at those instructional strategies and the processes and possible gaps.” Chris stated the importance of “knowing what the gaps are, knowing what’s the issues are.” Devin talked about the “significance of the gap” and being “intentional in the work.” Learning leaders and teachers discussed the challenges of meeting the professional learning commitment, “they should not create a level of anxiety.”

Whenever there is a gap between goals and the current situation there is pressure to improve the situation (Senge, 2009). How this pressure is dealt with is central in moving the work forward, the gap becomes a source of energy. Principals were aware of ensuring the perceived gap is not too wide so that the goals were not eroded. Chris talked about the importance of “looking at what the gaps are, by clearing the clutter away.” Chris goes on to say, “making sure that we’re strategic, and everything we’re doing is focused on improving teaching and learning.” These gaps can be a source of creative energy. However, if the gap makes the goals unrealistic, teachers will be discouraged and there will be a loss of commitment. Shawn, an assistant principal, talked about the gaps being too wide and numerous, and the outfall where teachers “retreat to their classroom.” Teachers talked about the gap between the goals and the

current reality using words such as “discouraged”, “disheartened”, “frustrated”, and even “cynical” when describing how overwhelmed they felt in their capacity to address these gaps.

A limiting factor identified by the teachers is the “perceived gap” and within “whose reality” lies the gap. In reference to the last comment, teachers shared how counter-productive “dictation of the goals” were, which may alienate individuals. This aspect of alienation may be due to the principal’s lack of understanding of the embedded culture of the school. Embedded culture “is the deeper level of basic assumptions and beliefs that are shared by members of an organization, that operate unconsciously and define in a basic 'taken for granted' fashion an organization's view of itself and its environment” (Schein, 2004, p.6).

Other sources of tension identified by teachers were, “the continually adding something new to the plate” and “the continual refining of the work.” Part of the principal’s practice of building commitment centers on understanding how various elements, including teacher’s values, attitudes, and assumptions, interlock with each other and how they may hinder commitment.

Throughout this section, the data revealed evidence of principal’s strategic orientation to both instructional and transformational leadership styles. At times, principals took on more of an instructional or directive approach, having an emphasis on the monitoring and coordination of commitment towards a set of pre-determine goals. Yet, there was significant evidence where the principal used a transformational approach, a focus on influencing teachers’ self-identities that inspired self-promotion to achieve goals (Kark & Shamir, 2002). In this case, transformational leadership both broadens and raises the commitment of teachers, building awareness and

acceptance of the school's vision and goals and moving from self-interest to group-interest (Bass,1990).

Integrated finding 4. Capacity building. Sergiovanni (1998) defined pedagogical leadership as investing in capacity building of both “intellectual and professional capital of teachers” (p. 38). Framed within shared vision and goals, capacity building, in this study, refers to a whole school approach to building the professional capacity of leadership teams and teachers. Capacity building can be seen as being multifaceted in:

- creating and maintaining the necessary conditions, culture and structures,
- facilitating learning and skill-oriented experiences and opportunities, and
- ensuring interrelationships and synergy between all the component parts (Stoll. 2009).

In looking at how to “lift the level of performance to proposed goal levels,” there needs to be a “match between current capacity and the capacity required to bridge the gap” (Robinson, 2011, p. 53).

The focus of this integrated finding is on cultivating a shared understanding of quality teaching, centered on the school's vision and goals. The implications for this finding take into consideration the demands of working in a large urban high school. Principals identified school size and pedagogical content knowledge as two major challenges when focused on innovative teaching. Research affirms these challenges, particularly in many urban high schools, where the size of the student and staff population along with the complexity of subject disciplines are beyond the capacity of the principal in influencing individual teaching practice (Leithwood, 1994; Louis et al., 2010; Robinson et al., 2008). Reflective of the principals, Alex talked about school size and “how do we get the message out.” More importantly, participants discussed the

importance of pedagogical content knowledge. Taylor, an assistant principal, described high school as “we have so many disciplines with their own ways of thinking.” Stein and Nelson (2003) gives credence to this perspective when they describe leadership content knowledge as “a missing paradigm in the analysis of school leadership” (p. 438). Based on Shulman’s (1986a) construct of pedagogical content knowledge, the author argues that principals “must have some degree of understanding of the various subject areas under their purview” (p. 424).

To address both the challenge of size and pedagogical content knowledge, principals discussed the importance of establishing capacity within the leadership team, both assistant principals and learning leaders. As one principal, Chris, stated “it’s about leveraging the work, I need to let go and trust, I have to trust that conversations are happening.” Principals discussed the importance of clearly articulating their expectations of shared leadership. There is a level of trust to be developed between the principal and members of the leadership team. Principals’ practice of capacity building makes the assumption that these additional leaders have the capacity to make good decisions with respect to teaching. The implication is that principals cannot assume assistant principals and learning leaders are in need of constant supervision and motivation. This practice of capacity building assumes that these leaders are self-motivated and can be trusted with the responsibility of focusing the work on the school’s vision and goals (Bass, 2008). As identified by learning leaders, there is a focus on redesigning their own roles and responsibilities in extending leadership across the school (Day et al., 2016). As described by one learning leader, Drew, “there is a level of autonomy in this work and there cannot be a culture of blame”.

Research on various forms of capacity building, or shared leadership, highlight the importance of engaging teachers in leadership (Leithwood et al., 2006, Spillane & Diamond, 2007). Hallinger and Heck (1998) identified shortcomings in the research in understanding how principals can develop and sustain these practices. This highlights the need to understand, specifically, how principals can foster leadership capacity in other school leaders (Heck & Hallinger, 2014; Louis et al., 2010; Spillane et al., 2004; Stoll, 2009). In the participating schools, principals focused on several leadership strategies that supported capacity building.

Principals discussed the importance of building a leadership team focused on developing pedagogical practices. One principal, Chris, talked about “people who we could see believed in what we were doing and lived what we were doing and could contribute to helping to build this.” As pedagogical leaders, members of the leadership team need to be seen as goal orientated and strong culture builders (Hallinger, 2005).

Capacity building includes opportunities for professional learning (Day et al., 2016). Principals talked about the range of opportunities that were aimed at creating a culture of continuous learning. Devin talked about “moving towards embedded professional learning” focused on “building the learning leader’s capacity to do the work.” Leadership meetings were seen as the primary opportunity for the principal to develop leadership skills. In each case, principals had significant time set aside in the agenda to work on developing leadership practices, specifically focusing on those skill sets that have the ability to influence teaching. In each case, principals increased the duration of the meetings. Within the meetings, learning leaders were given the opportunity to take a lead in discussions, encouraged to develop protocols for professional learning. The process was seen as a collaborative process, where individuals had

the ability to influence each other's leadership development. Principals were deliberate in creating a reciprocal relationship. As described by Alex, they worked at "unearthing their own thinking" in response to their own leadership practices and "making this form of inquiry open to others". Exposing their own thinking allowed them to be influenced by other members of the leadership teams. There is a connection between personal learning and organizational learning, there is a reciprocal commitment (Senge, 1990). Teachers pointed out that this form of reciprocity allowed the learning leaders' energy and excitement to be engaging with teachers to generate a high level of commitment avoiding compliancy.

Learning leaders, in the study, discussed how "the work is deeply embedded in our own subject specific knowledge" (Avery). To address the challenge of pedagogical content knowledge, principals developed routines with learning leaders that effectively reviewed data that reflected student learning and teaching practices. A routine of regular and relevant review of data was important in developing a culture of evidence-based inquiry. Focusing on informing their own leadership practices, learning leaders used these data review processes as a way to "guide decision making and a guide to improve our department's teaching strategies."

This integrated finding discussed an integrative leadership approach to capacity building as a way of mobilizing a range of participants in order to engage others in building coherence with the vision and goals of the school. As discussed in this section, high schools can be seen as complex organizations and have the potential for fragmentation (Senge, 1990). To build coherence, the principal's practice of capacity building centers on developing the leadership capacity of a diverse group of teachers in order to address the complexity of high schools. This form of capacity building demonstrated an intentional focus on collaboration, shared expertise,

and mutual influence that is reflective of transformational leadership (Hallinger & Heck, 2010). From a transformational orientation, such capacity building produces leaders with the capacity to engage others in working towards a unified shared vision and goals (Bass, 2008; Bass & Riggio, 2006).

Quality Teaching.

Quality teaching can be defined as the teacher behaviours that encourage student learning. Alberta Education (2018c) states that “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 for all students” (p. 3). Principals in the study described quality teaching as being intentionally focused on the active engagement of teachers in their own learning. Research has shown that sustained support of the principal can make a difference to quality teaching (Hallinger, 2005). Participants described a real sense of collaboration, centered on pedagogical practice, through the supports provided by the principal. The following four analytic categories summarize pedagogical leadership approaches of the principal as they influence the quality of teaching.

Integrated finding 6: Establishing teaching standards. When principals walk into a classroom to observe teaching, what counts as quality teaching? Quality teaching is framed within standards of practice that articulate a vision of what effective teaching should look like. These standards reflect an interrelated set of knowledge, skills and developed over time and drawn upon and applied to a particular teaching context in order to support optimum student learning (Alberta Education, 2018c, p. 3). Participants in the study discussed the importance of the principal establishing and adhering to a set of teaching standards and competencies focused

on quality teaching. This integrated finding emphasizes the leadership practice of identifying and articulating a standard of teaching that aligns with the identified school vision and goals. As principals discussed, the key premise, in this category, is deciding on what should count as a teaching standard and what purpose would these standards serve in influencing teaching. Alex talked about the importance of “establishing expectations.” Devin discussed the significance of understanding “what good teaching looks like” if the principals are “going to really influence teaching.”

Participants also discussed a need to build a level of accountability into the standards. Principals do not see accountability as a form of teacher evaluation. There is a degree of rigidity to the standards, but, as Alex pointed out, there is a need for the principal to “modify these expectations to meet individual teacher needs.” As representative of the principals, Alex talked about “personalizing rather than formalizing it (expectations) and saying this how it is supposed to be done.” Holding teachers strictly accountable to a set of standards “can destroy trust, teamwork, and the collective responsibility for student learning” (Robinson, 2010, p. 90). The responsibility of the principal is to collect evidence of teaching practices in regard to how individuals and groups are meeting the competencies. As explained by one principal, Chris, this evidence is used to “make the necessary adjustments” to the teaching standards and associated competencies.

The principals in the study described teacher standards as the expectations of the principal as to what teaching should look like within their schools. Being in large schools, they recognized the challenges a principal has in establishing a common standard for teaching. The data, within this analytic category, revealed a strong focus on the principals’ practice as leaning

towards instructional leadership. This focus was related to the principal being more directive in communicating their expectations of ‘quality’ teaching, “ensuring we are living what we know about good pedagogy” (Alex). However, there is evidence of transformational leadership with respect to increasing the capacity of others. In particular, how the dynamics of instructional leadership has been passed on to the learning leaders as they work with teachers in their subject areas. This will be demonstrated in the subsequent three analytic categories.

Integrated finding 7: Active observation. Active observation, as a leadership practice, refers to an approach that is purposeful in response to stimulating learning and the development of quality teaching. Research has shown principals, who actively observe classroom practice and provide subsequent feedback, help improve teaching (Robinson et al., 2008). The intent of these observations is for the principal to gain an understanding of the instructional activities in the classroom and the alignment with the established teaching standards and the associated competencies (Louis et al., 2010). “An accurate, insightful view of current reality is as important as a clear vision” (Senge, 1990, p. 155).

Principals described two basic forms of observation. The first, being formal, where there is a mandated cycle of observations using a set of formalized criteria connected to teacher certification, meeting conditions for employment, or addressing performance issues. A second form of observation is a more informal approach that centers on supporting professional growth with no intention for evaluation. Whatever the case, there is a common thread to observations that is active, the principal’s intentionality for observing. Active or intentional observation engages participants in supporting and professional growth (La Fevre & Robinson, 2015).

Informal classroom observations can take on the form of a simple walk-through to one that lasts 15 to 20 minutes where even dialogue with the students occurs, focused on how and why they are learning. Within the study, both teachers and learning leaders saw the principal being in their classroom as positive, that the principal does care about teaching and learning. Devin, a principal talked about the importance of informal observations “being frequent and purposeful.” Consistency is a key practice identified by participants. A number of teachers were actually disappointed when principals stopped visiting their classroom after formal observation had ended. Due to the number of teachers, participating high schools put into place strategies where assistant principals shared this workload. In some cases, a formal, weekly schedule was used to address consistency of classroom visits. A systematic approach to classroom observations is a key feature of practice to improve the quality of teaching (Day et al., 2016).

With informal observation, there is usually limited or minimal opportunity to develop a predetermined focus for the observations. Focus tends to be based on the teaching standards, past discussions and events, or past observations. Even though the principal has opportunities to gather data, the process of active observation does not end here. Part of the leadership practice is the follow-up discussion. Principals discussed the intentional conversations as a way for them to provide targeted, evidence-based, feedback that positively moves teaching practices forward. Research concurs that these data-rich conversations, based on classroom observations, provide the foundation for open-to-learning conversations (Day et al., 2016; Le Fevre & Robinson, 2015). Teachers in the study appreciated the classroom visits and the benefits of these pedagogical conversations in relation to informing their own practice.

The other side of intentional conversations occurs when the principal is required to have a difficult conversation. Within the practice of active observation, principals require the courage to provide feedback that could be deemed tricky. Le Fevre and Robinson (2015) talked about the importance for the principal to have a “stable mental model” of teaching standards to bring to these difficult conversations (p. 87). Principals recognized that this is a moment where trust can either be built or eroded. They also recognized that the conversations can also be compounded by teacher’s sense of autonomy, a degree of professional independence.

As a tool to enhance teaching, active observation can be perceived as a form of managing the instructional practice, reflective of instructional leadership (Hallinger et al., 2013). Participants discussed the formal process of observation as a form of supervising and evaluating teaching. Within the phenomenon of pedagogical leadership, participants emphasized the role of active observation as a move towards the practice of transformational leadership in which the principal was actively working with teachers to improve their practice (Day et al., 2016; Leithwood & Sun, 2012). The focus was on improving the teaching practices through a process of coaching and mentoring.

Integrated finding 8: Shared leadership. While high school principals acknowledge size as a challenge, content knowledge was perceived as a bigger concern. There is an expectation that principals understand the tenets of quality instruction, including knowledge of subject curriculum and the philosophy of the discipline, in order to ensure appropriate learning (Marzano et al., 2005). However, principals cannot be expected to provide substantive support for instruction “simply because high school principals cannot be experts in all subject areas” (Louis et al., 2010, p. 102)”. Focusing on pedagogical content knowledge, principals working in

high schools require a particular way of supporting quality teaching. Besides monitoring teaching through active observation, principals in the participating schools, created a leadership structure where assistant principals and learning leaders took an active role in the practice of pedagogical leadership. Taylor, an assistant principal, discussed how their principal let the learning leaders “take the lead as they’re the experts, they’re the ones who have helped design the curriculum.”

Principal practice, in this analytic category, centers on developing shared leadership where learning leaders, in particular, become more of a lead in the change process. Alex, a principal described the role of the learning leaders as “requiring a commitment to peer-coaching and mentoring.” Chris added, “not only new teachers, but to those with significant experience of teaching within the discipline.”

Drawing on Alex’s metaphor of a gardener, principals, within the study, talked about “cultivating” learning leaders as they moved into the role. Principals discussed the steps they took in clarifying these roles, “especially when they first started at the school”. Alex described the importance of building trust with the learning leaders in order to “establish clear expectations and commitment to the work.” Devin talked about creating a culture of trust where “they (learning leaders) are willing to take risks.” Principals also recognized that part of building this shared leadership was ensuring strong professional relationships were fostered between the learning leaders and the teachers within their department.

As described in an earlier analytic category, a primary practice for developing shared leadership is through various opportunities of capacity building. Principals talked about the importance of learning leaders in directing the professional learning. The transfer of the locus of

control for the content and process of the PLCs (professional learning communities) to learning leaders is supported within research (Lieberman & Miller, 2011). Alex talked about how learning leaders, “in consultation with them, make the primary decisions within their PLCs.” As Devin stated, “they are responsible for consulting with others before they bring it to us.” Sam, an assistant principal, talked about supporting learning leaders, “by creating space for PLCs to be working and connecting to the school development plan, and again, our professional learning.” As part of the consultation process with departments, learning leaders’ work centered on data analysis, the development of an action plan, and then implementation of the plan, usually through the PLCs. Review of each schools’ school development plan and school result report highlights this work.

Principals discussed their “public” support for the learning leaders by attending and participating in both department meetings and PLCs. In describing this support for learning leaders, Devin talked about “blocking of time to really focus on PLC work to focus on the leadership work.” They continued, “What’s going on with their teachers? What their plans are? How can I support them?”

With a movement away from a bureaucratic approach, this integrated finding emphasizes the development of a shared commitment (Bass, 1990; Blase & Blase, 2000; Leithwood & Jantzi, 2000, 2005). However, research has argued that failure to develop a broad base of ‘instructional’ leadership, within commitment building, has been one of the key reasons for the stalling of pedagogical improvements (Elmore, 2004). With a focus on building a culture and structure for pedagogical growth, principals, in this study, have intentionally fostered the capacity of others in providing the necessary leadership support in large high schools. As an

underlying intent of transformational leadership, shared leadership can be viewed as empowering others to improve and enhance teaching. This integrated finding recognizes that leading a school, especially a high school, requires multiple leaders (Spillane & Diamond, 2007).

Integrated finding 9: Intentional collaboration. Traditionally, much of the work of teachers has been done in isolation from their colleagues (Rosenholtz, 1989). Where teachers work in isolation and have little opportunities to engage in conversations with colleagues, teaching takes the form of traditional practice (Lieberman & Miller, 2011). Principals, in each of the participating schools, had a focus of reducing teacher isolation. Pat, an assistant principal, stated, “it doesn’t look quite the same as it looks in other places.” Leadership teams in each school described how they were challenging the professional norms in order to support quality teaching. Principals had an expectation that teachers, within and across departments, work together to assist students with their learning. Alex, a principal, talked about how collaboration supported a “culture of inquiry.” With a focus on quality teaching, collaboration provided an opportunity to purposefully share practices. “When educators collaborate, they have opportunities to share strengths and seek guidance from colleagues (Hirsh & Killian, 2009, p. 469). Pat goes on to describe how they created a culture where teachers were “given opportunities to engage in conversations”. In order to enhance pedagogy, principals intentionally develop a culture of collaboration. through a variety of strategies including dedicated common planning time and a modified form of Instructional Rounds (City et al., 2009). The primary benefit of collaboration resides in the discussions that takes place amongst teachers. This provided opportunities for individuals to reflect on their own practice, having conversations about how their teaching effects students’ learning.

Teachers, within the study, saw collaboration in their school as a signature practice, one in which teachers work together in designing rich learning tasks and assessment framed within the vision and goals of the school. This time was also seen as an opportunity to discuss a problem of practice that would also guide their own learning. Intentional collaboration, as a way of looking at quality teacher, also allowed for the generation of new learning centered on understanding teaching practices. This new learning will be discussed in the next section.

The integrated finding of intentional collaboration specifies that teacher isolation is not supported within the practice of pedagogical leadership. Collaboration is a constant process amongst teachers, learning leaders, assistant principals, and principals. The analysis of this categories emphasizes transformational leadership where principals incorporate and implement processes that embraces collaboration (Spillane et al., 2004).

The four analytic categories in this section suggest that principals have a clear understanding of what is quality teaching. Quality teaching can be interpreted as effective teaching and is grounded, not only in a new way of understanding teaching, but connected to professional standards for teaching (Darling-Hammond & McLaughlin, 1995). In this study, (a) establishing teaching standards, (b) active observations, (c) shared leadership, and (d) intentional collaboration represent the leadership practices that support and shape teaching around quality teaching.

Teacher Learning

Teacher professional practice centers on a teaching standard that incorporates a competency in which the “teacher engages in career-long professional learning and ongoing critical reflection to improve teaching (Alberta Education, 2018c, p.4). However, there are

numerous criticisms of the teaching profession in which education “is essentially an occupation trying to be a profession without a professional practice” that incorporates “direct, face-to-face interactions around the work” (City et al., 2009, p.33).

Changes to teaching practices requires that principals ensure teachers have the necessary knowledge, skills, supports, and opportunities to learn (Hirsh, & Killion, 2009). Senge (1990) discussed how leadership must avoid the practice of the charismatic hero who rushes in and rescues. Rather, the focus of the principal’s leadership practice should be on a more systemic and collective approach to professional learning. As well, principal’s practice should center on building a learning community where teachers “continually expand their capabilities to understand complexity, clarify vision, and improve shared mental models” and where they are responsible for their own learning (Senge, 1990, p. 340). The following sections will discuss two pedagogical leadership practices in which principals create conditions for teacher learning

Integrated finding 10: Support a culture of inquiry. Inquiry, focused on teaching, promotes a culture of collaborative learning (Robinson, 2011). Teacher inquiry pushes a reconceptualization of teaching as this action involves both knowledge construction and action (Lieberman & Miller, 2011). In the study, principals discussed the importance of establishing a priority on inquiry as the foundation for professional growth. As Sam stated, “What's the problem you're trying to solve?”

When the focus of the collective inquiry is on the right instructional issue, teachers will develop their capacity to improve teaching (DuFour, DuFour, Eaker & Many, 2006). Principals discussed the use of data as a way of looking at teaching and what needs to be addressed. Alex, in looking at how you really set the school up for success, asked “What is the data saying?”

Principals described how they used multiple and valid forms of data with different forms of analysis to collaboratively identify a problem of practice. In supporting this culture of inquiry, part of the principal's practice is to guide the development of the problem of practice, so the focus is on the act of teaching and is aligned with the school vision and goals. In other words, the problem of practice is something that both the principal and teachers care about and consider as making a difference in student learning (City et al., 2009). As part of the pedagogical leadership practice, principals identified the need to promote a diversity of views rather than just settling for conformity and, at the same time, being aware of the opposing dialogue that may prevent learning.

In supporting a culture of inquiry, the principal should also be knowledgeable about the research literature that underlies the problem of practice. This type of "information can be used to define an 'improvement trajectory' for each school" (Hallinger & Heck, 2010, p. 97).

Principals were quick to point out that their own work is not necessarily looking for new and innovative ideas. Chris talked about "being pointed in one direction" and "as I want to find out as much as I can, it's almost like being on a sabbatical." Principals described their own inquiry as focused on identifying and sharing literature that would support the development of the necessary conditions in addressing the problem of practice.

Bass (1990) characterized the behaviour of transformational leaders through four factors, one being the enhancement of commitment through inspirational motivation. In this current study, and in line with the factor of inspirational motivation, the principal practice of supporting a culture of inquiry provides the challenge and increased expectations for solving a problem of practice. The principal, by providing the intellectual stimulation, increases teachers' awareness

of problems and supports them in developing innovative and creative approaches in addressing the problem.

Integrated finding 11: Providing dedicated time. The ultimate goal of framing problems of practice with both data and research is to effectively support multiple learning opportunities for teacher learning. Essential to supporting teacher learning opportunities, principals conveyed the importance of intentionally providing regularly scheduled time that allows for the building of collegial professional growth. Devin talked about “how are we structuring our times together so that we are staying true to the strategies?”

Each principal talked about being purposeful in creating authentic opportunities for professional learning. Robinson (2010) supported this point by stating “sometimes when teachers get together, they reinforce counterproductive beliefs and spend little time examining their own practices (p. 106). Principals spoke about the importance of framing professional learning time as an opportunity for growth and not perceived as being additional to teachers’ workload. Connected with the previous analytic category, principals emphasized the importance of providing the time for collaborative discourse that cultivated a culture for inquiry. Although professional learning varies in practice and context, principals saw professional learning communities (PLCs) or community of practices as the most powerful learning opportunities for teachers. PLCs included dedicated times to meet and access appropriate learning resources. Principals discussed the need for PLCs to be an ongoing process in which teachers work collaboratively in a process of inquiry and action-based research and not seen as an occasional event. Besides providing dedicated time for professional development, principals’ pedagogical leadership practice must also include time to be actively involved in these occasions.

Principals talked about the value of “working with our learning leaders to consciously find time” to support initiatives. As an example, Devin, talked about supporting a department’s wish to observe each other to collect evidence to bring back to their PLC, “here's some sub time to make this happen.” Each principal echoed Alex comment about the challenge of “accessing time, it’s not easy to get” mainly due to “budget constraints.”

Whatever form this time takes, participants in the study discussed the importance of the principal clearly articulating the intended outcomes for the allocated time. As one teacher stated, reflecting on a previous school, “we spend so much time going in circles.” Another teacher, discussed the importance of having an intended professional learning outcome, “this avoids the last-minute Hail Mary pass.” Research has shown that these professional learning opportunities often show “that a considerable amount of time is taken up with activities that have little relevance to the practices that teachers are supposed to be learning (Robinson, 2010, p. 113).

This integrated finding identified the principal practice focused on the enactment of structures that create dedicated time for collaborative work in order to actively address problems of practice. All participants believed that there was a collective action of collaboration that went well beyond the embedded time of the school timetable. As one of the characteristics of transformational leadership, providing individualized professional development and support is prominent theme (Leithwood & Sun, 2012). In these schools, the culture of isolation has shifted to one of collaboration through increased time to effectively support multiple learning opportunities for teachers.

The leadership dimension of teacher learning is viewed by research as having the greatest impact on student learning (Robinson et al., 2008). This section recognized the interdependent

nature of learning, understanding the capabilities of a synergetic approach to professional development. The leadership practices include (a) supports a culture of inquiry and (b) providing dedicated time.

Summary of Interpretation of Findings

The primary purpose of the study was to provide insight into how principals in high performing Alberta high schools enact pedagogical leadership that develops, supports, and sustains a community of adult learners focused on innovative pedagogical practice. Analysis of the findings revealed that principals, assistant principals, learning leaders and teachers agreed that the principal influences pedagogical practices, within their schools, through key leadership practices. In addressing the four research questions, participants' perceptions of principals' practices of pedagogical leadership indicated that principals exhibit both instructional and transformational leadership. Both the quantitative and qualitative findings are consistent with each other in illustrating that the practice of pedagogical leadership integrates both forms of leadership.

The integrated analysis also revealed that there are degrees of practice, that both contextual and personal variables can influence the ability of principals to integrate both forms of leadership. The study acknowledged the complexity of the role of pedagogical leadership, especially in high schools, and the importance of understanding all parts of the school environment.

Finally, the integrated analysis illuminated key principal leadership practices that are associated with both instructional and transformational leadership. The analysis provided descriptive insight into various leadership practices and their relationship within each form of

leadership that could not be identified or measured in the quantitative phase. This integrative phase was able to do is provide a framework in which the practice of pedagogical leadership could develop the conditions for pedagogical growth. These insights contributed to the conceptual model focused on pedagogical leadership, discussed in the next section.

A Conceptual Model of Pedagogical Leadership

A conceptual model, or framework, identifies key concepts under study and illustrates how these concepts interact with each other (Creswell, 2012). Up to this point, most pedagogical leadership models have been limited, usually representing a broad interpretation of the instructional leadership model using the conceptual ideas to clarify the meaning of pedagogical leadership (Alava et al., 2012, Heikka, & Waniganayake, 2011). Male and Palaiologou (2012) conceptualized a model that was context based, emphasizing more of a problem-based approach. Ärlestig and Törnsén's (2014) conducted a study of a pedagogical leadership where three key elements were identified and aligned with both instructional and transformational leadership to create a collective learning process. The key elements presented within their model was limited to presenting norms of leadership practices that have the ability to influence teaching.

A purpose of this research was to propose a conceptual model for pedagogical leadership as an alternative to current models of educational leadership. The intent of the initial model was not to simply integrate two leadership models in that this line of reasoning does not have the true intent of adding new research to the body of knowledge on educational leadership. Based on the literature review (see Chapter Two), the model was initially planned with the intent of informing the design of this research. Figure 2.3 illustrates the proposed conceptual model for pedagogical leadership. The original model, with a meshed infrastructure of educational leadership practices,

had a clear focus on influencing teaching practices with the ability to be adaptive within various educational settings.

The analysis of the data, as outlined in this chapter, has provided opportunities for modifications to the conceptual design of the model as well as showing how the related analytical categories fit within this model. Figure 6.1 provides a visual image of the connections of key elements within the pedagogical leadership model. Even though the model depicts each leadership style, leadership dimension, and the associated leadership practices as separate elements, they do not function discretely from one another. The model proposes that each of the elements are complementary and mutually supportive of each other as indicated by the absence of defining solid lines. The following paragraphs outline the modification to the initial conceptual model in order to create a cohesive understanding of the complex nature of pedagogical leadership.

The modified conceptual model is a framework that centers on the central core task of schooling, that being teaching and learning. The model's central core serves as the conceptual foundation for the connections between various elements of the practice of pedagogical leadership and the interactions between principals and teachers. Focused on teaching and learning, as a series of complex activities, can be characterized as the prioritized work of teachers in presenting tasks to students that are purposeful in bringing about the desired learning. (Doyle, 1983; Louis et al, 2010). The central core task of teaching, represented by the central circle in the model, can be viewed as a triangulated concept of the relationship between the teacher and student in the presence of content; known as the instructional or pedagogical core (City et al., 2009; OECD, 2013). The instructional core, directly connected to teaching, is

represented by the central circle. The connection, within the core, centers on what students are being asked to learn, the tasks, and a determination of the level of student engagement with the learning, the assessment (Elmore, 2000). In this conceptual model, leadership practices are directly linked to teaching and the instructional core.

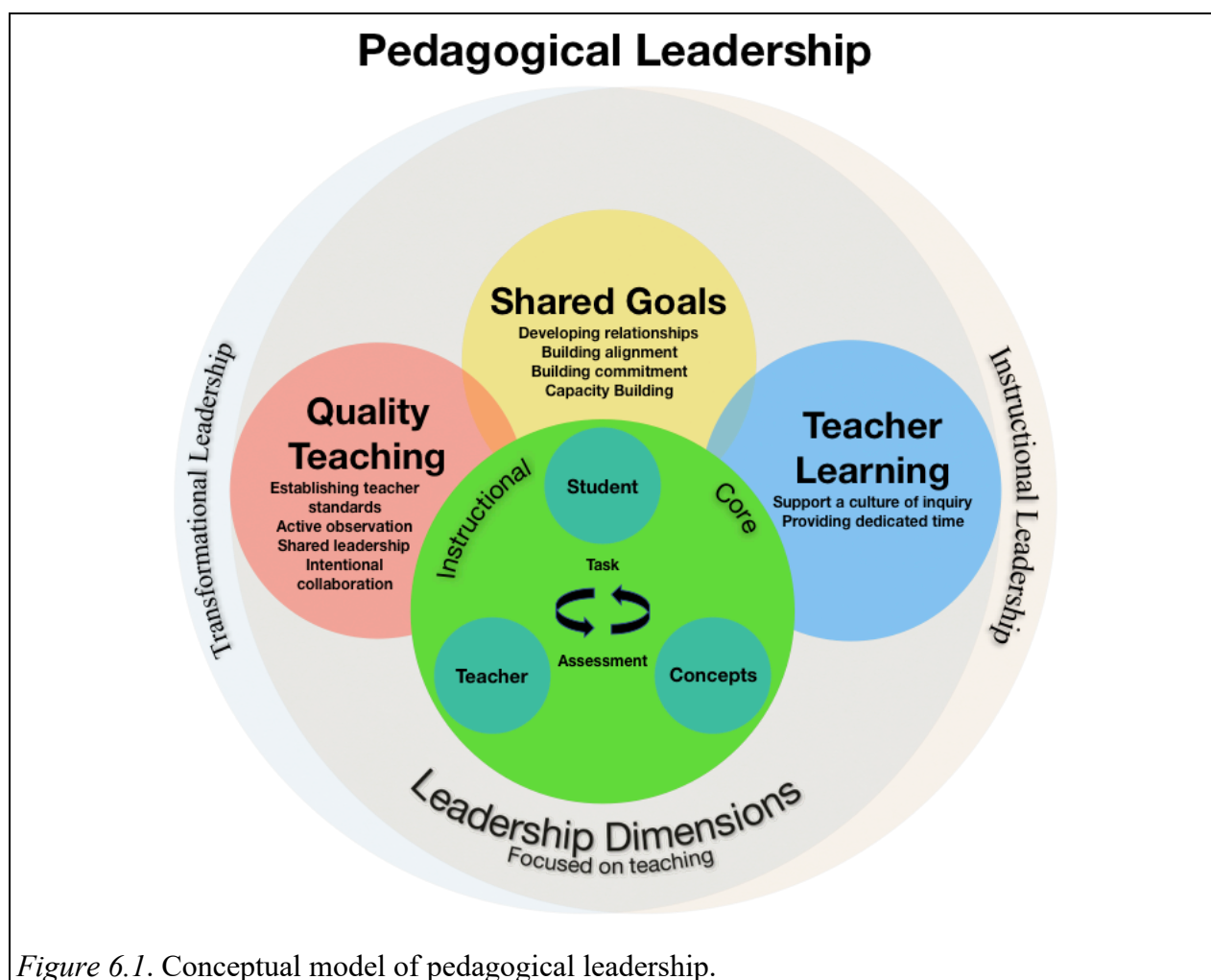


Figure 6.1. Conceptual model of pedagogical leadership.

The conceptual model, being presented, consists of three interrelated leadership dimensions. The original leadership dimensions were based on the five dimensions of effective leadership of Robinson et al.'s (2008) meta-analysis on different types of leadership connected to

student outcomes. Based on the evidence from Chapters Four and Five, three leadership dimensions were identified as being significant in conceptualizing the practice of pedagogical leadership: (a) shared goals, (b) quality teaching, and (c) teacher learning. Coding of data in Chapter Five allowed for the identification of key leadership practices within each of the three leadership dimensions. These practices are summarized within the model under each of leadership dimension that underlies the instructional core. This analysis allowed for the reconceptualization of the original model and provided further illustration of the leadership practices within each dimension and the contribution towards the instructional core.

Evidence from Chapter Four and Five repeatedly demonstrated that the leadership dimensions interact with the instructional core through two distinct processes of reciprocity, represented by the two outside circles. The first, instructional leadership, is where the principal holds the teacher accountable for an action or outcome in which the belief is that the teacher has the capacity to fulfill the action or meet the outcome (Elmore, 2000). The second, transformational leadership, is the underlying principles of collaboration, distributed expertise, and mutual influence, is central to affecting change within teaching (Hallinger, 2005; Hallinger & Heck, 2010). Coding from Chapter Five illustrated that the key leadership practices, within the three leadership dimensions, characteristically aligned with both forms of leadership.

The results of this study have provided the possibility for a new conceptual model of educational leadership. This model of pedagogical leadership provides support for best practice that is considered fundamental in developing, supporting, and sustaining a community of adult learners focused on innovative pedagogical practice.

Summary

The purpose of this chapter was to present an integrated analysis and interpretation of the significant themes and patterns identified in the previous two chapters. The intent was to provide a more holistic perspective of the principal's practice of pedagogical leadership within the complexity of high schools with a focus on supporting innovative pedagogical practice. Framed within the elements of the conceptual model of pedagogical leadership, the chapter explained the intent of each leadership practice, making aware the connections within current literature. Based on an extensive literature search, this study and the associated conceptual model, was one of a few attempts to comprehend a holistic perspective of principal leadership practices focused on influencing pedagogy.

The analysis and interpretation of the findings helped to extend and enrich our understanding of pedagogical leadership. The study highlighted the importance of not viewing instructional and transformational leadership as distinct approaches, but adopting a broader, a more holistic conceptual view of pedagogical leadership. The conceptual model is not meant to be a rigid structure but gives the responsibility to principals to adapt their leadership practices to fit the context of their schools. In order to do this, principals need to ground in their conceptual understanding of the change process within the model of pedagogical leadership. Principals' leadership practices do have influence on student achievement but only through focused interaction with teachers centered on teaching practices. This model of leadership provides principals with a practical framework by which they can advance their skills and attitudes to develop, support, and sustain pedagogical growth.

Chapter 7

Conclusions and Recommendations

The primary purpose of this study was to provide insight into the practice of pedagogical leadership and an emerging conceptual model of pedagogical leadership. The study focused on the relationship between two of the enduring educational leadership models, instructional and transformational leadership, three leadership dimensions, and the practices of principals in high performing Alberta high schools as they develop, support, and sustain a community of adult learners focused on innovative pedagogical practice. Selection of these schools were based on their demonstrated commitment to Alberta Education's *Moving Forward with High School Redesign* (2017a) with a focus on innovative pedagogical practices. The three leadership dimensions are based on Robinson's et al., (2008) effective leadership, (a) shared vision and goals, (b) quality teaching, and (c) teacher learning. This study investigated the following questions:

1. How do principals of high performing Alberta high schools demonstrate pedagogical leadership in cultivating and sustaining communities of adult learners focused on innovative pedagogical practice?
2. To what extent do high school principals shape their pedagogical leadership practices within elements of instructional and transformational leadership framed within five leadership dimensions of effective leadership?
3. What is the correlation between instructional and transformational leadership within each of the five leadership dimensions of the pedagogical leadership model?

4. What themes and patterns do principals, assistant principals, learning leaders, and teachers reveal in their perceptions of the principal's pedagogical leadership practices within the four leadership dimensions?

This chapter begins with the conclusion of the study based on the integrated findings and the insight they provided for the practice of pedagogical practice. This discussion will be followed by implications and recommendations for future research. This chapter concludes with final reflections.

Conclusions

The conclusions from this study addressed the gap found in the research literature on understanding high school principal's leadership practices that focuses on influencing pedagogical practice. Educational leaders are often described in the literature as those who maintain a focus on improving teaching and learning. Even though there is a consensus on the importance of principals' influence on teacher practice, the way research has analyzed leadership practices varies significantly (Day, et al., 2016). This variation tends to focus on single yet dominate leadership models, particularly instructional and transformational leadership (Day et al., 2016; Hallinger, 2011; Hattie, 2012; Leithwood & Sun, 2012; Louis et al., 2010; Robinson, et al., 2008). This in turn, has set up a debate as to which model has the greatest influence on student learning. Recent research has begun to demonstrate that an integrated approach of instructional and transformational leadership improved student academic outcomes (Day et al., 2011; Day et al., 2016; Leithwood & Sun, 2012). Even though the research literature clearly delineates the role of the principal in each of the leadership models, in espousing the school goals and establishing a school culture focused on improving instructional practice, there is still a

limited specificity within this literature as to what educational leadership practices lead to increased student achievement (Goldring et al., 2015; Heck & Hallinger, 2014). This presents principals with a complex challenge that centers on how to actively engage teachers in examining and exploring innovative pedagogies (Elmore, 2000; Spillane & Diamond, 2007; Spillane, et al., 2004).

There is a second challenge for high school principals. High schools present a unique challenge due to the complex organization that defies change in addressing teacher practice (Louis et al., 2010; Robinson et al., 2008). Understanding these challenges at high school, research has fallen short in identifying effective leadership practices in establishing a focus on teaching (Heck & Hallinger, 2014; Robinson et al., 2008; Louis et al., 2010). In other words, how do high school principals effectively enact and sustain change that transforms current pedagogy into powerful learning environments?

While instructional and transformational leadership have been popular themes in educational research over the last few decades, the practical conceptualization of both leadership models has not been well defined (Marzano et al., 2005). The findings from this study provide a greater comprehension as to the practice of both forms of leadership that pays attention to influencing pedagogical practice (see Table 6.1). Even though the focus of the study was principals' practice of pedagogical leadership in large urban high schools, the following conclusions have implications for principals in general.

1. In order to effect change of pedagogical practice, principals need to place emphasis on their own leadership practices that develops, supports, and sustains a community of adult learners.

2. The principal practice of pedagogical leadership enacts elements of both instructional and transformational leadership when focused on influencing pedagogical practice.

The emphasis on different combinations of either form of leadership is dependent on the extent of influence that the principal has on relationships, expectations, norms of practice, and organizational structures that determines the conditions of teaching.

In ensuring pedagogical practice is unified within the school, principals will exhibit the following practices based on a shared vision and goals:

3. In order to build commitment towards common teaching goals, principals focus on developing professional relationships for sustainable commitment.
4. To build alignment of teaching with goals, principals used a variety of planned strategies, to build alignment of teaching with goals, employing different degrees of reciprocity.
5. In pursuance of building alignment of teaching with goals, principals' pedagogical leadership practice employs strategies that build commitment, rather than compliance.
6. Capacity building is used by principals to develop and strengthen shared leadership in supporting the school's vision and goals.

In ensuring quality teaching, that successfully helps learners develop the knowledge and skills they require, principals will employ several key practices of pedagogical leadership:

7. Principals engage in the use of established teaching standards and associated competencies to gauge the level of teaching relevant to the school's vision and goals, and the context of the teaching.

8. Principals use the intentional practice of active observations to assess quality teaching. Active observation also includes purposeful conversations to engage teacher learning.
9. In meeting the demands of size and pedagogical content knowledge in high schools, principals develop leadership capacity within others.
10. In the practice of pedagogical leadership, principals employ intentional collaboration to enrich and maximize teacher learning centered on standards of quality teaching.

Principals' practice of pedagogical leadership ensures teachers have the necessary knowledge, skills, supports, and opportunities to learn. Principals take a systemic approach to professional development that is sustained by the following practices:

11. In undertaking teacher learning, principals providing the intellectual stimulation, increases awareness of problems of practice, and supports the development of innovative and creative solutions.
12. In providing multiple learning opportunities for teachers, principals provide dedicated time through different venues of professional learning.

Recommendations

This section offers recommendations, based on the findings, analysis and conclusions of the study. The recommendations have implications for both professional practice and future research. From a practical perspective, the recommendations will be summarized framed around application of integrated findings within the high school setting. The research recommendations will also focus on implications for future investigation into pedagogical leadership.

Professional Practice Recommendations

The practical recommendations from this study adds to the growing research on the practical role of leadership on influencing pedagogical practice. As selection of principals and their high schools for this study was based initially on those schools who had exemplified an active and strong commitment to Alberta Education's high school redesign initiative, particularly in developing innovative pedagogical practice, these recommendations has significance for those principals who are focused on supporting innovative pedagogical practice.

1. This study revealed 11 professional practices in which high school principals can implement pedagogical leadership. Success of students hinges on the quality of teaching and the impact of this teaching can be influenced by principals' focus on teaching. If principals have this ability to influence teaching, how do principals demonstrate a form of leadership that cultivates and sustains communities of adult learners focused on innovative pedagogical practice? As this study revealed, the answer to this question lies in the recommendation that principals need to develop a better understanding of the key leadership practices that can exercise and maintain a focus on improving teaching. At the center of these practices is the creation of a learning organization that regularly incorporates new knowledge, skills, and the ability to be adaptive in the face of change (Argyris & Schön, 1978; Senge, 1990).

Organizational learning - the kind that pays off for students - occurs when school members consistently take collective responsibility for student learning. This, in turn, depends on the school having stable, community-like relationships among adults (Spillane & Louis, 2002 as cited in Seashore, 2009, p. 134).

A strong analogy for principal practices of pedagogical leadership, is that building a learning organization is like tending to a garden (Senge, 1990). The principal cannot command teachers to grow, but they can promote growth by rearranging the structures and conditions for growth (Seashore, 2009). Principals who support learning also foster a culture in which teachers will contribute to the process of learning (Leithwood & Jantz, 2000; Marks & Printy, 2003). The structures for organizational learning, centering on supporting innovative teaching, are guided by the key practices of pedagogical leadership.

2. As summarized in the previous chapter, results from this study identified 11 integrated findings that are directly connected to leadership practices that lay the foundation of pedagogical leadership. Even though the study deals with each finding, or leadership practice, as separate entities, they do work together in creating a broader picture for pedagogical leadership practice at the high school level including expectations for quality teaching.
3. The previous chapter emphasized that there is no single leadership approach to pedagogical leadership. Pedagogical leadership does not focus on the change process being a top-down or a bottom-up orientation. The recommendation is that the practice of pedagogical leadership focuses on the process of change through a balanced and integrated approach of both instructional and transformational leadership within the three leadership dimensions. Principals should consider being strategic in extracting various elements of pedagogical leadership practices based on both the context of their school,

the current phase of school development in which they are positioned, and the current destination of the school development.

4. As the complexity of principal leadership grows, another recommendation of the study is in developing a professional practical guide for fostering continuous professional leadership growth. As school jurisdictions, governments, and post-secondary institutes define leadership standards and key competencies, the integrated findings can be used to define these standards from both a generic and contextual approach. As well, these findings can support policy makers in providing a broader context to work from in relation to leadership certification and evaluation.

Future Research Practices

The integrated findings from this study also have implication for future research on educational leadership focusing on influencing pedagogical practice. Future studies need to further explore the role of the conceptual model in developing a framework for leadership development and leadership standards:

5. The intent of this study was to fill in the gaps in the existing research on principal leadership practices that influence teaching. As described in Chapter Two, there is limited research on principal practices that influence teaching, especially at the high school level. Rather than studying individual leadership models and principal leadership practices in isolation from each other, this study recommends a more holistic view of leadership. The findings and the conceptual model provided insight into various configuration of both instructional and transformational leadership within the three leadership dimensions of shared vision and goals, quality teaching, and teacher learning. This study recommends

that research move beyond a single theoretical model in order to develop a deeper understanding of how principals can influence pedagogy.

6. Another recommendation of this study is in the value of using a mixed methods and multiple case approach in identifying leadership practices. Taken alone, neither the quantitative nor qualitative approach, within this study, would have been able to heighten our understanding of pedagogical leadership. Combining both quantitative and qualitative approaches, with various sources of input, provided a broader picture of pedagogical leadership and strengthened the findings of principal practices.
7. While this study was conducted using an explanatory sequential mixed method, there is a great deal of potential in pursuing further research on pedagogical leadership from a quantitative perspective. The conceptual model of pedagogical leadership, as a representation of a leadership system, could be further developed through the verification and validation of each of the 11 leadership practices and would contribute to the limited research in this area of educational leadership.
8. This study demonstrated that an integrated approach of various leadership practices is highly contextual and dependent on the culture and context of the individual school. In order to understand further this phenomenon and the research gap between theoretical knowledge and the practical knowledge that the principal brings into play in influencing pedagogical practice, there is also the ability to work with individual high schools in developing a designed based study. Through an iterative process, this form of research could adopt an approach that frames and validates the design of the pedagogical leadership as a theoretical model (McKenney & Reeves, 2012).

Concluding Thoughts

In an era where high school principals are being held accountable for student achievement, particularly where standardized testing is part of the students' graduation mark, this study informs various school leaders as to leadership practices that have the potential of influencing teaching. The 11 concluding points and the eight recommendations provided insight into a conceptual model of pedagogical leadership. Taken together, this study first suggests that both instructional and transformational leadership are foundational in an integrative model of pedagogical leadership. Specific leadership practices are framed within three leadership dimensions of shared vision and goals, quality teaching, and teacher learning which, together, transition between the two leadership models. The pedagogical leadership model, focusing on how high school principals effectively develop, support, and sustain a community of adult learners focused on innovative pedagogical practice, does not attempt to simplify or promote either of these leadership models. The conclusion and recommendations also recognize the complex combinations of these leadership models and the practices that principals employ in influencing teaching. This integrated approach is highly contextual and dependent on the culture and context of the individual school.

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Appendices

Appendix A: Survey Matrix

Table A.1

Survey Matrix of Questions from PIMRS and MLQ Correlated with the Five Dimensions of Pedagogical Leadership

Leadership Dimension	Instructional Leadership Practices	Questions from PIMRS	Transformational Leadership Practices	Questions from MLQ
Shared Goals	Frames the school's goals	1. Develop a focused set of school-wide goals 2. Frame in term of staff responsibilities 3. Secure staff input on goal development 4. Use data on student performance	Developing a shared vision & building goal consensus.	6. Communicates important values and beliefs (IB) 14. Develops a strong sense of purpose (IB) 6. Communicates positively about the future (IM) 26. Articulate a compelling vision of the future (IM)
	Communicates the school's goals	6. Communicate the school's mission effectively 7. Discuss the school's academic goals 8. Refer to goals when making decisions	Holding high performance expectations.	36. Express confidence that goals will be achieved (IM) 23. Considers moral and ethical consequences of decisions (IB)
	Resource Alignment		Providing a community focus	34. Creates and communicates a collective mission (IB)
Quality Teaching	Supervises and evaluates instruction	11. Classroom priorities are consistent with goals 13. Conduct informal observation in classroom	Building collaborative structures	30. Look at problems from many different angles (IS)
	Coordinates the curriculum	16. Make clear who is responsible for coordinating curriculum 18. Monitor classroom curriculum 20. Participate in review of curricular materials	Improving the instructional program	2. Re-examine critical assumptions (IS) 32. Examine new ways (IS)

Teacher Learning	Provides incentives for teachers	36. Reinforce superior performance by teachers 40. Create professional growth opportunities	Management by exception	14. Talk enthusiastically about what needs to be accomplished (IM)
	Maintains high visibility	31. Take time to talk informally 32. Visit classrooms to discuss school issues	Providing contingent rewards	1. Provide other with assistance for effort (CR) 11. Who is responsible for achieving performance targets (CR) 35. Express satisfaction (CR)
	Monitors student progress	22. Discuss academic performance	Providing intellectual stimulation	8. Seek differing perspectives (IS)
	Promotes professional development	41. In-service activities consistent with goals 42. Support use of skills acquired during in-service 45. Faculty meetings: share ideas from in-service	Providing individualized support Modeling behavior	19. Treat others as individuals (IC) 29. Different needs, abilities and aspirations (IC) 31. Develop individual strengths (IC) 15. Time teaching and learning (IC)
Orderly and Safe Environment	Protects instructional time	26. Limit interruptions of instructional time 29. Instructional time for teaching	Strengthening school culture	10. Instills pride (IA) 18. Goes beyond self-interest (IA) 21. Gains respect through actions (IA) 25. Exhibits power and confidence (IA)

Appendix B: Principal Survey

School ID #: (Researcher generated)

PART I: Please provide the following information:

- | | |
|--|--|
| 1. Student Population | 1000 or less
1001 - 1300
1301 - 1600
1601 - 1900
1901 or above |
| 2. Years in position at current school | This is my first year
1 to 2 years
3 to 5 years
6 to 10 years
11 to 15 years
16 to 20 years
More than 20 years |
| 3. Total years in position | This is my first year
1 to 2 years
3 to 5 years
6 to 10 years
11 to 15 years
16 to 20 years
More than 20 years |
| 4. Education | Bachelor's Degree
Master's Degree
Doctoral Degree |
| 5. Subject Specialization | English
Mathematics
Science
Social Studies
Physical Education/CALM
Visual and Performing Arts
Career and Technology Studies
Second Languages
Counselling |

PART 2: Pedagogical Leadership

This questionnaire consists of 45 behavioral statements that provides a profile of your leadership practice. You are asked to consider each question in terms of your leadership style that **engages in developing, supporting, and sustaining a community of adult learners focused on innovative teaching practices**. In some cases, these responses may seem awkward; use your judgement in selecting the most appropriate response to such questions. Try to answer every question.

Directions: You will be asked to select **one** of the following responses for each of the descriptors of leadership in the context of innovative pedagogy.

1. Almost Never
2. Seldom
3. Sometimes
4. Frequently
5. Almost Always

Shared Goals

1. I develop a focused set of annual school-wide goals
2. I frame the school's goals in terms of staff responsibilities for meeting them
3. I use needs assessment or other formal and informal methods to secure staff input on goal development
4. I use data on student performance when developing the school's academic goals
5. I talk about teachers most important values and beliefs
6. I specify the importance of having a strong sense of purpose
7. I talk optimistically about the future
8. I articulate a compelling vision of the future
9. I communicate the school's mission effectively to teachers of the school community
10. I discuss the school's academic goals with teachers at faculty meetings
11. I refer to the school's academic goals when making curricular decisions with teachers
12. I consider the moral and ethical consequences of decisions
13. I express confidence that goals will be achieved

Resource Alignment

14. I emphasize the importance of having a collective sense of mission

Quality Teaching

15. I ensure that the classroom priorities of teachers are consistent with the goals and direction of the school
16. I conduct informal observations in classrooms on a regular basis (informal observations are unscheduled last at least 5 minutes, and may or may not involve written feedback or a formal conference)
17. I get teachers to look at teaching from many different angles

18. I make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, assistant principal, or teacher-leaders)
19. I monitor the classroom curriculum to see that it covers the school and provincial's curricular objectives
20. I participate actively in the review of curricular materials
21. I re-examines critical assumptions about the curriculum to question whether they are appropriate
22. I suggest new ways of addressing the curriculum
23. I reinforce superior teaching by teachers in staff meetings, newsletters, and/or memos
24. I create professional growth opportunities for teachers as a reward for special contributions to the school
25. I talk enthusiastically about what needs to be accomplished
26. I provide teachers with assistance in exchange for their efforts
27. I take time to talk informally with students and teachers during breaks
28. I visit classrooms to discuss school issues with teachers and students
29. I discuss in specific terms who is responsible for achieving performance targets
30. I express satisfaction when teachers meet expectations

Teaching and Learning

31. I discuss academic performance results with the faculty to identify curricular strengths and weaknesses
32. I seek differing perspectives when solving academic problems
33. I ensure that in-service activities attended by staff are consistent with the school's goals
34. I actively support the use in the classroom of skills acquired during in-service
35. I set aside time at faculty meetings for teachers to share ideas or information from in-service activities
36. I treat teachers as individuals rather than just as a member of a group
37. I consider teachers as having different needs, abilities, and aspirations from others
38. I help teachers to develop their strengths
39. I spend time teaching and learning

Orderly and Safe Environment

40. I limit interruptions of instructional time by public address announcements
41. I encourage teachers to use instructional time for teaching and practicing new skills and concepts
42. I instill pride in teachers for being associated with me
43. I go beyond self-interest for the good of the group
44. I act in ways that builds teacher respect for me
45. I display a sense of power and confidence

Please feel free to share any additional thoughts about pedagogical leadership and high school principals' influence on innovative pedagogy.

Appendix C: School Administration and Teacher Survey

School ID #: (Researcher generated)

PART I: Please provide the following information:

- | | |
|---|--|
| 1. Student Population | 1000 or less
1001 - 1300
1301 - 1600
1601 - 1900
1901 or above |
| 2. Employment Status | Assistant/Vice Principal
Coordinator/Curriculum/Learning Leader
Teacher |
| 3. Years in position at current school | This is my first year
1 to 2 years
3 to 5 years
6 to 10 years
11 to 15 years
16 to 20 years
More than 20 years |
| 4. Total years in position | This is my first year
1 to 2 years
3 to 5 years
6 to 10 years
11 to 15 years
16 to 20 years
More than 20 years |
| 5. Number of years you have worked under the direction of the current principal | 1
2 to 4
5 to 9
10 to 15
15 or more |
| 6. Education | Bachelor's Degree
Master's Degree
Doctoral Degree |
| 7. Subject Specialization | English
Mathematics
Science
Social Studies
Physical Education/CALM
Visual and Performing Arts |

Career and Technology Studies
Second Languages
Counselling

PART 2: Pedagogical Leadership

This questionnaire consists of 45 behavioral statements that provides a profile of leadership practice. You are asked to consider each question in terms of your observations of your principal's leadership style over the past school year that **engages in developing, supporting, and sustaining a community of adult learners focused on innovative teaching practices**. In some cases, these responses may seem awkward; use your judgement in selecting the most appropriate response to such questions. Try to answer every question.

Directions: You will be asked to select **one** of the following responses for each of the descriptors of leadership in the context of innovative pedagogy.

1. Almost Never
2. Seldom
3. Sometimes
4. Frequently
5. Almost Always

To what extent does your principal . . . ?

Shared Goals

1. Develop a focused set of annual school-wide goals
2. Frame the school's goals in terms of staff responsibilities for meeting them
3. Use needs assessment or other formal and informal methods to secure staff input on goal development
4. Use data on student performance when developing the school's academic goals
5. Talk about their most important values and beliefs
6. Specify the importance of having a strong sense of purpose
7. Talk optimistically about the future
8. Articulates a compelling vision of the future
9. Communicate the school's mission effectively to members of the school community
10. Discuss the school's academic goals with teachers at faculty meetings
11. Refer to the school's academic goals when making curricular decisions with teachers
12. Consider the moral and ethical consequences of decisions
13. Express confidence that goals will be achieved

Resource Alignment

14. Emphasize the importance of having a collective sense of mission

Quality Teaching

15. Ensure that the classroom priorities of teachers are consistent with the goals and direction of the school
16. Conduct informal observations in classrooms on a regular basis (informal observations are unscheduled last at least 5 minutes, and may or may not involve written feedback or a formal conference)
17. Gets you to look at teaching from many different angles
18. Make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, assistant principal, or teacher-leaders)
19. Monitor the classroom curriculum to see that it covers the school's curricular objectives
20. Participate actively in the review of curricular materials
21. Re-examine critical assumptions about the curriculum to question whether they are appropriate
22. Suggest new ways of addressing the curriculum
23. Reinforce superior teaching by you in staff meetings, newsletters, and/or memos
24. Create professional growth opportunities for you as a reward for special contributions to the school
25. Talk enthusiastically about what needs to be accomplished
26. Provide you with assistance in exchange for your efforts
27. Take time to talk informally with students and yourself during breaks
28. Visits your classrooms to discuss school issues with students and yourself
29. Discusses in specific terms who is responsible for achieving performance targets
30. Expresses satisfaction when you meet expectations

Teaching and Learning

31. Discuss academic performance results with the faculty to identify curricular strengths and weaknesses
32. Seek differing perspectives when solving academic problems
33. Ensure that in-service activities attended by staff are consistent with the school's goals
34. Actively support the use in the classroom of skills acquired during in-service
35. Set aside time at faculty meetings for teachers to share ideas or information from in-service activities
36. Treats you as an individual rather than just as a member of a group
37. Considers you as having different needs, abilities, and aspirations from others
38. Helps you to develop your strengths
39. Spends time teaching and learning

Orderly and Safe Environment

40. Limit interruptions of instructional time by public address announcements
41. Encourage you to use instructional time for teaching and practicing new skills and concepts
42. Instill pride in you for being associated with him/her
43. Goes beyond self-interest for the good of the group
44. Acts in ways that builds your respect

45. Displays a sense of power and confidence

Please feel free to share any additional thoughts about pedagogical leadership and high school principals' influence on innovative pedagogy.

Appendix D: Interview Expression of Interest

(message to follow completion of survey)

Thank you for completing the survey!

The next phase of this research project will involve interviewing administrative team members and teachers to gain a deeper understanding and clarification of how your principal enacts the elements of instructional and transformational leadership which supports the quality development of teaching. All attempts will be made to provide confidentiality and anonymity of the information you provide. There is no known risk associated with your participation in this research. Please contact the researcher if you would be interested in participating in a focus group interview by clicking on the link below.

turnej@ucalgary.ca

Jeff Turner, PhD Candidate
Werklund School of Education
University of Calgary

Appendix E: Interview Questions, Principal

Participant(s): _____

Date: _____ Location: _____

Start time: _____ End time: _____ Researcher: _____

Thank you for your interest in participating in this research study. This information, including questions and discussion prompts that will guide our one-hour conversation about your thoughts about the ways the principal's leadership contribute to the quality development of teaching within each of the five leadership dimensions of the pedagogical leadership model, is being provided in advance for consideration and reflection.

Research Purpose

The purpose of this mixed methods case study is on the ways high school principals engage in developing, supporting, and sustaining a community of adult learners focused on innovative pedagogical practice. The study will illuminate and illustrate the relationship between instructional and transformational leadership practices, two dominate educational leadership models, as principals focus on high school redesign and teaching. This insight will contribute to an emerging conceptual model focused on pedagogical leadership.

Individual and Focus Group Interview Procedures

The following questions and discussion prompts have been designed to guide our scheduled one-hour audio-recorded focus group conversation about *pedagogical leadership and high school principals' influence on innovative pedagogy*. 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, and you may have a copy of these notes at the conclusion of the interview if you wish. A summary of audio-recorded notes will be sent to you as soon as they have been transcribed for your review, so you can make corrections, additions or deletions.

Please review the summary and return to me any changes within 14 days of receiving the information.

Please note that anonymity and confidentiality cannot be guaranteed in focus groups. However, the researcher requests that participants in the focus group keep comments confidential and that we refrain from discussing any particular individual's responses.

Questions to Guide Interview with the Principal

Reflect on your own experience, as a principal, in cultivating teaching practices that meet the needs of today's learners. The following questions will help guide our conversation regarding your role

- I. **Shared Goals:** *What ways can a principal . . .*
 - a. Encourage and support a shared vision of teaching?
 - b. Encourage and support teacher input on influencing school goals focused on teacher learning?
 - c. Engage in growth in teaching practices that are aligned with school goals?
- II. **Resource Alignment:** *In what ways can teachers and administrative teams be . . .*
 - a. Involved and contribute to the decision-making process around resource allocations of curriculum material (textbooks, dispensable materials, equipment, etc.) with alignment to teaching goals.
- III. **Quality Teaching:** *What ways can a principal . . .*
 - a. Support teaching practices?
 - b. Use data to support teachers in examining teaching practices?
- IV. **Teacher Learning:** *What ways can a principal . . .*
 - a. Support growth in teaching practices?
- V. **Orderly and Safe Environment:** *What ways can a principal . . .*
 - a. Support teaching practices that creates a consistent and safe learning environment for your students?
- VI. **Further Comments**

Please feel free to share any additional thoughts about pedagogical leadership and high school principals' influence on innovative pedagogy.

Appendix F: Focus Group Questions: Administrative Team

Participant(s): _____

Date: _____

Location: _____

Start time: _____ End time: _____ Researcher: _____

Thank you for your interest in participating in this research study. This information, including questions and discussion prompts that will guide our one-hour conversation about your thoughts about the ways the principal's leadership contribute to the quality development of teaching within each of the five leadership dimensions of the pedagogical leadership model, is being provided in advance for consideration and reflection.

Research Purpose

The purpose of this mixed methods case study is on the ways high school principals engage in developing, supporting, and sustaining a community of teachers focused on innovative pedagogical practice. The study will illuminate and illustrate the relationship between instructional and transformational leadership practices, two dominate educational leadership models, as principals focus on high school redesign and teaching. This insight will contribute to an emerging conceptual model focused on pedagogical leadership.

Individual and Focus Group Procedures

The following questions and discussion prompts have been designed to guide our scheduled one-hour audio-recorded focus group conversation about pedagogical leadership and high school principals' influence on innovative pedagogy. 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 focus group, and you may have a copy of these notes at the conclusion of the focus group if you wish. A summary of audio-recorded notes will be sent to you as soon as they have been transcribed for your review, so you can make corrections, additions or deletions.

Please review the summary and return to me any changes within 14 days of receiving the information.

Please note that anonymity and confidentiality cannot be guaranteed in focus groups. However, the researcher requests that participants in the focus group keep comments confidential and that we refrain from discussing any particular individual's responses.

Questions to Guide Focus Group with Administrative Team

Please share your thoughts about and/or provide examples of the ways a principal can contribute to growth in teaching practice in the following areas:

- I. Shared Goals:** *What ways can a principal . . .*
 - a. Encourage and support a shared vision of teaching?
 - b. Encourage and support teacher input on influencing school goals focused on teacher learning?
 - c. Engage in growth in teaching practices that are aligned with school goals?
- II. Resource Alignment:** *In what ways can an administrative team and teachers be . . .*
 - a. Involved and contribute to the decision-making process around resource allocations of curriculum material (textbooks, dispensable materials, equipment, etc.) with alignment to teaching goals.
- III. Quality Teaching:** *What ways can a principal . . .*
 - a. Support teaching practices?
 - b. Use data to support teachers in examining teaching practices?
- IV. Teacher Learning:** *What ways can a principal . . .*
 - a. Support growth in teaching practices?
- V. Orderly and Safe Environment:** *What ways can a principal . . .*
 - a. Support teaching practices that creates a consistent and safe learning environment for your students?
- VI. Further Comments**
 1. Please feel free to share any additional thoughts about pedagogical leadership and high school principals' influence on innovative pedagogy.

Appendix G: Focus Group Questions: Teachers

Participant(s): _____

Date: _____ Location: _____

Start time: _____ End time: _____ Researcher: _____

Thank you for your interest in participating in this research study. This information, including questions and discussion prompts that will guide our one-hour conversation about your thoughts about the ways principals' leadership contribute to the quality development of teaching within each of the five leadership dimensions of the pedagogical leadership model, is being provided in advance for consideration and reflection.

Research Purpose

The purpose of this mixed methods case study is on the ways high school principals engage in developing, supporting, and sustaining a community of adult learners focused on innovative pedagogical practice. The study will illuminate and illustrate the relationship between instructional and transformational leadership practices, two dominate educational leadership models, as principals focus on high school redesign and teaching. This insight will contribute to an emerging conceptual model focused on pedagogical leadership.

Focus Group Interview Procedures

The following questions and discussion prompts have been designed to guide our scheduled one-hour audio-recorded focus group conversation about *pedagogical leadership and high school principals' influence on innovative pedagogy*. 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, and you may have a copy of these notes at the conclusion of the interview if you wish. A summary of audio-recorded notes will be sent to you as soon as they have been transcribed for your review, so you can make corrections, additions or deletions.

Please review the summary and return to me any changes within 14 days of receiving the information.

Please note that anonymity and confidentiality cannot be guaranteed in focus groups. However, the researcher requests that participants in the focus group keep comments confidential and that we refrain from discussing any particular individual's responses. The ATA Code of Professional Conduct stipulates a minimum standard of professional conduct of teachers. Therefore, your response must be focused on principals in general and not be evaluative of an individual principal.

Questions to Guide Focus Group

Reflect on your own experience, working with principals, in cultivating teaching practices that meet the needs of today's learners. The following questions will help guide our conversation regarding your role

- I. **Shared Goals:** *What ways can a principal . . .*
 - a. Encourage and support a shared vision of teaching with you?
 - b. Encourage and support your input on influencing school goals focused on teacher learning?
 - c. Engage in growth in your teaching practices that are aligned with school goals?
- II. **Resource Alignment:** *In what ways can teachers be . . .*
 - a. involved and contribute to the decision-making process around resource allocations of curriculum material (textbooks, dispensable materials, equipment, etc.) with alignment to teaching goals.
- III. **Quality Teaching:** *What ways can a principal . . .*
 - a. Support your teaching practices?
 - b. Use data to support you in examining teaching practices?
- IV. **Teacher Learning:** *What ways can a principal . . .*
 - a. Support your growth in teaching practices?
- V. **Orderly and Safe Environment:** *What ways can a principal . . .*
 - a. Support your teaching practices that creates a consistent and safe learning environment for your students?
- VI. **Further Comments**
 2. Please feel free to share any additional thoughts about pedagogical leadership and high school principals' influence on innovative pedagogy.

Appendix H: Informed Consent, Interview

Participant Consent Form – Interview (Principal)

Name of Researcher: Jeff Turner, PhD Candidate
 Werklund School of Education, University of Calgary
 (403) 869-3108, turnej@ucalgary.ca

Supervisor: Dr. Jim Brandon, Associate Dean, Professional & Community
 Engagement
 Werklund School of Education, University of Calgary
 (403) 220-3048, jbrandon@ucalgary.ca

Title of Project: Pedagogical Leadership: High School Principals' Influence on
 Innovative Pedagogy

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 and the Calgary Board of Education's Research and Strategy department has approved this research study.

Participation is completely voluntary and confidential. You are free to discontinue participation at any time during the study.

Research Purpose

The purpose of this mixed methods case study is on the ways high school principals engage in developing, supporting, and sustaining a community of teachers focused on innovative pedagogical practice. The study will illuminate and illustrate the relationship between instructional and transformational leadership practices, two dominant educational leadership models, as principals focus on high school redesign and teaching. This insight will contribute to an emerging conceptual model focused on pedagogical leadership.

Research Questions

1. How do principals of high schools demonstrate pedagogical leadership in cultivating and sustaining communities of teachers focused on innovative pedagogical practice?

- 1.1. How and to what extent do the perceptions of high school principals shape their practices within the five leadership dimensions of the pedagogical leadership model?
- 1.2. What themes and patterns do other school leaders and teachers reveal in their perceptions of the principal's pedagogical leadership practices within the five leadership dimensions?

What Will I Be Asked to Do?

In your capacity as a principal, you are invited to participate in this research study.

Participants will voluntarily participate in a one-hour interview. Guiding questions will be provided to participants in advance of the interview. As a participant in this study you will be asked to engage in the activities detailed below:

<i>Research Timeline</i>	<i>Activity</i>	<i>Approximate Time Required</i>
<i>June/October 2018</i>	<i>Review of informed consent process and provision of consent.</i>	<i>15 minutes</i>
<i>September/December 2018</i>	<i>Audio record focus group interview. The tape will be transcribed and a transcript sent back to you for verification.</i>	<i>1 hour</i>
<i>September/December 2018</i>	<i>Review of interview transcriptions to verify accuracy from your perspective</i>	<i>20 minutes</i>

Your participation in this study is completely voluntary and you may refuse to participate altogether, may refuse to participate in parts of the study, may decline to answer any and all questions, and may withdraw from the study at any time without penalty.

Your participation in this study or lack thereof, will have no consequences on your employment with your school jurisdiction or relationship with the University of Calgary.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to provide your name and email address for contact purpose only by the researcher only.

You will be asked to select a pseudonym that will be used in all references to your involvement in this study. Should you not select a pseudonym, the researcher will select a pseudonym for you. Any participant quotes used in the dissemination of the finding will be identified through their pseudonym. At no time will your supervisor(s) or anyone with administrative authority have access to transcripts or artifacts associated with your participation.

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 grant permission to be audio taped:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
I wish to remain anonymous:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
I wish to remain anonymous, but you may refer to me by a pseudonym:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
The pseudonym I choose for myself is: _____	

What Happens to the Information I Provide?

Participation in this study is completely voluntary. Personal information collected will only be accessible by the researcher. Only the investigator, Jeff Turner, and a professional transcriber will have access to the recordings. Interview responses will be attributed to the pseudonym you choose for this project. 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. The researcher request that you review the transcripts within 14 days of receiving the email with recommended changes. The researcher will interpret your acceptance of the transcripts should you not respond within the 14 days upon receiving the information.

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 you will at no time be at risk of harm.

The findings will be shared with the larger educational community through presentations, peer reviewed journals, or in book format.

Anonymity cannot be assured if you share your pseudonym with others or reveal the content of your interview responses to anyone other than the researcher. The researcher will not use any identifying information you provide as an artifact. Should you decide to withdraw from the research study at any time, all data, including interview responses, transcripts, and audio tapes collected to the date of withdrawal will be destroyed unless this is not feasible. In any case, all data collected in relation to this study will be kept in a locked cabinet, accessible only by the researcher, for a period of seven years from completion of the data collection and will then be destroyed in its entirety on June 30, 2025. It must be understood that the data and findings remain the property of the researcher.

Signatures

Your signature on this form indicates that (a) you understand to your satisfaction the information provided to you about your participation in this research project, and (b) 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 at any time. 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:

Jeff Turner
Werklund School of Education, University of Calgary
[\(403\) 869-3108](tel:4038693108) or e-mail: turnej@ucalgary.ca

If you have any concerns about the way you have been treated as a participant, please contact the Research Ethics Analyst, Research Services, University of Calgary at (403) 220-4283/220-6289; e-mail cfreb@ucalgary.ca.

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

Appendix I: Informed Consent, Focus Group

Participant Consent Form – Focus Group Interview

Name of Researcher: Jeff Turner, PhD Candidate
 Werklund School of Education, University of Calgary
 (403) 869-3108, turnej@ucalgary.ca

Supervisor: Dr. Jim Brandon, Associate Dean, Professional & Community
 Engagement
 Werklund School of Education, University of Calgary
 (403) 220-3048, jbrandon@ucalgary.ca

Title of Project: Pedagogical Leadership: High School Principals' Influence on
 Innovative Pedagogy

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 and the Calgary Board of Education's Research and Strategy has approved this research study.

Participation is completely voluntary and confidential. You are free to discontinue participation at any time during the study.

Research Purpose

The purpose of this mixed methods case study is on the ways high school principals engage in developing, supporting, and sustaining a community of teachers focused on innovative pedagogical practice. The study will illuminate and illustrate the relationship between instructional and transformational leadership practices, two dominate educational leadership models, as principals focus on high school redesign and teaching. This insight will contribute to an emerging conceptual model focused on pedagogical leadership.

Research Questions

1. How can principals of high schools demonstrate pedagogical leadership in cultivating and sustaining communities of teachers focused on innovative pedagogical practice?

- 1.1. How and to what extent do the perceptions of high school principals shape their practices within the five leadership dimensions of the pedagogical leadership model?
- 1.2. What themes and patterns do other school leaders and teachers reveal in their perceptions of the principal's pedagogical leadership practices within the five leadership dimensions?

What Will I Be Asked to Do?

In your capacity as a school administrator (assistant principal and learning leaders), you are invited to participate in this research study.

Participants will voluntarily participate in a one-hour interview. Guiding questions will be provided to participants in advance of the interview. As a participant in this study you will be asked to engage in the activities detailed below:

<i>Research Timeline</i>	<i>Activity</i>	<i>Approximate Time Required</i>
<i>June/October 2018</i>	<i>Review of informed consent process and provision of consent.</i>	<i>15 minutes</i>
<i>September/December 2018</i>	<i>Audio record focus group interview. The tape will be transcribed and a transcript sent back to you for verification.</i>	<i>1 hour</i>
<i>September/December 2018</i>	<i>Review of interview transcriptions to verify accuracy from your perspective</i>	<i>20 minutes</i>

Your participation in this study is completely voluntary and you may refuse to participate altogether, may refuse to participate in parts of the study, may decline to answer any and all questions, and may withdraw from the study at any time without penalty.

Your participation in this study or lack thereof, will have no consequences on your employment with your school jurisdiction or relationship with the University of Calgary.

The Alberta Teachers Association's *Code of Professional Conduct* stipulates a minimum standards of professional conduct of teachers. Therefore, your response must be focused on the role of the principal in general and not be evaluative of an individual principal.

What Type of Personal Information Will Be Collected?

Should you agree to participate, you will be asked to provide your name and email address for contact purpose only by the researcher only.

You will be asked to select a pseudonym that will be used in all references to your involvement in this study. Should you not select a pseudonym, the researcher will select a pseudonym for

you. Any participant's quotes used in the dissemination of the finding will be identified through the pseudonym. At no time will your supervisor(s) or anyone with administrative authority have access to transcripts or artifacts associated with your participation.

Participants will be known to the researcher and to other participants in focus groups. Therefore, when participating in focus groups, it will be difficult to protect complete anonymity and confidentiality. Consequently, it may be difficult to guarantee anonymity as participants may recognize the contributions of colleagues who also participated in the focus group.

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 grant permission to be audio taped:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
I wish to remain anonymous:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
I wish to remain anonymous, but you may refer to me by a pseudonym:	Yes: <input type="checkbox"/> No: <input type="checkbox"/>
The pseudonym I choose for myself is: _____	

What Happens to the Information I Provide?

Participation in this study is completely voluntary. Personal information collected will only be accessible by the researcher. Only the investigator, Jeff Turner, and a professional transcriber will have access to the recordings. Interview responses will be attributed to the pseudonym you choose for this project. 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. The researcher request that you review the transcripts within 14 days of receiving the email with recommended changes. The researcher will interpret your acceptance of the transcripts should you not respond within the 14 days upon receiving the information.

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 you will at no time be at risk of harm.

The findings will be shared with the larger educational community through presentations, peer reviewed journals, or in book format.

Anonymity cannot be assured if you share your pseudonym with others or reveal the content of your interview responses to anyone other than the researcher. The researcher will not use any identifying information you provide as an artifact. Should you decide to withdraw from the research study at any time, all data, including interview responses, transcripts, and audio tapes collected to the date of withdrawal will be destroyed unless this is not feasible. In any case, all data collected in relation to this study will be kept in a locked cabinet, accessible only by the researcher, for a period of seven years from completion of the data collection and will then be

destroyed in its entirety on June 30, 2025. It must be understood that the data and findings remain the property of the researcher.

Signatures

Your signature on this form indicates that (a) you understand to your satisfaction the information provided to you about your participation in this research project, and (b) 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 at any time. 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:

Jeff Turner
Werklund School of Education, University of Calgary
(403) 869-3108 or e-mail: turnej@ucalgary.ca

If you have any concerns about the way you have been treated as a participant, please contact the Research Ethics Analyst, Research Services, University of Calgary at (403) 220-4283/220-6289; e-mail cfreb@ucalgary.ca.

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

Appendix J: Informed Consent, Survey

Consent Statement Preceding the Survey (School Administration and Teachers)

Name of Researcher:	Jeff Turner, PhD Candidate Werklund School of Education, University of Calgary (403) 869-3108, turnej@ucalgary.ca
Supervisor:	Dr. Jim Brandon, Associate Dean, Professional & Community Engagement Werklund School of Education, University of Calgary (403) 220-3048, jbrandon@ucalgary.ca
Title of Project:	Pedagogical Leadership: High School Principals' Influence on Innovative Pedagogy

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. Click “Yes” at the bottom of the screen to provide consent and proceed with the survey.

The University of Calgary Conjoint Faculties Research Ethics Board and the Calgary Board of Education's Research and Strategy department has approved this research study.

Participation is completely voluntary, anonymous and confidential. You are free to discontinue participation at any time during the study.

Research Purpose

The purpose of this mixed methods case study is on the ways high school principals can engage in developing, supporting, and sustaining a community of teachers focused on innovative pedagogical practice. The study will illuminate and illustrate the relationship between instructional and transformational leadership practices, two dominate educational leadership models, as principals focus on high school redesign and teaching. This insight will contribute to an emerging conceptual model focused on pedagogical leadership.

Research Questions

1. How can principals of high schools demonstrate pedagogical leadership in cultivating and sustaining communities of teachers focused on innovative pedagogical practice?

- 1.1. How and to what extent do the perceptions of high school principals shape their practices within the five leadership dimensions of the pedagogical leadership model?
- 1.2. What themes and patterns do other school leaders and teachers reveal in their perceptions of the principal's pedagogical leadership practices within the five leadership dimensions?

What Will I Be Asked to Do?

In your capacity as a school administrator or teacher, you are invited to participate in this phase of the research study, a survey. The survey is designed to gather your perceptions, in general, of high school principals' leadership styles in terms of instructional leadership and transformational leadership as related to the research questions stated earlier. The survey is designed to measure the importance of instructional or transformational leadership that supports and sustains communities of teachers who focus on continual improvements in teaching practices.

Even though this survey is anonymous, the Alberta Teachers Association's *Code of Professional Conduct* stipulates a minimum standards of professional conduct of teachers. Therefore, your response must be focused on the role of the principal in general and not be evaluative of an individual principal. The survey does not measure the effectiveness of an individual principal's leadership style.

If you take part in the study, you will be asked to complete a survey that combines question from the Principal Instructional Management Rating Scale (PIMRS teacher form) and the Multifactor Leadership Questionnaire (MLQ-5X rater short form). There will be 46 questions and the time to complete the surveys is conservatively 15 minutes.

The survey data collected will be securely stored using password protected software and will be retained for a period of seven years by the researcher prior to disposal. The data gathered will be used for research and teacher education purposes only.

The survey will be conducted using the UCalgary Survey Tool powered by *Qualitrics*, an online survey platform operated in Canada. As such, your responses are protected by Canada's Personal Information Protection and Electronic Documents Act. The risks associated with participation are minimal.

You may choose not to answer specific questions or to stop participating at any time. You may elect to withdraw at any time from the study by simply not submitting the survey. Data from withdrawn surveys will be excluded from the analysis.

Your participation in this study or lack thereof, will have no consequences on your employment with your school jurisdiction or relationship with the University of Calgary.

What Type of Personal Information Will Be Collected?

All responses are anonymous.

Are there Risks or Benefits if I Participate?

There are no foreseeable risks or benefits related to participation in this study, other than the professional learning opportunities inherent in the research design.

What Happens to the Information I Provide?

The survey data collected will be securely stored using password protected software and will be retained for a period of seven years by the researcher prior to disposal. The data gathered will be used for research and teacher education purposes only.

The results of this study may be published or presented at professional meetings, but the identities of all research participants will remain anonymous.

Signatures

Your signature on this form indicates that (a) you understand to your satisfaction the information provided to you about your participation in this research project, and (b) 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 at any time. 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): Jeff Turner
 Researcher's Signature: _____ Date: Jan. 30, 2019

A copy of the consent form will be given to you to keep for your records and reference. The researcher has kept a copy of the consent form.

You will be provided a secure link to the survey.

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

Jeff Turner
Werklund School of Education, University of Calgary
(403) 869-3108 or e-mail: turnej@ucalgary.ca

If you have any concerns about the way you have been treated as a participant, please contact the Research Ethics Analyst, Research Services, University of Calgary at (403) 220-4283/220-6289; e-mail cfreb@ucalgary.ca.

Appendix K: PIMRS Copyright

Dear Jeffrey

Please find attached letter authorizing your use of the PIMRS instrument. If no letter is attached, it will follow once your check or wire transfer is completed.

You now are able to access various PIMRS resources on my website at <http://philiphallinger.com/tool/survey/pimrs/a/researcherLogin-2.html>.

Enter the following requested information:

- Research User ID: **xxxxxxx**
- Your Password: **xxxxxxx**
- Name: Your **FirstName LastName**
- Email: Your **email address**
- Click the *Submit button*

The webpage contains a variety of resources including:

- Forms of the English language PIMRS for your copying and adaptation
- Translated versions of the PIMRS for Malay, Chinese, Arabic, Thai, Persian, Amharic, Portuguese, Spanish, Turkish, Vietnamese
- Support resources including the Technical Report (new), User Manual (old)
- PIMRS related articles and book chapters
- Other instructional leadership articles
- List and zipped PDF files of 400 PIMRS Studies

*For full and up-to-date information on the PIMRS and its use as a research and evaluation tool, please my latest book, *Assessing Principal Instructional Leadership with the PIMRS*. The book contains useful information for researchers on the scale including its development, use, validity and reliability. The book also details how to use the short form and plan research with the instrument. For more info, go to: <http://www.springer.com/cn/book/9783319155326>. Individual chapters may also be purchased.*

Please keep in mind the conditions of your purchase including sending me: 1) a copy of the translated PIMRS (if applicable), 2) a copy of your RAW DATASET, and 3) a pdf copy of your completed study.

Please also note that the user is required to include ALL questions including demographic questions (i.e., gender, years of experience, school level) included in the PIMRS unless otherwise waived by the publisher.

If you need any assistance, please contact me directly.

Best of luck.

Prof. Hallinger

Appendix L: MLQ Copyright

For use by Jeff Turner only. Received from Mind Garden, Inc. on February 17, 2018



To whom it may concern,

This letter is to grant permission for the above named person to use the following copyright material for his/her research:

Instrument: *Multifactor Leadership Questionnaire*

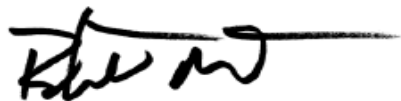
Authors: *Bruce Avolio and Bernard Bass*

Copyright: *1995 by Bruce Avolio and Bernard Bass*

Five sample items from this instrument may be reproduced for inclusion in a proposal, thesis, or dissertation.

The entire instrument may not be included or reproduced at any time in any published material.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert Most", with a long horizontal line extending to the right.

Robert Most
Mind Garden, Inc.
www.mindgarden.com