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Sources of Authority for Leadership, Instructional Technology Coaches, and Diffusion of High Access Teaching and Learning

Gregory M. Proffit

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SOURCES OF AUTHORITY FOR LEADERSHIP AND INSTRUCTIONAL TECHNOLOGY COACHES' DIFFUSION OF HIGH ACCESS TEACHING AND LEARNING

by

Gregory M. Proffit

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Education

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UTAH STATE UNIVERSITY
Logan, Utah

2015

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ABSTRACT

Sources of Authority for Leadership, Instructional Technology Coaches, and Diffusion of High Access Teaching and Learning

by

Gregory M. Proffit, Doctor of Education

Utah State University, 2015

Professor: Michael K. Freeman, Ph.D.
Department: Teacher Education and Leadership

This study used a theoretical framework to explore the leadership of three school-based instructional technology coaches (ITCs). The researcher employed typical qualitative fieldwork methods by compiling observation notes, interview transcripts, and archival documents for data analysis. This research and dissertation were also placed in context with the tenets of diffusion research.

The collected evidence was analyzed with a theory that proposes five sources of authority for leadership: bureaucratic, psychological, technical rational, professional, and moral. The study presents four major findings: First, ITCs do not use bureaucratic or moral sources of authority for leadership. Second, the coaches are aware of and use technical rational and professional sources of authority. Third, the participants may use some of the characteristics of psychological sources of authority for leadership. Finally, this study verifies that all five theoretical sources of authority are discernible in the

participants' school district.

The author recommends that educators combine their respective sources of authority in diffusion of innovation. Schools should recognize and use in combination their administrators' bureaucratic, coaches' technical rational, and teachers' professional sources of authority for leadership.

This study suggests future research in applying the theoretical framework: for tests of the consequences of each source of authority for leadership; to the use of diffusion; for leadership in the diffusion of professional learning communities; to analyze the 2014 Interstate School Leaders Licensure Consortium (ISLLC) standards for school leaders.

(162 pages)

PUBLIC ABSTRACT

Sources of Authority for Leadership, Instructional Technology Coaches, and Diffusion of High Access Teaching and Learning

by

Gregory M. Proffit, Doctor of Education

Utah State University, 2015

The purpose of this qualitative study was to use a leadership theory to explore the professional work of three school-based instructional technology coaches. The leadership theory is drawn from Thomas Sergiovanni's Moral Leadership: Getting to the Heart of School Improvement.

The study used typical qualitative data gathering techniques: participant observations, informal and formal interviews, and the collection of representative workplace professional documents. A single researcher spent two school years in district office meetings and in three secondary schools gathering qualitative data.

The data were analyzed for bureaucratic, psychological, technical rational, professional, and moral sources of authority for leadership. The data were examined with selected codes and indicators of each source of authority for leadership. Data analysis determined that instructional technology coaches do not use bureaucratic or moral sources of authority for leadership. The study also found that coaches are aware of and used technical rational and professional sources of authority, and that the participants

may use some of the features of psychological sources of authority for leadership. Finally, this research and dissertation verified that all five theoretical sources of authority were present in the schools, but that the participants—instructional technology coaches—may not be aware of or use all five sources.

This study also used the components of diffusion research to establish context of the study. The diffusion components were the variables of time, innovation, social networks, and communications channels. This was not a diffusion study, but the components of diffusion were used as context for the research.

This study suggests directions for future research, including tests of the consequences of each source of authority for leadership, questions about the use of diffusion theory in combination with leadership theory, directions for leadership in the diffusion of professional learning communities, and comparative analysis between the selected sources of authority leadership framework and the 2014 Interstate School Leaders Licensure Consortium (ISLLC) standards for school leaders.

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I would like to thank my doctoral committee chair, Dr. Michael Freeman, and the faculty of Utah State University's College of Teacher Education and Leadership. Your collective wisdom and patient guidance gave me the academic thirst and the sustained confidence that I needed to complete this course of study, research, and dissertation.

Also, my heartfelt appreciation goes out to the study's participants: Mr. T, Ms. M, and Mr. N. You three teacher-coaches represent everything that is good, right, proud, and strong in public education. You are my heroes.

Next, I recognize the dedicated faculty of Education and Instructional Leadership at the University of Texas at Austin. In my master's degree program, you introduced me to collaborative leadership, organizational theory, and the blossoming potential of participative management.

I want to acknowledge the pioneering brilliance of Harry Wolcott, Thomas Sergiovanni, and Everett Rogers. I stand on the backs of giants, and I wish that we could have met.

With love I dedicate this paper to Mom and Dad— Eileen and John Proffit. Thank you. Without your care and support I would not be the person I am today. Thank you for all your faith and prayers. I could not have done this without you.

Finally, Sheri—you are the best. Thanks for seeing me through to the end.

Gregory M. Proffit

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CHAPTER I

INTRODUCTION

Sergiovanni (1992) wrote for school principals and school district administrators. In 1995, I studied his ideas when I was working for my masters of education degree in the Foundations of Education Administration cohort at the University of Texas, Austin. Today, the first goal of this research and dissertation is to extend the influence and to stimulate academic dialogue about the ideas of the late Trinity University professor emeritus. More specifically, with this research study I assert that Sergiovanni's ideas may be used to explore and understand the leadership of instructional technology coaches (ITCs).

Since 1997, I have worked as a school principal and school district administrator in the Rocky Mountain School District (RMSD). In 2007 the district hired its first ITC. Years later I am taking this scholarly opportunity to use Sergiovanni's (1992) theory for analysis of the educational leadership of my school district's ITCs. Are the sources of authority apparent—influential—in ITCs' diffusion of high-access teaching and learning?

The purpose of this qualitative research was to look for evidence of five theoretical sources of authority for leadership in the work of three ITCs (Sergiovanni, 1992). The study uses Rogers' (1995) diffusion research for additional academic context. Two innovations are present in this case: high access teaching and learning and instructional technology coaching. Table 1 summarizes the four major elements of this qualitative research study.

Table 1

Major Elements of This Qualitative Study

Element	Description
Theory	Sources of authority for leadership
Context	The diffusion of innovations
Innovation 1	High access teaching and learning
Innovation 2	Instructional technology coach(ing)

Theory: Sources of Authority for Leadership

Thomas Sergiovanni occupied a prominent position in scholars' world of school leadership (Mullen, 2009). Sergiovanni (1992) presented a theoretical framework consisting of five sources of authority for leadership in schools: bureaucratic authority, psychological authority, technical-rational authority, professional authority, and moral authority

Each source of authority provides provenance for school leadership. Each source of authority makes different assumptions about teachers' capacities, asserts implications for supervisory practices, and predicts consequences for leadership practices.

This qualitative study utilizes the sources of authority for leadership as the theoretical framework to analyze the leadership practices of ITCs. Additional academic context for this study is provided by diffusion of innovations (Rogers, 1995).

Context: The Diffusion of Innovations

Rogers' (1995) diffusion of innovations framework provides additional academic context for this research and dissertation. The principles and concepts of diffusion are

useful for understanding and predicting the adoption of new ideas within social systems. The RMSD's ITCs are working in an emerging paradigm, a paradigm of high access teaching and learning. The principals of diffusion provide complementary context for this research and dissertation.

Rogers (1995) presented four features common to diffusion: (a) the characteristics of an innovation, (b) an innovation's spread over time, (c) the social contexts surrounding the adoption of an innovation, and (d) the communications channels by which an innovation is diffused. This dissertation is not a diffusion study. But the lexicon of diffusion research provides a useful context for the conduct of this study. Two innovations are present in this study: high access teaching and learning and instructional technology coach(ing).

Innovation 1

High access (internet) teaching and learning is an emerging paradigm for schools. High access teaching is a complex arrangement including wireless networks, abundant teacher and student laptops, selected educational software, digital learning management systems, and the creation of licensed and classified staff positions for teacher professional development and educational technology support. In the RMSD the high access model includes a one student/one laptop ratio.

Innovation 2

The RMSD created three instructional technology coach positions for each of the district's three secondary schools. Coaching is a way to enhance classroom teachers'

implementation of new teaching ideas and strategies (Showers & Joyce, 1996). The school district created instructional (technology) coach positions to support the implementation of a one student/one laptop initiative.

In diffusion studies an innovation is any practice or technology that is new to a particular setting. Instructional (technology) coaching is a new professional practice in the RMSD. The ITC positions were created to aid secondary schools with their diffusion of high access teaching and learning in the RMSD.

Problem Statement

Educational technology is gaining popularity in public schools. More and more districts are employing instructional technology for teaching and learning (Watson, Murin, Vashaw, Gemin, & Rapp, 2011). There is a rising interest in the use of instructional technology in schools—specifically the implementation of one student/one laptop initiatives. Such was the case in the RMSD, the site of this study. It is important that academic and practitioner research keep pace with the emerging reality of today's high access classrooms and schools. So, it is timely and relevant for a research study on leadership in the diffusion of high access teaching and learning.

This research and dissertation was proposed to bridge a theory of educational leadership to encompass the professional practice of instructional coaches. Instructional coaches and their school administrators may benefit from an educational leadership theory as a foundation and path administrator and coach professional practice in schools.

Third, a review of the literature did not locate diffusion studies considering

leadership in high-access teaching and learning. Given the rising tide of schools adopting high access paradigms there is need for research studies of leadership in the diffusion of high access teaching and learning

Fourth, this research study was conceived and conducted in the spirit of reciprocity with the RMSD coaches. All of the interactions, and the products of this fieldwork have been conducted with the intention that the study has meaning for the study's participants. This study was conducted with purposeful intent to give back to the participants and to the RMSD for sponsoring this research.

Finally, it is important for instructional leaders to access good instructional leadership theory. Quoting Lewin, Vansteenkiste and Sheldon (2006) noted, "There is nothing more practical than a good theory" (p. 63). This research and dissertation was conceived and conducted with hopes of promoting an understanding and application of a selected leadership theory, the five sources of authority for leadership.

Relevant and Timely

High-access teaching and learning—particularly one student/one laptop student initiatives—is on the rise in the U.S. (Watson et al., 2011). And quality teacher professional development—including instructional coaching—is considered important to its success (Dunleavy, Dexter, & Henecke, 2007). Consequently, this research was pertinent and timely.

This exploration of the sources of authority for leadership may prove helpful for other administrators, coaches, or teacher leaders who are advancing the high access paradigm in other school systems. Perhaps there are both practical and academic lessons

to be learned. This study was conceived and conducted so that such lessons may be helpful to researchers and coaches who are in the process of implementing this complex and popular educational strategy.

Expanding a Leadership Theory to Instructional Technology Coaches

I proposed with this research to expand an instructional leadership theory intended for school administrators by trying its use as an analytical tool for the leadership in the work of instructional technolog coaches. This dissertation creates a connection between the sources of authority for leadership theory and the professional development mission of instructional coaching. This qualitative case study is intended to serve as a pier in a bridge that links educational leadership theory and instructional coaching practice. This study is suggestive of future research on leadership in diffusion. Others may take note of this study and be inclined to further explore the sources of authority for leadership and their functions in regard to instructional coaching, particularly instructional technology coaching in emerging high access (to Internet) schools.

Contextualizing High Access Teaching and Learning Within Diffusion Theory

There is a dearth of academic or practitioner research to provide guidance to build high access learning environments using the principles of diffusion. Diffusion principles have not been utilized in studying the increasing implementation of high-access teaching and learning. Detailed academic or practical results of the diffusion of high access teaching and learning are beyond the scope of this paper. But I hope that this study will

prompt scholars and practitioners to direct future research on the convergence of educational leadership, instructional coaching, and diffusion of educational technologies for teaching and learning.

Reciprocal and Participatory

With this study I wanted to give back to the RMSD and to my chosen profession. Contemporary ethnographers act in the spirit of reciprocity (Erickson, 2011), "cogenerative inquiry" (Greenwood & Levin, 2005, p. 54) and "participatory, and activist-oriented research" (Denzin & Lincoln, 2005, p. 20). This research study and dissertation represent the intentions of interpretive phenomenological action (Reid, Flowers, & Larkin, 2005) and participatory action research (Kemmis & McTaggart, 2005). The fieldwork was constantly guided by a conception of reciprocity: it was meant to be useful to the participants in the study during the course of the fieldwork.

The RMSD is significantly invested in its educational technology innovations. Over the past 5 years, upwards of $9 million has been allocated for hardware, networks, and infrastructure. These costs are without consideration of the ongoing salaries and costs adopted by the RMSD to implement and sustain the high access to Internet. Leaders in the district are optimistic that these innovations will expand teaching practices and advance student learning. Likewise, I wanted my case study to add palpable momentum to the school district's initiative, to provide impetus and inspiration for its coaches, teachers, and students. I hoped to be useful to the study's participants but also to be useful to other teacher leaders elsewhere who are involved in this work.

It was in the spirit of purposeful and applied academic work that I conducted this

qualitative case study. During my fieldwork, I immersed myself intentionally in order to represent the work language, school practices, and professional culture of three instructional technology coaches in the diffusion of high access teaching and learning.

Fortifying, Strengthening, Broadening

Finally, with this scholarship I proposed to fortify, strengthen and broaden public educators' familiarity, understanding, and application of Thomas Sergiovanni's work. Leadership in schools is important (Bryk, Sebring, Allensworth, Luppescu, & Easton 2009; Sergiovanni, 1992; Waters, Marzano, & McNulty, 2003). The keyword search term "instructional leadership" yielded 3,296 article results when entered in the Utah State University's Merrill Cazier Library's EBSCO Host search engine. The keyword search "educational leadership" generated 808 book results in the Utah State University's library catalog. Sixteen of these were books authored by Thomas Sergiovanni. However, neither library query yielded scholarly research that specifically supported or refuted Sergiovanni's ideas about leadership. For the purposes of this study and dissertation, I assumed the five sources of authority to be valid and trustworthy.

Sergiovanni (1992) proposed wellsprings of authority for leadership, five sources of authority: bureaucratic, psychological, technical-rational, professional, and moral. There is a need for additional academic studies and scholarly material to stimulate educators' understanding and application of these theorized sources of authority for leadership in teaching and learning. Consequently, this study was stimulated by an identified need—a lack of practitioner research and literature for public school leaders that applies Sergiovanni's theory. The next section presents key definitions.

Key Terms and Definitions

The next section provides a selected compendium of definitions pertinent to the study. These major ideas and elements are presented to build background for readers. First, the selected theoretical framework—the five sources of authority for leadership.

Sources of Authority for Leadership

This is a theory of leadership that is written for school and school district administrators (Sergiovanni, 1992). The theory suggests that there are five wellsprings or sources of authority for those who undertake leadership roles in schools. The sources of authority are bureaucratic, technical-rational, psychological, professional or moral. Each source of authority for leadership is identified as having different applications and outcomes. Each source of authority for leadership is presented in brief in the sections below.

Bureaucratic Sources of Authority

Segiovanni (1992) asserted that bureaucratic authority is characterized by hierarchy, rules, and regulations. Bureaucratic sources of authority are further distinguished by mandates and monitoring for compliance. Sergiovanni concluded that leaders' application of bureaucratic authority has a limiting effect on teaching and learning. If bureaucratic authority has a limiting effect in schools, then applications of bureaucratic sources of authority may limit the diffusion and the potential of high access teaching and learning.

A century earlier, Weber set out historic roots for organizations' establishment

and use of official hierarchy and lines of command (Lemert, 1993). Known as a bureaucratic or legal-rational model, this form of leadership is characterized by specialized roles, merit, uniform principles in advancement, and salary structures. Weber's conceptions of legal-rational authority are building blocks of the bureaucratic sources of authority described by Sergiovanni (1992). Bureaucratic sources of authority may be considered constraining.

Technical Rational Sources of Authority

Heifetz and Lynsky (2002) proposed leaders' use of technical sources of authority. They urge administrators to purposefully pull back from the daily routine of school interactions to obtain a distanced experts' view of teaching and learning.

Sergiovanni (1992) presented this differently, arguing that technical rational sources of authority privilege scientific knowledge of teaching over the contextualized knowledge of teachers in practice. So leadership assertions of technical rational authority could undercut the day-to-day professional knowledge that is found in experienced classroom teachers. Technical rational leadership may be considered constraining.

Psychological Sources of Authority

Sergiovani (1992) compared this source of authority with human relations, motivational, and positive climate approaches. Psychological authority may also include features of personality such as congeniality, use of humor, and interpersonal skills. In Serviovanni's view, there were assumptions that the goals of management (administrators) and workers (teachers) are not the same. Thus, administrators engage in

barters or trades to motivate teachers to get them to do what they want.

With some overlap in principles, MacGregor's (1960) Theory X described an authoritarian management style with assumptions about low employee motivation. Such assumptions can result in low-trust relationships between management and work force. In the Theory X mindset, the use of tangible rewards is seen as a useful but coercive tool in managing workforces in organizations. There are some similar assumptions in Sergiovanni's (1992) characteristics of psychological sources of authority and MacGregor's Theory X. Psychological sources of authority are not considered expansive.

Professional Sources of Authority

Sergiovanni (1992) wrote that leaders using professional sources of authority recognize that context matters and that idiosyncratic teaching practices should be recognized and validated. Jacobs (1997) provided classroom teachers with great professional authority, and deemed them to be designers of curriculum. This is complicated professional work. Danielson (1996) codified the work of classroom teachers as professionals. She elaborated four domains and 22 components in contemporary professional teaching. A professional source of authority is realized through contextualizing expertise in actual classroom teaching practice. Professional sources of authority are considered expansive.

Moral Sources of Authority

Sergiovanni (1992) characterized moral sources of authority as being composed of shared values and collective commitments. He suggested that leaders in schools work

from these identified beliefs to create a school that is morally driven, one that is operating with professional virtue.

Wheatley (1999) proposed that leaders turn away from the bureaucratic, technical rational, and psychological precepts dominating organizational leadership paradigms since the advent of industrialism. Moral sources of authority suggest that leaders find ways to engage “individuals freely how to best interpret a few simple principles or patterns that are the heart of that system” (Wheatley, 2000, p. 7).

Rocky Mountain School District

The RMSD’s attendance boundaries were drawn around a mountain resort town. The school district consisted of four elementary schools, two middle schools, one high school, and one alternative high school. The District’s Board of Education had five members. Each was elected from a designated area to serve as a representative of that specific area. The Board of Education initiated the school district’s 1:1 laptop initiative by exercising its bureaucratic authority to authorize expenditures for personnel, networks, and laptops.

At the initiation of this study, the RMSD included a total assessed property valuation of roughly $14 billion. During the course of this study, and during the diffusion of its 1:1 laptop initiative, the District’s annual operating budget was approximately $45 million. Over 3 years, during the course of this research study, the Board of Education allocated approximately $9 million in capital funds to purchase computer hardware and network infrastructure. This significant capital allocation was exclusive of the initiative’s new personnel costs for network and instructional support staff.

One Apple laptop computer was distributed to each student over the course of 3 years: beginning with the middle school students one year, the junior high students the following, and the high school students in the third year. Approximately 2,500 students and 300 teachers and administrators received laptops over the course of a 3-year distribution. Also, to support and diffuse the 1:1 laptop initiative, the school district created network technician positions and three instructional technology coach positions.

Instructional Technology Coach

Concurrent with the adoption of the 1:1 laptop initiative the school district created three school-based coaching positions to provide regular classroom teachers with leadership and instructional support. The ITC positions were created to lead and support regular classroom teachers in maximizing student learning in high access, 1:1 laptop classrooms.

According to diffusion innovation theory, an ITC—a new educational leadership position—is an innovation. The addition of the ITC positions is an adoption of something new to the culture sharing group. In this case the ITC positions are new—an innovation—to the secondary classroom teachers and administrators in the RMSD.

High Access (to Internet) Teaching and Learning

For purposes of this dissertation, I have named the emerging and diffusing paradigm “high access teaching and learning.” This instructional paradigm is emerging as RMSD schools provide all students and teachers with laptops, learning management systems and in-school wireless access. High access refers to the affordances that digital

devices bring to classrooms and to the possibilities for engaged learning that come about when World Wide Web access is provided to all students. The RMSD high access paradigm includes ITCs and coaching, a learning management system, 1:1 laptop initiative, and wireless classroom access for the laptops.

Learning Management System

The RMSD adopted Instructure's Canvas learning management system for digital bulletin boards, electronic chat rooms, student assignments, assessments, discussions, and other e-collaborations. Digital learning management systems are digital courseware organizers used by teachers to communicate asynchronously with their students about the academic expectations of a class. The adoption of a learning management system stimulates new expectations for teachers in terms of increased parent access and curriculum transparency.

Diffusion of Innovations

Diffusion research provided contextual considerations for this study. Diffusion research stems from Rogers' (1995) four characteristics of the diffusion of innovations: the innovation itself, the dynamic of time in the spread of an innovation, the social systems in which the diffusion takes place, and the communications channels by which innovations spread.

Research Questions

What sources of authority for leadership are evidenced in the RMSD ITC's work? Are the participants aware of the sources of authority for leadership? Do they use these

sources of authority? What are coaches' observed or expressed sources of authority in the diffusion of high access teaching and learning? Specifically, does evidence of bureaucratic, psychological, technical-rational, professional or moral authority emerge through qualitative observation, interviews and archive review?

Conclusion

The purpose of this research study was to use a theory of leadership to examine the professional work of thee ITCs in the three secondary schools in the RMSD. This study was not about high access teaching and learning, diffusion of innovations, or instructional technology coaching. It is research and dissertation about the five theoretical sources of authority for leadership.

The study sought substantiation of bureaucratic, psychological, technical rational, professional, and moral sources of authority as evidence was found in the ITC' diffusion of high access teaching and learning. This study gathered qualitative data with participant observations; formal and informal interviews; and archival gathering and document review. Sergiovanni's (1992) theoretical framework was the tool of analysis to understand the sources of authority for leadership and instructional technology coach's diffusion of high access teaching and learning.

CHAPTER II

LITERATURE REVIEW

This literature review is organized into four sections: Theory, Context, Innovations, and Methodology (see Table 2).

In Section 1, Theory, the theoretical framework is a brief consideration of five sources of authority for leadership. Section 2, Context, briefly considers diffusion of innovations research characteristics; diffusion research established context for this study. Section 3 considers the two innovations present in the participants' schools: instructional technology coaching and high access teaching and learning. Finally, Section 4 considers methodological approaches—ethnography and case study.

Theory: Sources of Authority for Leadership

This study used Sergiovanni's (1992) theory of educational leadership, the five Sources of Authority in Moral Leadership: Getting to the Heart of School Improvement. Brandt (1992) described the energizing effects of Sergiovanni's work. This dissertation

Table 2

Sections in the Literature Review

Section	Description
Theory	Sources of authority for leadership
Context	The diffusion of innovations
Innovations	High access teaching and learning and instructional technology coaching
Methodology	Ethnography and case study

asserts that Sergiovanni's sources of authority for leadership are useful in analyzing and understanding the work ITC.

Leadership in schools matters (Waters et al., 2003). Sergiovanni (1992) asserted that there are five sources of authority for leadership: bureaucratic authority, technical-rational authority, psychological authority, professional authority, and moral authority. The five sources of authority are the primary tools for data analysis in this qualitative research study and subsequent dissertation. The next section reviews the characteristics of bureaucratic sources of authority for leadership.

Bureaucratic Sources of Authority for Leadership

Weber established the primary characteristics and notable features of bureaucratic leadership (Lemert, 1993). Officialdom, bureaucracy, and bureaucratic leadership are characterized by fixed jurisdictional areas; ordered by rules, laws, and regulations; marked by distributed official duties, distributed authority, and acceptance of coercive means. By Weber's conceptions, modern bureaucracy is also defined by regular activities, duties, responsibilities, and authority to give commands.

Today, in public schools bureaucratic authority may assume deficits in teachers' motives or abilities. A management imperative of "expect and inspect" (Sergiovanni, 1992, p. 36) may be used when bureaucratic sources of authority for leadership are employed.

Furthermore, classroom teachers should be purposefully trained and then expressly monitored for compliance with managerial/instructional mandates. In a

bureaucratic paradigm teachers' intentions and abilities are held suspect. An atmosphere of compliance is established with a need for continuous monitoring and enforcement: BA is management intensive. Bureaucratic sources of authority for leadership are built into the hierarchical and authoritarian structures of modern organizations, including public schools (Bolman & Deal, 2013). This source of leadership authority also represents second-wave industrial and scientific thinking (Dunleavy et al., 2007; Toffler, 1980).

Testing bureaucratic authority, Evan and Zelditch (1961) staged a clinical trial to separate the rational and legal components of bureaucratic authority. Their design was to see if good performance is necessary for a supervisor to claim legal bureaucratic authority. The study found that participants would not question a supervisor's right to expect obedience even though the supervisor had been proven incorrect in some decisions: The power of office is quite influential—it shapes the behavior of people in organizations.

The Evan and Zelditch (1961) study findings may be read to support Sergiovanni's (1992) assertions about the conformity functions of bureaucratic sources of leadership. Consequently, Sergiovanni asserted that using bureaucratic instructional leadership inspires conformity, but applications of bureaucratic authority are not conducive to expansive classroom teaching and learning.

There are 12 qualitative indicators of bureaucratic sources of authority from the sources of authority for leadership theoretical framework (see Table 3).

Table 3

Indicators of Bureaucratic Sources of Authority for Leadership

Indicator	Indicator	Indicator	Indicator
Subordinates	Hierarchy	Compliance	Mandates
Rules	Regulations	Boss	Monitor
Expect	Inspect	Compliance	Accountability

Psychological Sources of Authority for Leadership

A psychological source of authority for leadership is available to educators (Sergiovanni, 1992). Sergiovanni asserted that psychological sources of authority share bureaucratic authority's deficit and subtractive mindset.

Psychological sources of authority are marked by a belief in pay schemes and other external awards as motivators for people working in schools; these extrinsic morale boosters are popularly believed to be effective motivators. Kohn (1993) and Pink (2009) disputed the notion that using psychological sources of authority would lead to personal creativity or intrinsic motivation.

Congeniality and a leader's charismatic personality are also aspects of psychological sources of authority. A guiding principle of psychological sources of authority is "what gets rewarded gets done" (Sergiovanni, 1992, p. 36). Psychological sources of authority are also said to place limits on teachers' intrinsic motivation and classroom practices. From the theoretical framework there are 12 qualitative indicators of psychological sources of authority (see Table 4).

Table 4

Indicators of Psychological Sources of Authority for Leadership

Indicators	Indicators	Indicators	Indicators
Motivation	Human relations	Barter/trade	Meeting needs
Congeniality	Rewards	Interpersonal skills	Charisma
Positive climate	Congeniality	Humor	Tradeoff(s)

Technical Rational Sources of Authority for Leadership

Technical rational sources of authority assume that there is only one best method for teaching, as determined by educational science. Important decisions about teaching and learning are hierarchically determined in schools using technical rational sources of authority for leadership. Instructional practices are heavily biased by the formal organizational leaderships' endorsement of verified and replicated scientific evidence. Technical rational authority extends a deficit model about teachers' assumptions for students' learning. Technical rational authority is supervisory intensive, and promotes another expect-inspect model of instructional supervision.

Technical rational sources of authority are present in the Education Sciences Reform Act of 2002—the Congressional Act establishing the Institute of Education Sciences (IES, 2002). Technical rational authority—a form of logical positivism—prioritizes medical model, experimental, and quasi-experimental studies over teachers' authentic classroom experiences with students. Technical rational sources of authority insists upon the modern tenets of objectivity, validity, reliability, and generalizability. Thus, endorsements of effectiveness are only given to approaches based on valid and

reliable experimental data. Only objective scientific and quantifiable scientific evidence that has been gathered by experts is valued as impactful for classroom teaching and student learning. Technical rational authority discounts the contextualized expertise of the regular classroom teacher.

One illustration of technical rational sources of authority is Heifetz and Lynsky's (2002) presentation of a ballroom dance metaphor for schools. Considering change in organizations, they encourage leaders to get on the balcony, above the ballroom dance floor (the classroom), away from the intimate intricacies of the ball, in a position to gain broad perspectives. It is from this position on the balcony where technical rational authority is seated—that scientific observations can be made and this distanced platform provides an expert's stance. From Sergiovanni's (1992) theoretical framework there are 12 indicators of technical rational sources of authority (see Table 5).

Professional Sources of Authority for Leadership

Sergiovanni (1992) suggested that educational leaders move past 'follow me' leadership to deeper and more expansive sources of authority; he suggested practices exhibiting traits of professional authority as more profound sources of authority for leadership. Professional sources of authority are built upon the creation and continuation of professional learning community paradigms. Scientific knowledge informs teaching and learning, but it does not imperiously guide or drive classroom practices. Given leadership that recognizes professional authority teachers have considerable discretion over their work. They hold one another accountable for understanding and meeting

Table 5

Indicators of Technical Rational Sources of Authority for Leadership

Indicators	Indicators	Indicators	Indicators
Science or scientific	Logic	Best practice(s)	Research based
Technicians	Fidelity	Standards	Privileged
Inservice needs	Objective	Evidence	Need to change

shared norms and defined standards. Socialization builds this source of authority. Teaching and learning become expansive. Professional sources of authority for leadership respect teacher autonomy. It builds greater intrinsic motivation and compels classroom instruction that works for students' learning (Deci, Ryan, & Koestner, 1999).

Jacobs (1997) promoted professional sources of authority. She promoted classroom teachers working together to codesign the taught curriculum. Jacobs empowered teachers, deeming them curriculum designers. Through curriculum mappng, Jacobs' validated the importance of the total classroom context that can only be experienced and represented by teachers who are embedded in the situation. Likewise programs of peer cognitive coaching validate and promote classroom teachers professional authority (Costa, Garmston, Anderson, & Glickman, 2002). There are 12 qualitative indicators of professional authority from the sources of authority theory (see Table 6).

Moral Sources of Authority for Leadership

Sergiovanni (1992) asserted that bureaucratic, psychological, and technical rational sources of authority proposed that "what gets rewarded gets done"; contrast that

Table 6

Indicators of Professional Sources of Authority for Leadership

Indicators	Indicators	Indicators
Informal craft knowledge	Contextual knowledge	Professional values
Internal expertise	Idiosyncratic practices	Knowledge in practice
Data informed	Internalized values	Personal expertise
Professional discretion	Dialogue	Common values

with moral sources of authority for leadership— “What is good gets done” (p. 37).

Moral authority operates on the basis of shared vision, values, ideas, ideals and goals. Moral sources of authority for leadership are not subservient to traditional institutional or legal-based hierarchies. Moral authority is an opportunity for educational leaders to identify substitutes for more traditional bureaucratic, technical rational, and psychological sources of authority for leadership. Moral authority seeks a stimulation of professional learning communities on the basis of moral vision, in effect making formalized bureaucratic leadership secondary or perhaps even unnecessary. Bureaucratic, interpersonal, or logical-positivistic scientific sources of authority are enhanced or even replaced by self-sustaining norms of collegiality, professionalism, and community. There are 15 qualitative indicators of moral sources of authority for leadership (see Table 7).

This concludes the literature review of the study’s theoretical framework, the sources of authority for leadership. The next section is a brief review of an academic context selected for this study—Rogers (1995) Diffusion of Innovations.

Table 7

Indicators of Moral Sources of Authority for Leadership

Indicators	Indicators	Indicators
Felt or shared obligation(s)	Community values	Ideals
Beliefs	Right and good	Collective commitments
Interdependence	Shared duties	Shared obligations
Professional community	Learning community	Moral and collective
Community values	Morally driven	Professional virtue

Context: Diffusion of Innovation

Diffusion theory explains and predicts the spread of innovations. Diffusion research examines the spread of new ideas and technologies. Diffusion research defines the characteristics of innovation—how innovations become adopted by groups of people over time, through communications channels, within social systems (Rogers, 1995).

Diffusion research provides an additional academic context for this qualitative research study and subsequent dissertation. This research study is contextualized by the elements of diffusion theory. Rogers (1995) drew on a half century of diffusion studies. He identified four elements found across a wide variety of professional fields: the innovation itself, the dynamic of time, the social systems inhabited by people, and the communications channels utilized in the spread of new ideas. Rogers concluded that the diffusion of innovations, regardless of the professional field, can always be characterized and defined by these four elements of diffusion.

This research and dissertation is not a diffusion study *per se*. But diffusion research tenets provide additional academic context for considering the RMSD's ITC's

sources of authority for leadership. The first characteristic of diffusion research is the innovation itself.

Characteristics of an Innovation

Any idea or object is an innovation if it is new to people in a given social context (Rogers, 1995). An innovation is often associated with technological developments (i.e., hybrid seeds in agriculture, healthy lifestyles in rural villages, or high access teaching and learning).

Diffusion research tells us that a field of potential client adopters face uncertainty. People may be content with current practices and reluctant to accept the uncertainty that accompanies change. Adopters consider and balance these uncertainties with the opportunities or advantages that may accompany innovation. Innovations may typically consist of both hardware and software components.

Of particular importance to this study is Roger's (1995) assertion, "In reality, a set of innovations diffusing at about the same time in a system are interdependent" (p. 15). The school district's changing paradigm includes adopting two innovations: high access teaching and learning and school positions for instructional technology coach(ing). The two innovations are in tandem, interdependent, and concurrent in their diffusion. There are two diffusing innovations in this qualitative research study: high internet access teaching and learning and instructional technology coaching.

The five important characteristics of innovations are relative advantage, compatibility, complexity, trialability, and observability (Rogers, 1995). These characteristics represent the uncertainties and opportunities presented by changes for

potential adopters. These characteristics are attributive to the potential rate of adoption of an innovation.

An innovation's relative advantage may be economic or may be derived from it's the convenience or social prestige that is offered. The key is an adopter's perceptions of advantage.

The boundaries of compatibility are defined by the norms and values of potential adopters' social systems. Complexity matters. Simpler ideas and innovations are adopted more readily than those that are more complex.

The trialability of an innovation refers to an adopter's ability to try the innovation and experience its effects and outcomes. Trialability also refers to the degree to which an innovation may be put into partial or experimental use.

Finally, innovations are more readily adopted when potential adopters can see the results of its use—observability. Clusters of adoption often result when the outcomes of an innovation are easily seen. An innovation is more likely to spread when the outcomes of an innovation are easily seen.

High access teaching and instructional coaching are the two particular innovations that are highlighted in this study. I will consider these two topics in more depth in the third and fourth sections of this literature review. The next characteristic of diffusion research is communications channels.

Communications Channels

Communications channels may be mass media or interpersonal in nature (Rogers, 1995). The content knowledge of an Innovation flows through these channels. Mass

media effectively provide clients with knowledge of innovations, but interpersonal channels more effectively influence the diffusion and adoption of innovations. Heterophily is a diffusion term that expresses the differences in the knowledge, understanding, and attitudes individuals have about an Innovation. These differences in knowledge provide one of the conditions necessary for an innovation to diffuse. The level of effectiveness of diffusion correlates with the degree of homophily (similarity in knowledge) that exists between a change agent and a potential adopter. For diffusion to take place some degree of heterophily must exist.

Heterophily and homophily set up an interesting paradox: adopters must have enough in common with innovators to establish a healthy interpersonal communication channel. However, an innovator cannot have too much in common with a potential adopter, especially in regard to the Innovation, or the innovator cannot provide new information to the potential adopter. Next, time is the third element in diffusion research.

Element of Time

Time is the variable used in diffusion studies to plot the rate of users' adoption of an innovation. A typical S-curve of adoption emerges in diffusion scenarios—an acceleration of users' adoptions taking place with the passing of time. Adopters of innovations sequentially pass through five temporal stages: knowledge, persuasion, decision, implementation, and confirmation.

There is a second function of time in diffusion studies—it is used in the measure of the relative innovativeness of an individual. Similarly, Rogers (1995) presented a roles spectrum of adopters over time: innovators, early adopters, early majority, late majority,

and laggards. These five categories name the relative point of adoption of an Innovation by an individual.

Rogers (1995) asserted a third temporal function in diffusion studies—time is one variable used to map the number of adopting individuals within a system during a given period. So the x-axis marks even increments of time on a quadrant; the y-axis marks the number or percent of adoptions within a given community. Graphing this rate of adoption often reveals the distinctive S-curve that marks the diffusion of an Innovation.

To summarize, “Time is involved in diffusion in (1) the innovation-decision process, (2) innovativeness, and (3) an innovation’s rate of adoption” (Rogers, 1995, p. 36). The fourth characteristic of diffusion research is a social system.

A Social System

A social system is defined by membership in a community. This membership may be either localized or dispersed (Rogers, 1995). A social system includes social structures and communications structures—variables in the flow of ideas in a diffusion process. These structures help to define the norms of a social system.

Opinion leaders and change agents operate within the boundaries of a social system. Opinion leaders carry informal mantles of respectability within a social system; change agents occupy appointed and formalized roles; they serve as proponents of an innovation on behalf of a change agency. Further describing these types of adopters (Zhou, 2008) proposed voluntary adopters, forced adopters, resistant nonadopters, and dormant nonadopters.

Three types of decisions are found within and influenced by social systems:

optional innovation decisions, collective innovation decisions, and authority innovation decisions. Optional innovation decisions are made at the individual's discretionary level. Collective innovation decisions provide individuals a spectrum of choices for compliance with an innovation adoption. Authority innovation decisions leave no option for an individual's adoption of an innovation. Though authority innovation decisions are often marked by the rapid adoption of an idea this type of innovation decision is more likely to be circumvented by individuals during its implementation. The RMSD's high access initiative is an authority innovation decision.

Innovations

An idea, a practice, or a technology is considered an innovation if it is new to a group of people. There are two innovations present and highlighted in this research study: High access teaching and learning and instructional coaching.

High access teaching and learning is the selected name for an emerging paradigm. High access teaching and learning is found when students in schools are provided personalized wireless access and use of an internet connected laptop. Instructional technology coach(ing) is the second innovation present in this research study. Instructional technology coaching is diffusing concurrently with high access teaching and learning in the RMSD. These two innovations—new developments in the RMSD—are specifically presented in the third and fourth sections of this literature review.

For the purpose of this study and literature review, two innovations form the topical boundaries for this research study and dissertation. The first innovation is high access teaching and learning—still emergent in public schools today.

Instructional (technology) coaching is the second innovation created in the RMSD. A supportive action, the creation of instructional technology coach positions is concurrent with the introduction of laptops, learning management systems, and Internet access—these are some of the components of the diffusing high access teaching and learning paradigm. Instructional coaching is an accompanying professional development function in the diffusion of high access teaching and learning.

Innovation: High Internet Access Teaching and Learning

Definitions of high access teaching and learning are emerging. Dialogues of economic and political values share consideration with social and educational values at the policy level. Two recent documents represent the current policy discussion: *Digital Learning Now!* and *Transforming American Education*.

Former state Governors Jeb Bush and Bob Wise are chairs of the foundation that released the report titled *Digital Learning Now!* (Foundation for Excellence in Innovation, 2010). The foundation's members are appointed bureaucrats or elected public officials, private education entrepreneurs, and national philanthropic officers.

The report targets legislators and other political leaders, promoting 10 policy directions for high access teaching and learning: student eligibility, student access, personalized learning, advancement, digital content, instruction, providers, assessment and accountability, funding, and delivery. The report's policy optimistically asserted that instructional technology promised greater educational outcomes for more students while decreasing education spending

Transforming American Education: Learning Powered by Technology is the United States Department of Education's National Education Technology Plan ([NETP]; U.S. Department of Education, 2010). NETP provided definitions and policy direction. NETP's technical working group consisted of representatives from university and state departments of education. NETP cited President Obama's two broad national goals to increase the percentage of Americans with post high school credentials, and to decrease the racial achievement gap measured by standardized tests.

The NETP is further organized around five broad goal areas: (a) learning: engage and empower; (b) assessment: measure what matters; (c) teaching: prepare and connect; (d) infrastructure: access and enable; and (e) productivity: redesign and transform. NETP asserted the use of educational technology as a strategy to cap education spending.

Neither one of these policy documents used the expertise of practicing school administrators or classroom teachers. Educators were not included in the writing of these two reports. But both reports provide educators with a general set of expectations, roles, and responsibilities for high access teaching and learning.

Innovation: Instructional Technology Coaching

The work of instructional technology coaches is situated in the broader field of instructional coaching. Improving teacher quality through meaningful professional development is one major rationale for the practice of instructional coaching (Showers & Joyce, 1996). Instructional coaching is quite diverse in its applications. This professional development strategy has gained popularity during the past several decades. This is

reflected by its name and its various forms or purposes: peer coaching, challenge coaching, technical coaching, team coaching, collegial coaching, and cognitive coaching (Galbraith & Anstrom, 1995; Showers & Joyce, 1996; Wong & Nicotera, 2003).

ISTE Standards—Coaches (International Society for Technology in Education, 2011) lists six standards for instructional technology coaches. These standards are: (a) leadership; teaching, learning, and assessments; (b) digital age learning environments; (c) professional development and program evaluation; (d) digital citizenship; (e) content knowledge, and (f) professional growth. The ISTE standards firmly place leadership expectations at the forefront of ITCs' professional practice. These professional standards frame and situate instructional technology coach(ing) as technical coaching.

Killion (2007) asserted a leadership role for instructional coaches, "Support helps school-based coaches transition from teacher of students to leaders of teacher learning" (p. 11). This article made specific recommendations about the nested levels of support for instructional coaches, including the roles and expectations of national and state organizations, school district, and school level supports. Like the ISTE Standards, the author asserted a leadership expectation for coaches: specifically leadership for change—such as the paradigmatic transformations implied by high access teaching and learning.

The Consortium for Policy Research conducted a formative program evaluation of peer coaching practices designed to support the literacy workshops model utilized in America's Choice Schools (Poglinco et al., 2003). They reported, "The America's Choice model also implicitly expects the coach to have leadership, communication, and facilitation skills" (p. 10). The America's Choice study recommended technical rational

and psychological sources of authority for leadership. It is important to note that some of the instructional coaching literature—but not all—implies leadership in schools.

This concludes this section's review of diffusion of innovations. Next, a review of the qualitative research paradigms employed for this study. This study used the tools and techniques found in ethnography and case study.

Methodology: Ethnography and Case Study

This research study was conceived, planned, and conducted with ethnographic intent. But the subsequent dissertation is not ethnography. The tools and approaches of case study research were also used in this qualitative research. From selected literature, each methodology is considered in brief review.

Ethnography

Ethnography "is an inquiry process carried out by human beings and guided by a point of view that derives from experience in the research setting" (Wolcott, 1997, p. 158). Or it entails "a family of methods involving direct and sustained social contact with agents, and of richly writing up the encounter" (Willis & Trondman, 2002, p. 394) Ethnography tends to theory and respectfully represents culture. There is a necessary reflexive relationship between field research and written accounts.

"Ethnography should be considered a deliberate inquiry process guided by a point of view" Erickson (1984, p. 1). Wolcott (2009) exhorted researchers to write up their accounts concurrent with fieldwork, not waiting until after the time in the situation has ended. Ethnographers may enter their settings with explicit questions and a theoretical

point of view, but these starting points will likely adapt during the course of a study.

Yon (2003) traced the field from its anthropological roots into a period of consolidation in the 1960s, an era marked by a turn away from former detached scientific studies of faraway or exotic cultures and toward the emergence of a cultural anthropologic stance. This development led to ethnographies that are specific to the anthropology of education. Much contemporary educational ethnography maintains interest in marginalized people—Blacks, Hispanics, immigrants, the poor—as opposed to mainstream White and middle-class populations in America.

Educational ethnography began to tend toward goals of effecting positive change as one of its anticipated outcomes, “ethical engagement” (Yon, 2003, p. 415). This era is also marked by an attachment to government funding to assist in effecting social changes.

Decades later, Foley (1994) and Valenzuela (1999) described confessional, intertextual, and theoretical forms of authorial reflexivity, “The job of an ethnographer remains to produce as objective and authoritative account as possible of the cultural practices of people and sociologists” (Valenzuela, 1999, p. 147). Ethnographers must be reflective and reflexive, constantly attending to the textual power embedded in the relationships between etic perspectives (self) and the emic points of view (the other).

This iteration of methodological stance completes ethnography’s turn away from conceptions of detached objectivity—pure scientific research—toward an immersed model, one that proposes contextualized and integrated perspectives, or qualitative research as methodology that openly recognizes the integrated relationship between the researcher and the setting.

Educational ethnography describes the work worlds of educators. Wolcott (2003) closely followed elementary principal Ed Bell at school, in the community, and at home for 2 years. Wolcott's studies resulted in a close and thick description of the participant's lived situation as experienced and narrated by the ethnographer. Marx (2004) shed light on subsurface racism, preconceptions, and prejudices possessed by White privileged teachers in a primarily Latino school. Foley (1994) peeled back a small Texas town's culture to reveal its underlying structures of racism. Valenzuela (1999) followed students in Houston classrooms to discover subtractive educational stances disabling to English language learners.

Educational ethnography has evolved from its classical anthropological roots. Its forms have grown from disproportionate (researcher/researched) power relationships while "studying down" toward a participative ethos of action research and formative evaluation—"studying side by side" (Erickson, 2011). No longer do ethnographic projects steadfastly assume objective participant/observer stances. The traditional cloaks of observer neutrality once worn by researchers have been replaced by involved obligations of reciprocity and respectful responsiveness to participants.

Qualitative researchers have attempted to delineate the characteristics of ethnography. Creswell (1998) included attention to culture as expressed by a culture-sharing group. Holistic fieldwork leads to functions and interpretations of the culture-sharing group—composed of key informants who provide researchers with lead contacts to other participants. Ethnographers consider and balance the emic (informants') perspective with their own etic (ethnographers') viewpoints.

Wolcott (1987) discussed the characteristics of good educational ethnography: essentially descriptive and holistically conducted in a natural setting. An intimate, long-term relationship is established between the researcher and the participants in the study. Most importantly, based on firsthand experience, ethnography is comparative, cross-cultural, and holistic—this is the essence of ethnography.

Case Study

Yin (1994) provided that a case study is empirical inquiry into a contemporary phenomenon. He asserted that case study is appropriate for examining complex social situations. Researchers conducting case studies use typical qualitative methods: gather archive documents, conduct interviews, and make observations. These three types of data collection are typical for many qualitative research endeavors.

Creswell (1998) established the definition of a “case” as the events, or the programs, activities, or individuals. Case studies may be exploratory or descriptive in nature. This suggests that case study research can be used in a variety of settings with intended effect.

Bassey (2004) conceived genres of case studies including research that seeks or tests theories, and academic works that tell a story or draw a picture. Theory-based case studies of general issues—such as leadership—furnish propositions and generalizations. Storytelling case studies provide readers with narrative descriptions about projects, programs, systems, or events. Case study may be used to explore and describe social situations, including the instructional leadership capacities of instructional technology coaches.

Stake (2005) established responsibilities for qualitative case study researchers. These responsibilities include the need to establish and contextualize the particular case; to seek coherent patterns in data; and to develop findings based on study of the case. Case study researchers may or may not invest strongly in developing thematic narratives.

Methodology: Conclusion

Case study is empirical inquiry that uses typical qualitative methods. It may be exploratory or descriptive, but case study research does not necessarily emphasize richness in narrative. Ethnography is similar to case study in researchers' use of tools and data-gathering techniques. Ethnographies do emphasize embedded exploration of culture sharing groups, rich and thick descriptions. Both methodologies are represented in this research study and subsequent dissertation.

Case Study Research

Table 8 lists eight indicators of the principles and practices of case study (Creswell, 1998, pp. 148-149). These eight indicators are representative of the methodological framework of this research study and dissertation.

Ethnographic Intent

Table 9 presents eight characteristics of ethnographic intent (Wolcott, 1997). These eight characteristics of ethnography are representative of the methodological commitments made in the conduct of this research study.

The methodology for this study was framed by the characteristics, principles, and practices of ethnography and case study research.

Table 8

Characteristics of Case Study Research

Characteristics	Characteristics
System of organizing data files	Reviewing and coding text and/or data
Establish case and context	Categorical aggregation
Tables represent data	Direct interpretation
Naturalistic generalization	Narrative supported by tables

Table 9

Characteristics of Ethnography

Characteristics	Characteristics
Participant observation	Interviewing
Illustrative of culture sharing group	Embedded, trustworthy
Researcher as research instrument	Process of inquiry
Multiple sources of data	Documents, archive collection

CHAPTER III

METHODOLOGY

The purpose of this study was to examine three ITC's sources of authority for leadership in the diffusion of high access teaching and learning. The study was conducted in three secondary schools in the RMSD. This research was initially conceived as educational ethnography, though it is now best expressed as a qualitative case study.

I was the sole investigator conducting qualitative ethnographic fieldwork in the RMSD. Three ITCs were purposefully selected for participation in this research (Creswell, 1998; Glesne, 2006). The study commenced in August 2011. Data collection concluded in June 2013. Table 10 illustrates the type of data gathered from each participant during the course of the study.

For this study's fieldwork I employed three classical qualitative methods (Creswell, 1998; Glesne, 2006; Whitehead, 2005). Utilizing observations, interviews, and archive collection and review I sought qualitative evidence of the five sources of authority for leadership. Tables 10 and 11 summarize the basic qualitative research methods employed in this study.

Table 10

Participants and Data Gathering Approaches

Participant	Interviews	Observations	Archival documents
Mr. T	X	X	X
Mr. N	X	X	X
Ms. S	X	X	X

Table 11

Basic Qualitative Data-Gathering Techniques

Data Source	Description
Archives	Collected and reviewed school documents, calendars, and professional correspondence
Interviews	Conducted face to face, over the telephone, and e-mail interviews, formal and informal
Observations	Conducted in school meetings, school offices, and classrooms

Replicability is an important consideration in scholarly work (Smagorinsky, 2008). The purpose of the next three sections is to provide readers with a description of each of the three qualitative methods employed in the course of this research.

Participant Observation

Participant observation is frequently employed as a valuable qualitative data collection technique. For example, Foley (1994), Willis (1977), and Wolcott (2003) spent a great deal of time interacting with and observing their participants. Consequently, Wolcott published a revealing educational ethnography portraying a “typical” elementary school principal’s professional life in small-town western U.S. Willis accounted for the cultural reproduction found in the schooling of working class male youth in West Midlands, U.K. Foley published a sociopolitical community treatise illuminating a Midwest public school system’s role in the reproduction of dominant-subordinate class structures. These three ethnographies illustrate the value of academic researchers’ use of participant observation. Participant observation is complex and multivariant in social

science research, including fieldwork in schools. Gold (1958) presented a spectrum of observer roles, including the participant as *observer* and the *observer as participant*. Spradley (as cited in Whitehead, 2005) affirmed a research distinction between data gathered in an observer role and observations made in participant/observer role.

Roles

The strict observer role is one more distanced—one marked by removed observations and less participation. The participant/observer role represents greater levels of researcher immersion including participation in the events and activities of the research setting: the researcher's interests and activities expressly overlap and interchange with the study participants.

I frequently assumed variations along the spectrum of participant vs. observer roles. My role would often switch within an observation episode, dependent upon the setting and participants to the setting. Consequently, my intentions and attentions would shift between my scholarly interest—the student/researcher role—and my administrative imperative—an employee/administrator stance. This variance and recognition of roles is one facet of researcher reflexivity in this study.

My field notes, jottings, and memorandum are roughly spread between two notebooks: two thin "red district" graph paper notebooks and a thicker lined "black fieldwork" journal. On occasion, the field notes are verbatim snippets, jottings taken from conversation with participants and others. Some field notes are recorded in summary form, written during or after an episode. In addition to the notebooks I used a laptop word processor to jot scenarios, sketches, quotes and journal entries. I named and categorized

pages by the assumed names of participants: one word processor document for each instructional technology coach.

In the notebooks I sometimes utilized an emic/etic graphic organizer—a t-chart—for note taking. This organizer provided me with selectivity about recording participants' perspectives and thoughts along with my own reflections, commentary and analysis. Sometimes the setting and conversations would drive other sketches, diagrams, tables, or charts—products of my research in the observation settings.

Settings

The settings for my research were primarily in schools and in school meetings. Observations were conducted in the school meetings and the offices, libraries, auditoriums, and classrooms where coaches worked with teachers, students, and other educators.

School Meetings

I selected seven scheduled school and district meetings for observation and data collection. The seven venues afforded continuous opportunities to look for, witness, and comprehend the sources of authority for leadership. Table 12 illustrates the settings and locations for participant observations and data collection.

My fieldwork and observations took place in these seven settings. The next section provides descriptive ethnographic sketches of each of the settings where observations were conducted. The descriptive sketches are intended to serve as qualitative trustworthiness, verity that the observations were conducted in naturalistic

Table 12

Meetings and Locations for Participant Observation

Meetings	Locations	Frequency	Membership	Level of archive
1. RMHS professional development	RMHS library and lecture hall	Bimonthly	Department chairs / leaders	Some archives
2. RMHS tech comm. mtg.	RMHS science class	Bimonthly	Dept. reps	Archived
3. RMSD tech adv. comm.	District office, down	Monthly	District Instructional technology staff, instructional technology coaches, various school leaders	Highly archived
4. RMSD high access tech.	District office, down	Quarterly	Board, instructional technology staff, district/building leaders	Highly archived
5. RMSD administrators	District office, up	Bimonthly	District, and building administrators	Archived, agendas only
6. RMSD ed. tech. spec.	District office, down	Bimonthly	Education technology specialists, selected instructional technology coach	Highly archived
7. Classrooms	Mountain Jr. High and Hill Middle	Varied, infrequent	Classroom teachers	N.A.

settings. The table is also intended as a potential list of settings for consideration in future studies—a standard for replication in future studies of leadership in high access environments.

Rocky Mountain High School Professional Development Sessions

The Rocky Mountain High School (RMHS) scheduled bi-monthly “late-start” days (for students). These “late start” dates provided professional development time for the school’s teachers. Lasting a little over an hour, the late start dates often revolved

around the use of Canvas—the district's selected learning management system. A variety of other internet resources also provided learning content for the sessions.

Late starts were held before school in the school's library or lecture hall. The proceedings included strategies, tips, techniques and approaches for teaching in a high access environment (1 student:1 laptop). Mr. N—the RMHS's ITC—would often facilitate. Mr. N was an intellectual, a divinity student and constant scholar of philosophy, pedagogy, and technology. He coached the school's academic decathlon team. Mr. N utilized his professional learning time with the RHMS teachers to model interactive models of instruction—ways for students using laptop computers to learn via emerging platforms like Canvas, Prezi, and Google Drive.

Reflexively, as the principal of RMSD's Alternative High School, I attended all these professional development sessions. My research interests were often in the foreground. Other times I would attend to business in the sessions as a principal with interests for my school, teachers, and students.

Rocky Mountain High School Technology Committee

The RMHS technology committee—a second repeating observation venue—was scheduled once or twice a month during the school year. The committee's constituency consisted of departmental representation—volunteer representatives from the departments of English, math, social studies, and so forth.

Mr. N would always attend—and sometimes facilitate or cofacilitate these meetings with the school's education technology specialist. The RMHS technology

committee was comprised of elected, selected, or volunteer teachers who would meet after school once or twice a month in a high school science classroom. The purpose of the meetings was to deliberate on and communicate about the planning of forthcoming technology systems for teaching and learning.

My participant/observer opportunities were primarily in the 2011-2012 school year. The majority of the discussions were around the planning details selecting the type of digital device for all students in the 2012-2013 school year. The committee bartered, debated, deliberated, and discussed pertinent issues while also serving as an information conduit—a communications channel.

Educators' ideas could flow from the RMHS faculty toward the committee (planners). This committee also served as venue where the planners could provide information and details back to the high school faculty.

Rocky Mountain School District
Technology Advisory Committee

In a third venue—the district's technology advisory committee (TAC)—I usually entered the setting as an observer, maintaining an observer's stance for the course of the convening. The TAC typically met bimonthly. Its membership consisted of district information technology staff, the curriculum director, the three instructional technology coaches, and occasional special guests.

The TAC's purpose was to provide a venue for interactions about high access teaching and learning and the technical network, hardware, and firmware support that would be needed for the high access paradigm to exist for students and teachers.

I was given the opportunity to openly announce my research intentions at the committee's first meeting. Thereafter it was understood that I was doing doctoral fieldwork and research. On occasion I attended as a district or school administrator. I was mostly able to establish and maintain an observer role, without job-related administrative interest in the topics and discussions.

Rocky Mountain School District High Access to Technology Committee

In a fourth venue I observed, took notes, and participated in an ongoing district committee known as High Access to Technology (HAT). HAT met less frequently, four to six times during the 2011-2012 and 2012-2013 school years. This committee's stated purpose and mission was more global or visionary. Its constituency included one school board member, seemingly empowered with bureaucratic authority and influence.

Rocky Mountain School District Bimonthly Administrator Meetings

In this fifth setting my role was constantly as a participant/observer. I was expected to be an active participant in discussions with all building principals and superintendent, district administrators, directors, and coordinators. I would take field notes and jottings—intended for research—whenever discussions involved the work of the school district's instructional technology coaches.

Rocky Mountain School District Education Technology Specialists' Meetings

In addition to the job positions of the ITC, the RMSD also employed education

technology specialists (ETS). The two people in the positions work as a team at their respective schools. Monthly, prior to the TAC, all of the ETS met as a group.

Mr. T often planned agendas with the curriculum director and led discussions at the meetings. These meetings were held bimonthly at the school district office. The education technology specialists' meetings offered opportunities for ITCs to interface with district office information technology staff. The meetings were very organized, with an agenda published prior to the meetings. The meeting's notes were explicit and are highly archived. I attended these meetings as and a doctoral student conducting qualitative fieldwork and formal observations.

Classroom Observations

I had two opportunities to sit in classrooms when ITCs worked directly with teachers or students, and one opportunity to sit in on a collegial or coaching consultation scheduled between a coach and a teacher. I was not a participant in any of these situations, strictly present in my academic fieldwork capacity.

In the course of the study I visited two classrooms when ITCs were having direct interactions with students. One was a very brief segment at Mountain Jr. High; Mr. T was concluding his comments to a small group of ESL students as I arrived in the room.

A second extended observation took place at Hill Middle School, sixth-grade social studies. Ms. S was providing direct instruction on use of google mapping tools. Her instruction was supporting a larger presentation project that Mr. S—the sixth-grade teacher—had designed for his students. This secondary school classroom setting offered me the opportunity for me to assume the "pure" researcher/observer role.

One opportunity presented itself as a scheduled instructional conference with Mr. N and a high school physical education colleague. This session was a highly engaged and informal dialogue between two passionate educators. Their conversation was free flowing, but based on a list of “needs” that the P.E. teacher had jotted prior to the meeting.

In summary, seven settings offered me opportunities for participant/observation or observation during the course of my research. During the course of my fieldwork, I also gathered qualitative data from interviews, which will be described next.

Participant Interviews

Through interviews and open-ended conversations, Willis (1977) learned a great deal about the attitudes, behavior, and thinking of the lads in his school study. Likewise, Valenzuela (1999), working in a large urban high school, incorporated analytical conversational techniques into her ethnography to reveal the previously unseen subtractive tendencies of contemporary school cultures for nondominant ethnicity students. I too made use of structured interviews and informal conversations to explore the professional experiences of study participants.

Formal and Structured

The study primarily employed four formal interview tools to gather qualitative data about sources of authority for leadership in coaches’ diffusion of high access teaching and learning. Each interview tool is listed in Table 13 in the first column. The second column summarizes the interviews’ purpose, and the third column is a brief description of the tool’s function and nature.

Table 13

Purpose and Description of Interviews

Interview	Purpose	Description
Educator innovator questionnaire	Self-assessment of coach innovativeness	Questionnaire
Diffusion characteristics interview	Provide reciprocity	Scripted formal interview
Sources of authority interview	Dialogue—sources of authority for leadership	Scripted formal interview

During the interviews, I would bring my laptop, usually creating .wav recordings using Apple Garage Band. For some interviews I would jot key thoughts, dialogues and phrases while talking with the interviewee. On occasion I would write freehand in my research study field book or use a graphic organizer to jot down important notes. My interview notes were taken into one word processor file for each study participant. I organized my interview notes, designating one document for each participant.

The next section provides a brief description of each of the four interviews in order—biography interview; innovator indicator questionnaire; diffusion characteristics interview; and sources of authority interview. For future research replication the tools are included in this paper's Appendix.

Biography Interview

The three biography interviews were conducted in scheduled face-to-face appointments with each of the instructional technology coaches. The interviews often yielded free-ranging conversations that were recorded in Apple Garage Band on my laptop for subsequent review and analysis. During the biography interviews, I would

sometimes scribe notes on my laptop, adding my own text to the coaches' transcript.

The point of the biography interview protocol was to build reciprocity and to establish the four participants' professional histories leading to their current position. The interview turned out to be an excellent vehicle for establishing reciprocity and rapport. The biography interview protocol turned out to be a springboard for conversations about the recent history and future developments of high access teaching and learning in the RMSD.

Education Innovator Questionnaire

This is a brief six-item questionnaire was adopted from Rogers' (1995) diffusion work around categories of adopters. The instrument asks participants to compare their own attitudes with the perceived attitudes of peers, classroom teachers. In general, the innovation questionnaire indicates a respondents' level of innovativeness. It includes perceptions of innovativeness regarding popular educator media consumption, willingness to utilize peer networks about teaching and technology, aversion or acceptance of risk, and the use of new ideas.

The tool could be used in future research to statistically compare groups of respondents and their levels of innovativeness. The questionnaire would need to be rewritten and constructed as a 5-point Likert response scale instrument.

Characteristics of Diffusion Interview

The interview is arranged around the four characteristics of diffusion: the innovation itself, the social networks inherent, the communications channels employed

by people, and the dynamic influence of time.

The intent of the diffusion interview protocol is twofold. First, it was used to explore participants' leadership in high access teaching and learning through an applied professional conversation. Second, the diffusion interview was used to help make the participants better aware of the context of diffusion. The interview provided coaches with opportunities for reflective practice. It surfaced how diffusion concepts may have an effect on instructional coaching practice.

The interviews were typically scheduled appointments. They were held at convenient times during the school day. I would provide a printed copy of the interview protocol to the coach. I either recorded the interview on the laptop in GarageBand for later review and analysis, or I typed laptop notes, key phrases and verbatim quotes as we were speaking. The conversations around the diffusion concepts were often far-ranging. Our discussions would become divergent or open-ended, not necessarily bounded within the contexts of diffusion or sources of authority for leadership theories.

Sources of Authority for Leadership Interview

The sources of authority interview is a series of dialogue prompts. The prompts are taken from the five theoretical sources of authority for leadership. The interviews were recorded for review and analysis. Laptop notes were taken as well.

The point of this interview was to gather participants' understanding of the sources of authority for leadership. From this interview one is able to glean a sense of a particular coaches' awareness and/or use of the various sources of authority for

leadership. The sources of authority interview built rapport with study participants. It also provided reciprocity opportunities through the conversations stimulated by the interview.

Many times during this interview I noticed that I would switch back and forth between a researcher role (observer) and a collegial role (participant/observer). I was mindful to mark aspects of the conversations with distinctions of participant versus participant/observer perspectives. The interviews often led to reflective conversations about particular situations. Sometimes the theory of the sources of authority for leadership helped a coach to better understand a professional work situation—instances of fruitful reciprocity.

Informal and Unstructured Conversations

In addition to formal interviews, my understanding of sources of authority and ITCs was built in informal conversational settings.

Spradley (as cited in Whitehead, 2005) recognized that interviews may take three shapes: descriptive, semistructured, or structured. Often my visits with coaches fell into the descriptive interview domain—we engaged in roaming conversations that strayed from personal to family to professional. Many example questions were asked. These are clarifications of ideas when one or the other—coach or ethnographer—would provide examples to try and clarify conceptions of high access or instructional coaching. Our interactions were unstructured and conversational. I captured these after the fact in sketches or jottings in my field notebooks.

Archive Review

I reviewed a wide variety of print and multimedia materials that were collected including committee agendas and minutes, photographs, e-mail correspondence, work calendars, and professional development materials. I obtained access to these materials during the course of our fieldwork interactions and by direct request of the instructional technology coaches.

Committee Agendas and Minutes

Committee agendas and minutes provided me with a robust archival well of written records for analysis of the five sources of authority for leadership. Sometimes observations allowed me to contextualize and verify what was actually observed in a setting with what was written in the agendas and minutes. On other occasions the agendas were reviewed as stand-alone documents without the benefit of the context provided by first-hand observation.

Photographs

During the course of this research study, I took snapshots—digital photos to capture the school environments of the participants. A whiteboard snapshot in Ms. M's room shows our collaborative report of her work year. Pictures of Mr. T's office space at Mountain Junior High illustrate his interest in all things Apple® as well as his consummate consumption of popular culture and digital representations.

This library of photos has proven to be a useful archive when reflecting on the settings of interviews and observations. The photographs jog my recollection of the

nature of the observation or interview. The photos are digital archived representations of what was experienced, what was said, and the dates and times of these experiences.

E-mail Correspondence

I have archived all of my dissertation correspondence in a folder on a secure password protected laptop. This folder includes my academic, professional, and practitioner correspondence as well as my correspondence with direct and indirect participants in my study. Such is the constitution of the e-mail database compiled during the course of this study. The e-mail was reviewed during the course of the write-up of this dissertation. E-mail correspondence was subject to the same analysis for indicators of sources of authority for leadership.

Professional Calendars

The work of instructional coaches is revealed in the calendars they keep. The calendars showed the events and activities that the coaches' scheduled, as well as the appointments and functions that others in the school district scheduled for them. Two of the RMSD coaches utilized a digital online calendar. They managed their own calendar appointments.

In this study, I utilized the online calendar as an archived source of data. With one participant, we used a shared workplace calendar to look ahead to planned events, look back at activities past, and reflect on the sequence and meaning of this calendar of events.

With Ms. M I conducted a coded analysis of her work calendar—a digital calendar. We read her online work calendar from the start of the year until the middle of a

school year. Together on a large classroom whiteboard we constructed a concept map illustrating the categories and patterns of professional relationships and work functions.

The whiteboard calendar concept map confirmed the categories of work types and settings that had emerged in my observations. Qualitative observations and the whiteboard concept map compared positively—the whiteboard concept map revealed many of the same settings and professional interactions. It verified the locations of the data gathered through observation fieldwork.

A review of work calendars can reveal patterns of work functions and professional relationships. In my case, the work calendar review helped me to better understand what it is that ITCs do. In terms of reciprocity, the work calendar review provided us with a meaningful opportunity to collaborate through reflection. We then generated useful time-management strategies for planning professional development events and ideas for supporting classroom teachers in improving high access teaching and learning.

Web-Based Archives

ITCs often prepare digital and print materials for meetings and professional development sessions. The materials were either provided to me by the coaches, or I found them available in the RMSD digital archives. Such web compendiums provided useful data for considering coaches' sources of authority for leadership.

Data Coding and Analysis

Three types of qualitative data were compiled for coding and analysis in this

study: digital and printed professional work archives, recordings and transcripts of interviews, and observation notes and ethnographic sketches. In summary, the gathered data for review consists of work archives, interview transcripts and observation notes. The data were gathered during the course of the study at three RMSD schools and the school district office.

For data coding and analysis, I employed the principles and practices found in Sergiovanni's (1992) *Moral Leadership: Getting to the Heart of School Improvement*. Specifically, I used the five theoretical sources of authority for leadership as the theoretical lens to examine the collected data.

For analysis, I selected key concepts and phrases from the theory as linguistic indicators of each source of authority. The key concepts and phrases were used to filter and code the archival, interview, and observation data. The key concepts and phrases were used as academic filters, leading me to conclusions about ITCs and their sources of authority for leadership.

The gathered evidence was coded and labeled as representative of bureaucratic, psychological, technical rational, professional, or moral sources of authority for leadership. The next sections list the key concepts and phrases that were used for data analysis.

Bureaucratic Sources of Authority for Leadership

Sergiovanni (1992) provided key phrases and concepts indicative of bureaucratic sources of authority. These phrases and concepts were used for analysis of the interview,

observation, and archival data. These concepts and phrases were used to filter and code the gathered qualitative data as indicative of bureaucratic sources of authority (see Table 14).

Psychological Sources of Authority for Leadership

Sergiovanni (1992) provided key phrases and concepts indicative of psychological sources of authority. These phrases and concepts were used for analysis of the interview, observation, and archival data. These concepts and phrases were used to filter and code the gathered evidence as indicative of psychological sources of authority (see Table 15).

Technical Rational Sources of Authority for Leadership

Sergiovanni (1992) provided key phrases and concepts indicative of technical rational sources of authority. These phrases and concepts were used for analysis of the interview, observation, and archival data. These concepts and phrases were used to filter and code the gathered evidence as indicative of technical rational sources of authority (see Table 16).

Table 14

Codes for Bureaucratic Sources of Authority for Leadership

Codes	Codes	Codes	Codes
Subordinates	Hierarchy	Compliance	Mandates
Rules	Regulations	Boss	Monitor
Expect/inspect	Comply	Compliance	Accountability

Table 15

Codes for Psychological Sources of Authority for Leadership

Codes	Codes	Codes	Codes
Motivation	Human relations	Barter/trade	Meeting needs
Congeniality	Rewards	Interpersonal skill	Charisma
Positive climate	Congeniality	Humor	Tradeoff(s)

Table 16

Codes for Technical Rational Sources of Authority for Leadership

Codes	Codes	Codes	Codes
Science	Logic	Best practice(s)	Research-based
Technicians	Fidelity	Standards	Privileged
In-service needs	Objectivity	Evidence	Need to change

Professional Sources of Authority for Leadership

Sergiovanni (1992) provided key phrases and concepts indicative of professional sources of authority. These phrases and concepts were used for analysis of the interview, observation, and archival data. These concepts and phrases were used to categorize and code the gathered qualitative data as indicative of professional sources of authority (see Table 17).

Moral Sources of Authority for Leadership

This is a list of key phrases and concepts used when examining the interview, observation, and archival data. These concepts and phrases were used to filter and code the gathered data as indicative of moral sources of authority (see Table 18).

Table 17

Codes for Professional Sources of Authority for Leadership

Codes	Codes	Codes
Informal craft knowledge	Contextual knowledge	Professional values
Internal expertise	Idiosyncratic practice(s)	Knowledge in practice
Data informed	Internalized values	Personal expertise
Professional discretion	Dialogue	Common values

Table 18

Codes for Moral Sources of Authority for Leadership

Codes	Codes	Codes
Felt obligation(s)	Community values	Ideals
Beliefs	Right and good	Collective commitments
Professional community	Learning community	Moral and collective
Interdependence	Shared duty(s)	Shared obligation(s)
Community values	Morally driven	Professional virtue

The preceding tables of concepts and phrases terms were used for data coding and analysis. Coding and analysis led to Chapter IV findings about ITCs and their sources of authority for leadership in the diffusion of high access teaching and learning.

Archival materials, interview transcripts, and observation notes were gathered, organized, and analyzed to reach study findings, below. Table 19 illustrates the primary lines of evidence gathered, analyzed, and interpreted to reach a finding for a particular source of authority for leadership.

The next section provides a consideration of the relative degree of certainty and trustworthiness in this qualitative fieldwork, analysis, and dissertation.

Table 19

Primary Lines of Evidence Gathered and Analyzed

Source of authority	Archives	Interviews	Observation
Bureaucratic	X	X	X
Psychological		X	X
Technical rational	X	X	X
Professional	X	X	X
Moral	Theoretical	Framework	

Trustworthiness and Degrees of Certainty

Qualitative researchers should be reflexive, and qualitative research should be trustworthy (Creswell, 1998; Glesne, 2006). Table 20 is metacognitive exercise in reflexivity, representing a metacognitive reflection on data collection, theoretical analysis, and consequent findings—a summary evaluation of how trustworthy or certain this study's findings may be.

On a scale of 1-4, this study presents more certainty and trustworthiness regarding the findings for bureaucratic, technical rational, and professional sources of authority for leadership. Study findings are less certain and trustworthy regarding ITC's psychological and moral sources for leadership. In summary, this study was conceived and conducted with ethnographic intent, striving to be accurate and trustworthy, attending to authenticity and reciprocity.

Chapter IV presents study findings about ITCs and sources of authority for leadership in the diffusion of high access teaching and learning.

Table 20

Researcher's Degree of Certainty and Trustworthiness of Findings

Source of authority	Less certain 1	2	3	More certain 4
Bureaucratic				X
Psychological		X		
Technical rational				X
Professional				X
Moral		X		

Conclusion

The purpose of this study was to ascertain the presence of five theoretical sources of authority for leadership in the work of ITCs. This chapter presented the methodology employed to gather and analyze qualitative data. Though initially conceived as an educational ethnography, this research study is now more properly described as a qualitative case study.

The study employed three basic qualitative data-gathering methods—observations, interviews, and archive collection. Data from observations, interviews, and archives was used to discern if each source of authority was present and operational in the work of three secondary school instructional technology coaches.

This qualitative research design used ethnography and case study techniques to gather evidence to understand the leadership paradigm of three ITCs. The study's theoretical framework is taken from Sergiovanni's (1992) book, *Moral Leadership: Getting to the Heart of School Improvement*. There are five theoretical sources of authority for leadership: bureaucratic, psychological, technical rational, professional, and

moral sources of authority.

To arrive at this study's findings the five sources of authority were used to examine and understand the work lives of three ITCs. The ITCs were site-based professionals at three secondary schools in the RMSD: Hill Middle School, Mountain Jr. High School, and RMHS.

This study's design was further defined by several research questions: (a) Is there evidence to conclude that the five sources of authority are present in the professional work of the three RMSD ITCs? (b) Were the ITCs aware of the theoretical sources of authority for leadership? (c) Did the coaches use theoretical sources of authority in the diffusion of high access teaching and learning? and (d) if so, which sources? In what ways? And to what extent?

Next, Chapter IV presents study findings about ITCs and sources of authority for leadership in the diffusion of high access teaching and learning.

CHAPTER IV

FINDINGS

The purpose of this qualitative research was to use selected theory to understand the instructional leadership of the study's participants. This chapter presents the study's findings in seven tables and in several ethnographic vignettes. First, Table 21 presents primary findings.

Absence or Presence of Sources of Authority

The first column of Table 21 identifies a source of authority for leadership. The second, third, and fourth columns show the range of findings: present, absent, or inconclusive. The fifth column cites the primary line(s) of qualitative data that were analyzed to determine a finding for a particular source of authority for leadership.

In summary, the data collected and examined indicate that ITCs recognize bureaucratic sources of authority in their school district, but they do not have or use bureaucratic sources of authority for leadership in their diffusion of high access teaching and learning.

Table 21

Presence or Absence of Sources of Authority for Leadership

Source of authority	Present	Absent	Inclusive	Data
Bureaucratic		X		Archives, interviews, observations
Psychological	X		X	Observations
Technical rational	X			Archives, interviews, observations
Professional	X			Archives, interviews, observations
Moral			X	Theoretical framework

Next, there was sufficient evidence to conclude that the study's participants recognize and use some facets of both theoretical psychological and technical rational authority. The boundaries and definitions of theoretical psychological sources of authority are uncertain. This leaves uncertainty in the findings about ITC's use of psychological sources for leadership. These findings are based on collection and analysis of interview transcripts, observation notes, and collected archive review.

Third, there is strong evidence from this study that coaches' recognize and use professional sources of authority for leadership. After collection and analysis of archives, interview transcripts, and observation notes, there is reason to conclude that the participants recognize and use professional sources of authority for leadership.

Finally, after data collection and analysis, this research study is inconclusive regarding instructional technology coaches' understanding and use of moral sources of leadership in the diffusion of high access teaching and learning. This finding is drawn after using the sources of authority theoretical framework to examine collected archive materials, interview transcripts, and observation notes.

Importantly, this qualitative study did reveal the presence of many of the characteristics of each of the five theoretical sources of authority for leadership. However, not all five sources of authority were available to or used by ITCs in the diffusion of high access teaching and learning in the RMSD.

Coaches' Awareness and Use of Sources of Authority

Next, Table 22 presents additional study findings in five columns and six rows.

Table 22

Awareness and Use of Sources of Authority for Leadership

Source	Unaware	Aware	Using	Not using
Bureaucratic		X		X
Psychological	X		X	
Tech. Rational		X	X	
Professional		X	X	
Moral	X			X

Column one indicates a source of authority for leadership. Columns two and three indicate if the ITCs were unaware or aware of a particular source of authority. Columns three and four indicate if coaches are using or not using a particular source of authority for leadership.

In summary, data coding and analysis finds that the district's ITCs are aware of bureaucratic sources of authority, but the participants are not using bureaucratic sources of authority for leadership. They are not afforded bureaucratic authority in their school district assignment(s). Consequently, they cannot use bureaucratic authority for leadership.

This study asserts that the participating ITCs are unaware of psychological sources of authority. However, participant observations show that RMSD's coaches showed some behaviors and are using some strategies that are representative of psychological sources of authority for leadership.

Archive materials, interview transcripts and observation notes suggest that the RMSD's instructional technology coaches were aware of and utilizing both technical

rational and professional sources of authority for leadership. The study's data testify to coaches' possession of expert knowledge and skills, marks of technical rational sources of authority. However, they were not observed to assert privileges of scientific knowledge over the professional practices of classroom teachers. Quite the opposite, this qualitative study indicated that the Rocky Mountain coaches intentionally used their advanced knowledge and skills with great regard for the contextualized expertise of classroom teachers. This study's participants recognize and use both professional and technical rational authority sources of authority for leadership in the diffusion of high access teaching and learning in the RMSD.

This study found that RMSD ITCs were unaware of moral sources of authority as a way of leadership in the diffusion of high access teaching and learning. This was the null finding at the conclusion of fieldwork and data analysis. However, in participant checking interviews—subsequent to establishing findings—two of the study's participants indicated that they subscribed to the characteristics and tenets indicative of moral sources of authority for leadership. Thus, further consideration beyond the scope of this dissertation is needed regarding ITCs' moral sources of authority for leadership.

The next sections support the study's findings with selected data excerpts. These are examples of the qualitative evidence that were coded and examined to reach the findings represented in Tables 21 and 22. The next sections are organized by the five sources of authority for leadership, and further organized by the types of qualitative data/ evidence that were coded to reach findings for each source of authority for leadership.

Bureaucratic Sources of Authority

This section presents research study findings about the bureaucratic sources of authority for leadership. The section is organized by the data analyzed for psychological sources of authority for leadership: archives, interviews, and observations.

Archival Materials

There is nothing in the collected and examined archives to suggest that RMSD's ITCs have or use bureaucratic sources of authority. The school district's written job description for ITCs is the primary source for this finding. The job description emphasized a collaborative role for coaches. It asserted that coaches will "assist teachers," provide a "safe environment," and "facilitate high quality professional learning." The qualifications section of the school district's job description for ITCs calls for "skills in collaboration." The job description does not allocate the participating coaches with bureaucratic sources of authority for leadership.

Without formal bureaucratic sources of authority for leadership, ITCs facilitate, advocate, and support the classroom teachers in providing high access learning for students. The district's job description does not ascribe any expectations of coaches for evaluative, managerial, hierarchical, or supervisory roles and functions. The district's job description—a primary source archival document—does not provide coaches with bureaucratic sources of authority for leadership. However, the school district's job description did define the work of ITCs' within typical hierarchical and bureaucratic organizational structures. Hierarchical structures are characteristic of bureaucratic

authority. These typical structures include hierarchical arrangements such as a chain of command and report. For example, in the district's job description the Rocky Mountain ITCs reported to and are supervised by the district's curriculum director. Also, on a day-to-day basis, the ITCs report to and work for school principals.

The RMSD's ITCs do work within a school organizational environment that is marked by characteristics of bureaucratic leadership, but the coaches do not have access to bureaucratic sources of authority for leadership in the diffusion of high access teaching and learning.

Interview Transcripts

In study interviews the RMSD's ITCs were very clear that they do not have or use bureaucratic sources of authority for leadership. The coaches expressed this in formal interviews, in informal conversations, and in participant checking meetings.

For example, when asked during a formal interview about bureaucratic authority, and if Rocky Mountain ITCs could use bureaucratic sources of authority for leadership, Ms. M stated, "No. That comes through administration. As a coach, I am here to support teachers in reaching that expectation."

Likewise, when asked about what ITCs do or do not do, Mr. N said, "I am not supposed to evaluate. And I have not. I am an informant to the administrators." He added, "I feel like I am not in the line of authority. I'm on the side. The administrators should be the ones delivering the mandate. I'm the one supporting the workers in fulfilling the mandate. For practical reasons I'm the one that explains what the mandate means."

In another example Mr. T told me, "I don't see a whole lot of a connection

between this [bureaucratic source of authority and] what I do. I'm not seen as a person who is at a higher level of supervision." ITCs were very clear that they do not have or use bureaucratic sources of authority for leadership

Throughout the course of this study the participants reiterated their lack of bureaucratic sources of authority for leadership. in study interviews the ITCs were clear about their positions lacking managerial responsibilities or supervisory capacities. The ITCs continuously asserted that is not within their realm—even contrary to their philosophy and practice—to exercise managerial functions, or to perform evaluative roles. Coaches are not positioned within the RMSD to employ bureaucratic sources of authority for leadership.

However, from interviews it is apparent that the RMSD's ITCs do work within school environments that are framed by bureaucratic sources of authority. This includes hierarchical arrangements such as a designated chain of command. For example, in interviews the ITCs state that they are supervised and report to the district's curriculum director. Also, on a day-to-day basis, the ITCs report to the school principal. So, coaches practice within conditions marked by bureaucratic authority, but coaches do not have bureaucratic sources of authority for leadership.

In conclusion, there is no evidence from interviews to suggest that the RMSD's ITCs have or use bureaucratic sources of authority in their leadership of the district's diffusion of high access teaching and learning. To the contrary, analysis of the interview transcripts illustrate that the coaches lack bureaucratic sources of authority for leadership.

Observation Notes

In multiple observations conducted in a variety of district settings the ITCs declared their lack of administrative or supervisory (bureaucratic) capacity. This finding emerged in several different participant observation settings with each of the coaches.

For example, in RMSD professional meetings the ITCs would overtly defer to school principals or other district administrators when issues arose for organizational direction, school management, or policy level decision-making. This was observed in educational technology specialist meetings, in administrator council settings, and in school faculty meetings. The RMSD's ITCs were very clear in participant observations that their positions lack hierarchical, supervisory, administrative, or bureaucratic sources of authority for leadership.

In conclusion, there is nothing in the collected data—archive materials, interview transcripts, or observation notes—to suggest that the RMSD's ITCs have or use bureaucratic sources of authority. To the contrary the collected qualitative data indicate that RMSD ITCs do not have or use bureaucratic sources of authority for leadership in the diffusion of high access teaching and learning.

Psychological Sources of Authority

This section presents research study findings about the psychological sources of authority for leadership. The section presents the observation data used for analysis for psychological sources of authority for leadership.

One observation revealed participant coaches employing a bartering strategy that

is representative of a psychological source of authority for leadership. The coaches were charged with facilitating a state technology endorsement class for RMSD teachers. Enrolled teachers willingly engaged in a tradeoff (barter) of their extracurricular time for the state endorsement. Also, in exchange for teachers' out of school time the coaches offered the technology endorsement enrollees a tablet computer (iPad or IPad Mini) in exchange for their full participation in the course. This tradeoff is representative of a psychological source of authority: teacher participation in the course resulted in their receipt of a computing device and a state technology endorsement. By the selected theoretical framework, such bartering marks the use of a psychological source of authority for leadership.

Another example from participant observation, ITCs employed humor, a facet of charisma and congeniality. The coaches could be considered as operating with personal charisma in their work with classroom teachers. They would commonly show humorous videos and share funny anecdotes, or tell jokes to move professional learning in positive directions. This use of charisma, a characteristic of psychological sources of authority, is another indicator that the RMSD's ITCs employ psychological sources of authority for leadership in diffusion of high access teaching and learning.

Technical Rational Sources of Authority

This section presents research study findings about the technical rational sources of authority for leadership. The section is organized by the archival, interview, and observation data used for analysis and findings about technical rational sources of

authority for leadership and instructional technology coaches.

Archival Materials

The RMSD's ITCs have extensive knowledge of educational technologies—more extensive than most of their classroom teacher peers. Their extensive knowledge brings the possibility for the coaches to use technical rational sources of authority for leadership.

The coaches have superlative knowledge and skills in regard to emerging approaches for teaching and learning with instructional technology. Archival materials include coaches' agendas, handouts, and presentations. The collected archival materials show that the coaches' have great knowledge and skills that set them apart from their classroom teacher peers. This experts' knowledge is a mark of the coaches' possession of technical rational sources of authority for leadership.

Enacting their technical rational leadership, coaches' designed and led professional development sessions throughout the course of this study. They would often bring new ideas, formats, and practices to their peers. The district's coaches led faculty professional development sessions with junior high and high school classroom teachers on a variety of topics: effective instruction, content-area websites, computer applications, assessment tools, and classroom management systems. For example, they demonstrated the functions of Instructure's Canvas—the district's learning management system.

The coaches' professional development materials—agendas, activities, and presentations—show their expert's knowledge. Collectively, the gathered archival materials are evidence that the coaches use technical rational sources of authority for leadership.

Interview Transcripts

When asked to assess their use of instructional technology, the RMSD's coaches indicated that they were more likely than peers to seek out and use innovative instructional technology tools and practices. This includes data from the study's educator—innovator interview. Data gathered by this interview shows that coaches have access to technical rational sources of authority: their superlative levels of knowledge and expertise about instructional technology as compared to their classroom peers' knowledge and expertise.

In other interviews, the ITCs demonstrated that they relied upon current literature and best practices research. They employed this knowledge in their interactions with classroom peers. The coaches were familiar with current scientific research (i.e., information that could be considered privileged). They would use this expert's knowledge to provide inservice and professional development training for classroom teachers.

Study interviews revealed that ITCs had access to and used technical rational sources of authority for leadership in the diffusion of high access teaching and learning.

Observation Notes

Participant observation data and analysis indicated that the RMSD's ITCs used technical rational sources of authority for leadership.

Coaches were observed in a variety of meetings with teachers and administrators. One small and repeating example of their recognized technical expertise was witnessed many times: an instructional technology coach would be the first called upon to help

when digital projectors or audio speakers would not hook up and play properly. It was routinely expected by meeting attendees that the coaches' would have the know-how to solve mundane technical problems.

Also, ITCs would sometimes tap advanced instructional technology knowledge and skills. For example, in one informal conversation with Mr. N he cited the need to use international society for technology in education standards as the criteria for district decision-making about technical questions. The coaches' display of expert's knowledge and professional standards is a marker of technical rational authority, a source of authority for leadership

Professional Sources of Authority

This section presents research study findings about the professional sources of authority for leadership. The section is organized by the archival, interview, and observation data used for analysis and findings about professional sources of authority for leadership, ITCs and diffusion of high access teaching and learning.

Archival Materials

The RMSD's ITCs produced a wide variety of materials including correspondence, calendars, and professional development presentations. When examined, this catalogue of professional work reveals that the RMSD ITCs have a high regard for the contextualized practices of their classroom peers. The coaches accept classroom teaching as highly personal, varied, and idiosyncratic. The collected archives show that the study's participants recognize and value the professional discretion and internal

expertise of classroom teachers. ITCs' materials show evidence of their use of professional sources of authority for leadership.

Interview Transcripts

Interview transcripts provided evidence that the ITCs employ professional sources of authority for leadership. During the biography interview, Mr. T reflected upon his recruitment and appointment to the position, "When I was in the classroom I was known as the teacher who would always take the latest technology device and figure out how to make it work in the classroom." This interview quote speaks to the importance that classroom context and in practice experience play when tapping professional sources of authority for leadership. The ITCs used elements of professional sources of authority for leadership in the diffusion of high access teaching and learning.

In a study interview, Mr. N further emphasizes the importance of professional sources of authority. He coined the term, "street cred," meaning classroom capabilities and consequent credibility with teachers. This need for classroom credibility signifies the understanding that the district's coaches have about the value of contextualized practice—a mark of professional sources of authority. Street cred is a professional characteristic that provides coaches with a source of authority for leadership. Street cred is a characteristic marker of a professional source of authority for leadership.

Observation Notes

Participant observations in a variety of settings yielded data that indicated that the RMSD's ITCs have and use professional sources of authority for leadership.

The coaches were observed in a variety of meetings with teachers and administrators. Coaches were observed to speak in ways that promoted or encouraged teachers' professional discretion in multiple professional development sessions. Coaches expressed interest in tapping their classroom peers' internal expertise. Coaches would generate dialogues that were respectful of classroom teachers' informal craft knowledge. Participant observation data—field notes, jottings, and sketches—show that coaches use professional sources of authority for leadership.

Moral Sources of Authority for Leadership: Theoretical Framework

There was no qualitative data gathered for analysis indicating that coaches use of moral sources of authority for leadership. Study data were examined using the characteristics and strategies of the selected theoretical framework. The data were examined for linguistic indicators such as collective moral commitments, shared professional obligations, interdependent community values, professional community virtues, and ideals. By this analysis of the gathered data (i.e., archival materials, interview transcripts, and observation notes), the ITCs do not use moral sources of authority for leadership. Moral sources of authority were not indicated by the catalogue of qualitative data gathered during the course of fieldwork.

However, in subsequent participant checking two of the district's coaches' indicated that they subscribe to the concepts of moral authority. They endorsed the characteristics and strategies of moral sources of authority for leadership. Though moral sources of authority were not found in the collected archive, interview, and observation

data two of the participants aligned with the markers of moral authority. The participant checking data clouds the study's findings regarding ITCs' moral sources of authority for leadership.

Features of Each Source of Authority for Leadership

Tables 23-27 (each will be discussed and shown separately) present questions that are characteristic of a particular source of authority for leadership. These questions are complementary and representative of the qualitative codes used for data analysis. These questions serve to further gauge RMSD's ITC's use of each source of authority for leadership. The characteristics and features of a particular source of authority for leadership are framed as binary (yes/no) questions. The questions serve to further elaborate study findings about ITCs and sources of authority for leadership. Tables 23-27 also consider the five sources of authority for leadership in order: bureaucratic, psychological, technical rational, professional and moral authority.

Bureaucratic Sources of Authority

Table 23 consists of two columns, questions and yes/no findings. The first column asks three questions derived from Sergiovanni's (1992) characteristics, assumptions, strategies, and consequences for bureaucratic sources of authority for leadership. The second column provides a binary yes/no finding.

Table 23 represents the study's finding that the RMSD's ITCs do not have and do not use bureaucratic sources of authority for leadership. Though RMSD's ITC positions were not endowed with bureaucratic authority, the school district's coaches were aware

Table 23

Bureaucratic Sources of Authority—Binary Questions

Do instructional technology coaches…	Finding
Have bureaucratic authority?	No
Use bureaucratic sources of authority for leadership?	No
Believe that supervisors are trustworthy and that subordinates are not?	No
Have positions 'above' classroom teachers in school hierarchy?	No
Directly supervise or closely monitor the work of teachers for compliance?	No
Figure out how to motivate teachers to get them to change?	No

of bureaucratic sources of authority for leadership in administrators in the RMSD. Table 24 presents questions, findings and data sources surrounding psychological sources of authority for leadership.

Psychological Sources of Authority

Table 24 consists of three columns: questions, findings, and data sources. The first column asks five questions. The questions are derived from Sergiovanni's (1992) characteristics, assumptions, strategies, and consequences for psychological sources of authority for leadership. The second column provides a binary yes, no, or mixed binary finding.

Table 24 represents the study's finding that the RMSD's ITCs use some of the characteristics and features of psychological sources of authority for leadership. Chapter V includes a discussion of the characteristics and features of psychological sources of authority for leadership. Next, Table 25 presents questions, findings and data sources surrounding psychological sources of authority for leadership.

Table 24

Psychological Sources of Authority—Binary Questions

Do instructional technology coaches…	Finding
Use motivation technologies, interpersonal skills, and human relations?	Yes
Assume that teachers' goals and interests are not the same as their supervisors?	No
Construct a congenial climate and apply contingent rewards to create teacher compliance?	Yes/No
Fulfill teachers' needs as a strategy in the diffusion of high access teaching and learning?	Yes
Barter or trade with teachers to get desired outcomes?	No/Yes

Technical Rational Sources of Authority

Table 25 consists of two columns: questions, and findings. The first column asks two questions. The two questions are derived from Sergiovanni's (1992) characteristics, assumptions, strategies, and consequences for technical rational sources of authority for leadership. The second column provides a binary yes, no, or mixed binary finding.

Table 25 represents the study's finding that the RMSD's ITCs have and use some of the characteristics and features of technical rational sources of authority for leadership. Chapter V includes a discussion of the characteristics and features of technical rational sources of authority for leadership. Table 26 presents questions, findings and data sources surrounding professional sources of authority for leadership.

Professional Sources of Authority

Table 26 consists of two columns: questions and findings. The first column asks five questions. The questions are derived from Sergiovanni's (1992, p. 32) characteristics, assumptions, strategies, and consequences for professional sources of authority for leadership. The second column provides a binary yes, no, or mixed binary finding. Table

Table 25

Technical Rational Sources of Authority—Binary Questions

Do instructional technology coaches…	Finding
Have unique or exceptional technical (rational) knowledge and skills?	Yes
Assert privileges of scientific technical-rational knowledge in their work?	Yes
Believe that teaching is an applied science?	Yes
Believe that teachers should comply to the truth of scientific research?	No
Believe that learning should be defined by evidence , logic, and scientific research?	Yes
Think that teachers should respond as technicians, executing pre-determined scripts?	No

Table 26

Professional Sources of Authority—Binary Questions

Do instructional technology coaches…	Findings
Provide professional development and support to classroom teachers?	Yes
Expound consistent or multivariate practice(s) or both?	Both
Utilize dialogue as a source of authority for leadership?	Yes
Use scientific knowledge to inform teaching and learning?	Yes
Use scientific knowledge to prescribe teaching and learning?	No

26 represents the study's finding that the RMSD's ITCs recognize and use the characteristics and features of professional sources of authority for leadership. Chapter V includes a discussion of the characteristics and features of professional sources of authority for leadership.

Moral Sources of Authority

Table 27 consists of two columns: questions and findings. The first column asks four questions derived from Sergiovanni's (1992, p. 32) characteristics, assumptions,

Table 27

Moral Sources of Authority—Binary Questions

Do instructional technology coaches…	Finding
Tap into widely shared values, ideas, and ideals?	No
Appeal to shared commitments and felt interdependence?	No
Rely on informal community norms to enforce professional and community values?	No[a]

[a] In participant checking interviews, the coaches did identify with the characteristics of moral sources of authority for leadership.

strategies, and consequences for moral sources of authority for leadership. The second column provides a binary yes, no, or mixed binary finding.

Table 27 represents the study's finding that during the course of this research study the RMSD's ITCs do not exhibit or use moral sources of authority for leadership. Chapter V includes a discussion of the characteristics and features of moral sources of authority for leadership. The next section provides the context of the study with several ethnographic sketches and representations of the various sources of authority for leadership.

Ethnography of Coaches' Sources of Authority

This section provides additional qualitative context for the study's findings. The section presents several brief ethnographic sketches derived from observation notes and subsequent jottings. It includes school information, settings for the fieldwork, and some biographical information. The sketches are intended to provide additional context for understanding research findings. The participant-organized sections provide complementary background to support the findings stated in the tables above. The

sketches are presented in sections, ordered by participant. First, sketches illustrating the professional work and underlying leadership of Mr. N.

Mr. N: Rocky Mountain High School

Mr. N is the ITC at RMHS. The school enrolls approximately 1,100 students in 10th, 11th, and 12th grades. RMHS is the only high school in the RMSD. Beginning in the fall of the 2012 school year, all of the school's students were provided an Apple laptop by the school. Students are issued the laptops for educational purposes to use at home and at school during the duration of the academic year. Mr. N was named as the school's ITC at the start of the 2012 school year. The position was created to support teachers in diffusion of high access teaching and learning.

Mr. N graduated from a southern university with a dual degree in English and Theology. He says that it was not his intention to teach in public schools. He took an alternative route to educator licensing. His classroom experience began when he was hired to teach English and debate at RMHS.

As a classroom teacher, Mr. N was interested in the use of instructional technology. He was enthusiastic about educational technology, and "willing to fail in front of kids." In his interview for the RMHS instructional technology coach position Mr. N declared himself, "[a] reckless adoptor." It was this combination of teaching ability and embracing attitude toward instructional technology that led Mr. N to a coaching position in the RMSD.

Mr. N: The Access Conundrum and No Bureaucratic Source of Authority

I met with Mr. N at a café table in the lobby of the RMHs. He looks tired. It was dim and quiet, 7:00 a.m. on a school day in the middle of winter. In just a few minutes Mr. N was to lead an early morning faculty professional development session. He was wrestling with an educational conundrum—special education paraprofessionals' access to the school district's instructional management system—Canvas.

The school's special education paraprofessionals could be provided with access to Canvas. This would allow them to see their students' assignments, quizzes and tests. The paraprofessionals could preview and preteach students with learning disabilities if they had access to Canvas course materials. However, there was an oppositional contingent of classroom teachers who did not want paraeducator Canvas access granted. The teachers felt that special access was unfair to other students, and that it would water down school expectations, that special access is an unnecessary advantage for special education students.

Mr. N, who was charged with diffusing Canvas, was caught in the middle. He supported the special educators' request, trusting that they would use the Canvas access ethically. Mr. N thought that Canvas access would be used appropriately to support special education students in the regular classroom curriculum. He was exasperated by the barrier being put up by the regular classroom teachers, and disheartened that the issue had risen beyond his decision-making authority.

It was time for the faculty inservice to start. Mr. N picked up his laptop and walked slowly toward the entrance of the RMHS's lecture hall. We had to wait and see

what the school administrators decided about the access issue. Mr. N did not have the bureaucratic authority to provide the Canvas access that was sought by the special educators for the special education students.

Mr. N: Preparing for High Access, Technical Rational, and Professional Sources of Authority

Mr. N was on the RMHS's technology committee. In the upcoming school year, all of the RMHS students would have laptops. The committee met every few weeks to get ready for the arrival of teacher laptops in January. Ms. P is Mr. N's co-facilitator of the monthly committee. They began a meeting one spring day after school.

Ms. P sat at a computer to the side and at the front of a classroom. She projected the agenda on a screen and concurrently facilitated the agenda and took notes during teacher discussion. Mr. N sat in the front of the classroom, on the other side of the room. He participated as a peer—expressing his opinion on occasion as well as asked questions at times.

The meeting's constituents consisted of faculty representatives from the various school departments. They took their role seriously, expressed their self-interests as well as the mutual and shared interests that were brought to them by their department colleagues. Mr. N was a peer participant. By measured talk time data, he was no more or no less tallied than his classroom teacher peers. He did not appear to be "in charge." When Mr. N spoke, he was careful to state that he was expressing himself to be understood as a teacher-peer. He provided expert commentary on the state of computers, networks, and professional practices, but his language was easily perceived as respectful

of the context of the classroom. He spoke with tones and words that were representative of both technical rational and professional sources of authority.

Mr. N: Teachers' Professional Development and Professional Sources of Authority

Mr. N waited patiently on the side in the school's library. His colleague had opened a RMHS professional development session. She was speaking to English language learner's needs and providing information about the emerging standards for English language learners. Mr. N was sharing the agenda and the stage with his high school colleague.

It was Mr. N's turn to lead the session once the ESL teacher finished. He regrouped the attendees by school departments and asked them to work together on a common task. The task was constructive in nature—respectful of the individuals and departments' perspectives on using high access instructional technology for teaching and learning. After a few minutes of work time, Mr. N called the various department groups back together to report out on their work.

Mr. N's leadership and facilitation during this meeting were marked by the characteristics of professional authority: recognition of idiosyncratic practices, providing teachers with the leeway they need for their work, and a reliance on shared norms for collaboration. Mr. N utilized Professional sources of authority for leadership in the diffusion of high access teaching and learning at RMHS.

Mr. T: Rocky Mountain Junior High School

Mr. T was the ITC at Rocky Mountain Junior High School. The school housed all

700 of the district's eighth- and ninth-grade students. Each of these students had a laptop issued for their use, in and out of school, during the school year. This 1:1 laptop initiative is a primary feature of the RMSD's high access innovation. I visited Mr. T's office to conduct a biography interview.

Mr. T had been working in the RMSD for about 18 years. He started as a classroom teacher. Mr. T's affinity for educational technology attracted District administrators' attention. After 10 years in the classroom Mr. T was recruited be the RMSD's half-time e-Mints trainer—the district's fifth-grade high access teaching and learning initiative.

At Rocky Mountain Jr. High, Mr. T had been given a long narrow room for a school office. His countertop along the wall of his office was filled with vintage McIntosh computers. A gallon jug of cheese puffs and a blue plastic Halloween jack-o-lantern sat alongside the machines. Purdue University and University of Nebraska banners hung from the office walls. The office whiteboard had a simple sketch of a green dinosaur with a scrawled student note that read, "Dear Mizzah T, I promise to never spray Kolton and Keaton w/ perfume again. Heart Amanda."

Mr. T: Education Technology Specialists' Meeting and No Bureaucratic Source of Authority for Leadership

The district's ETS met monthly; they were school-based classified employees. They served at each of the district's seven schools as the connectors between the district's technology support staff and the teachers. Mr. T was appointed by the curriculum director to be the ETS' facilitator. His was a position of contact and information distribution.

With the curriculum director's guidance, Mr. T sat the agendas and facilitated the meetings. His work was done with direction and oversight from the RMSD's curriculum director. She occasionally attended the meetings.

Today's meeting was held in a darkened classroom at Rocky Mountain Jr. High School. The classroom used to be a computer lab; the counters along the walls had holes drilled in the laminated countertops for power cords and trays for Ethernet cables. The lab's floor plan, cabinetry, and fixtures were anachronistic. The school's students now carried laptops for their day-to-day classroom work. The meeting included fifth-grade teacher representatives from the elementary schools.

The fifth-grade teachers were advocating for change. They supported moving the district's fifth-grade 2:1 eMints model to a fifth-grade 1:1 laptop model. The classroom teachers had been invited to the meeting to express their rationale. They did not like the large concretized desktop footprints of the eMints model, and they felt that student learning would be enhanced if each student had their own laptop computer.

The ETS were not especially keen on the plan. They considered the change to be too much for them to keep up with more laptops, more systems, more maintenance, response, and repair. A rousing dialogue ensued. Mr. T was noncommittal, "You know I'm your [fifth-grade teachers'] champion, but I'm not the decision-maker in this one."

The curriculum director was attending this particular meeting. Her quiet presence emanated her bureaucratic sources of authority. It was clear to all in the room that the decision about the change was a decision that resided with the curriculum director. "I'll get back to you all when we've made a decision," she deferred.

By this participant observation session, Mr. T was without the bureaucratic sources of authority for making an important computer hardware decision.

Mr. T: The Technology Endorsement Class and Psychological and Professional Sources of Authority

Mr. T lead weekly sessions from 4:00-8:00 p.m. for district teachers seeking the state technology endorsement. About 30 educators were seeking the endorsement. They met in one of the elementary schools' eMints classrooms.

The teachers sat in groups of six around the district's standardized eMints configuration. The student desk clusters had three iMac computers on them—typical of the 2:1 eMints model for distributing educational hardware to students. The state endorsement classes ran late into the evening. Some of the teachers brought their children to the after-school sessions. One teacher was seated on the floor with her kids; they were drinking water and eating apples and packaged snacks. The atmosphere in the room was buoyant and lively with conversation.

Mr. T opened the session with a humorous viral YouTube video. He entertained a participant's idea to "songify" the segment. He then circulated among the desks as the teachers completed the required online course registration. They were receiving university credit—meeting Rocky Mountain State College requirements.

Mr. T carried a stapler with him. This was a housekeeping session, and there was still paperwork to be done—even in this digital age. In exchange for completing the class, the RMSD teachers received a digital device and a state technology endorsement. This was seemingly a straightforward trade of the teachers' time and energy for certain

benefits. Mr. T exhorted, “If you figured out how to register, raise your hand. If you don’t’ have your hand up—look and see, ask them how they got there—see three before me!”

Perhaps without full consciousness of the afforded sources of authority to lead, Mr. T showed certain elements of psychological and professional leadership.

Ms. M: Hill Middle School

Hill Middle School housed all of the RMSD’s sixth- and seventh-grade students. The laptop initiative began at Hill Middle, with laptops following students as they rose through the grade levels. The school was the longest-standing site in the district’s 1:1 laptop initiative for students.

Ms. M is an outgoing and friendly mid-career teacher. For the past 6 years she had taught sixth-grade language arts at the same school. This was her first year as a full time coach at Rocky Mountain Middle School. Ms. M succeeded Mr. T at Rocky Mountain Middle in the human resource dominos of high access program growth, and instructional coach resignation or reassignment. I had scheduled a meeting with her at the school. Ms. S rushed down the hallway. She met me at the front office door and exhorted, “I have a green screen. We need to go up to my room.”

We walked into the room where we encountered three or four busy middle school students; they were moving quickly between the hallway and the classroom, chatting busily with one another about their scripts, shots, and equipment. Ms. T, a seventh-grade English teacher, had assigned students to make a movie. They were addressing an essential question posted on the whiteboard in the classroom. Ms. M demurely expressed her confusion about the students’ work: she did not completely understand the students’

assignment, but she did know that the teacher had an essential question for students to address. Ms. M explained that she played a support role for the English teacher, “I’m a support, an advocate. My personality influences the work of teachers.”

Ms. M: Sixth-Grade Social Studies and Technical Rational and Professional Sources of Authority

Ms. M had plans to collaborate with Mr. S, a sixth-grade social studies teacher. Ms. M told me, “He’s invited me in to model how to teach with technology.“ So I arranged a visit to Mr. S’ classroom on the day of a Google-Earth lesson. Mr. S greeted me then I settled into a student desk to observe from the back row of the classroom.

Mr. S began the lesson, explaining the objectives of the day. The students were learning about patterns of migration. He provided them with a worksheet outlining their task. The teacher took a few minutes to lecture the class about humans and the ways that geography impacted peoples’ patterns of migration. Then he turned the floor over to Ms. M.

Ms. M ran the kids through login steps and directed them to close their laptop lids to watch her onscreen projection. From the teacher’s desk at the back of the room, Ms. S showed the class the basic user interface features of Google Earth: how to navigate and some of the buttons and popup menus. After a few minutes of demonstration, she directed the class to open their laptops and to begin the assignment that Mr. S had provided. The kids got right to work.

Ms. M used technical rational sources of authority for leadership in combination with professional sources of authority for leadership. She possessed exceptional

knowledge and skills. She knew about an available application to use to guide the teaching to support students' learning. Ms. M applied this technical rational source of authority in conjunction with professional sources of authority. It was apparent from this classroom observation that the two teachers were working together.

Ms. M was clearly respectful of the classroom environment that Mr. S had established. Her expertise in Google Earth was used to inform Mr. S' practice. Her expertise was not used to override or to prescribe his methods for teaching and learning. Ms. M used a potent combination of technical rational and professional sources of authority for leadership in the diffusion of high access teaching and learning.

Conclusion

In summary, this research study does reveal characteristics of each of the five theoretical sources of authority for leadership. However, not all five sources of authority were available to or used by ITCs' in diffusion of high access teaching and learning.

This qualitative study indicates that ITCs do recognize bureaucratic sources of authority for leadership, but they do not have or use bureaucratic sources of authority. Also, there was sufficient evidence from fieldwork and analysis to conclude that the participants do recognize and use some facets of leadership afforded by psychological sources of authority. There was also strong evidence that coaches' recognized and used both technical rational and professional sources of authority for leadership.

Finally, after fieldwork and data analysis, this study found that ITCs do not use moral sources of authority for leadership, but when prompted they do recognize the value

of moral sources of authority for leadership in the diffusion of high access teaching and learning.

This study does verify presence of many of the characteristics of each of the five sources of authority for leadership. However, not all five sources of authority were available or used by ITCs' in diffusion of high access teaching and learning.

CHAPTER V

DISCUSSION

The purpose of this qualitative study was to explore five theoretical sources of authority for leadership in the work of three ITCs. The study addressed several research questions: Does a theory-based ethnographic case study reveal evidence of the five theoretical sources of authority in the professional work of the selected participants? Are the study's participants aware of the theoretical sources of authority for leadership, and do they use the five sources of authority for leadership? If so, which sources, in what ways, or to what extent?

Chapter V elaborates on Chapter IV findings, beginning with a discussion of ITCs and bureaucratic sources of authority for leadership.

Bureaucratic Sources of Authority for Leadership

The data indicate that RMSD's ITCs do not have bureaucratic sources of authority for leadership; consequently, the ITCs did not use bureaucratic sources of authority for leadership. The RMSD's written job description was the primary source of evidence for this finding. The coaches' written job description did not provide their positions with bureaucratic authority. ITCs were peers to regular classroom teachers. Coaches did not perform supervisory, managerial, or evaluative functions with teachers.

Furthermore, in study interviews, the ITCs clearly and frequently expressed their understanding that their positions lacked characteristics of bureaucratic authority such as managerial responsibilities or supervisory capacities. In study interviews, the coaches

made it apparent that they considered classroom teachers to be peers—teachers were not subordinates to ITCs.

The data from this study indicate no hierarchical supervisory relationship between regular classroom teachers and ITCs. Because they did not have bureaucratic sources of authority for leadership, ITCs did not use bureaucratic sources of authority in the diffusion of high access teaching and learning.

Awareness of Bureaucratic Sources for Leadership

RMSD coaches were aware that they did not have, nor use, bureaucratic sources of authority for leadership in the diffusion of high access teaching and learning. However, in this research study I did find that bureaucratic authority was built into the structures of the RMSD. ITCs were aware of bureaucratic sources of authority for leadership. Observations and interviews indicated that ITCs were fully aware that bureaucratic authority existed and was used by school and district administrators.

For example, Mr. T. often referred to the curriculum director as “boss.” In certain situations, ITCs accepted and endorsed the idea of school administrators exercising bureaucratic sources of authority to advance the diffusion of high access teaching and learning.

Though not endowed with bureaucratic sources of authority—specifically hierarchical or managerial power—the ITCs could sometimes be perceived as having such a source of authority for leadership. Mr. N related such a situation: “Sometimes, I was like the investigator. [Then the] administrator goes to the noncomplying teacher.

[And] then the teacher took it out on me." So, there were instances where a coach may be enlisted to do the work of supervisors; thus, creating a pseudo-bureaucratic or perceived bureaucratic source of authority. The RMSD's ITCs were aware of bureaucratic sources of authority for leadership. However, they were not endowed to employ this source of authority for leadership in the diffusion of high access teaching and learning.

Trustworthiness and Hierarchy

Sergiovanni (1992) suggested that hierarchical bureaucratic authority was marked by attitudes that supervisors (administrators) were trustworthy and that subordinates (teachers) were not. The analysis of data gathered from this study did not indicate that there was any function of mistrust between supervisors and subordinates. Likewise, there was no study data to indicate that there was mistrust between the district's administrators and the ITCs. There was no data or analysis from this study to show that hierarchical mistrust was present in the bureaucratic applications of authority in the RMSD.

Transferring Bureaucratic Authority for Leadership

In a study interview, Mr. N noted how his ITC position was used in enacting a building principal's bureaucratic authority: "I am the facilitator of accountability for the administrators." Mr. N was describing how he was directed by a building principal to conduct audits of the RMHSs' teachers Canvas instructional management system. He was installed with the principal's bureaucratic source of authority to check for compliance with a segment of the district's high access initiative. The classroom teachers were expected to use Canvas in certain ways for high access teaching and learning. As a

technician, Mr. N was employed by a school administrator to check for teachers' compliance with a school district expectation. Mr. N did not have bureaucratic sources of authority for leadership, but the school principal did. The principal asked Mr. N to check for Canvas compliance, in effect the principal was enacting leadership through bureaucratic sources via the ITC.

During this study, I found recurrent examples of ITCs being employed for RMSD administrators' supervisory and management purposes: it was as if administrators installed bureaucratic authority in the coach positions. For example, and the ITC, Mr. T was directed by the school district's curriculum director to plan and lead regularly scheduled meetings of the school district's educational technology specialists. Without formal supervisory capacity or expressed organizational hierarchy, Mr. T established agendas, prepared materials, and lead meetings of these classified employees. Meeting topics were selected and identified by the curriculum director. She then placed Mr. T in a leadership role as the facilitator of monthly educational technology specialist meetings. Mr. T did not have bureaucratic sources of authority for leadership, though his supervisor the curriculum director did.

Lack of Bureaucratic Authority

This research did not indicate access to organizational structures that could be considered representative of bureaucratic sources for authority for ITCs. The participants in the study stated that it was not within their realm—even contrary to their philosophy and practice—to exercise managerial functions or to perform evaluative roles.

Likewise, school observations also verified that ITCs lacked bureaucratic

authority as a source of authority for leadership. I did not gather observational data that would indicate that ITCs yielded a bureaucratic source of authority for leadership.

However, this study did provide ample evidence to assert that the school district did utilize bureaucratic sources of authority in its routine operations: the school district's job description defined the ITC's work within bureaucratic organizational structures. These typical bureaucratic school structures were representative of bureaucratic authority, including hierarchical arrangements—a chain of command and report. By the written job description, the RMSD ITCs report to, and are supervised by, the curriculum director. In addition, on a day-to day-basis, ITCs reported to the school principal.

ITCs did not exercise bureaucratic authority. They did not hold hierarchically arranged positions with managerial or supervisory endowments or expectations. That RMSD's ITCs lacked bureaucratic sources of authority is the strongest finding of this theory-based qualitative case study.

Psychological Sources of Authority for Leadership

There is evidence from this qualitative research to indicate that ITCs used certain elements of psychological sources of authority. In particular, the coaches showed efforts to promote a climate of congeniality among teachers, sometimes utilizing assets such as personal charisma that served to develop a positive faculty culture. Personal charisma and social congeniality may be considered human relations approaches (Bolman & Deal, 2013), which are features of psychological sources of authority for leadership.

This research indicates that the RMSD's ITCs are aware of some of the facets of

psychological authority, and that coaches exercise these sources of psychological sources of authority for leadership in the diffusion of high access teaching and learning.

Unaware of Psychological Sources of Authority

By data and analysis, the study's participants seemed to be cognitively unaware of psychological sources of authority for leadership. However, the coaches did sometimes employ psychological sources of authority. In formal interviews and conversations, ITCs did not demonstrate awareness of the psychological sources of authority for leadership. However, during the course of this study, I did note one instance when ITCs engaged in recognized barters or tradeoffs with teachers.

To encourage and support teachers' professional development, two of the ITCs were charged with developing and delivering a set of courses that would meet Rocky Mountain state requirements for a technology endorsement. In return for attendance and completion of the course requirements, the school district's regular classroom teachers received an iPad and the necessary recommendations to the state for a technology endorsement. This trade was not done for compliance with district mandates; however, it was a barter that enticed Rocky Mountain teachers to engage in afterhours professional development efforts. Such professional development efforts assisted in the RMSD's diffusion of high access teaching and learning.

Interpersonal Skills and Human Relations

Coaches purposefully strive to create positive interactions—such attempts serve to build a positive school faculty culture. In observations in multiple settings the RMSD

ITCs used humorous video clips, popular media excerpts, quips, quotes, jokes, fun activities, and silly phrases to engage their teaching peers in professional proceedings. For example, in a RMHS faculty meeting, Mr. N employed humor. He quipped with the teachers about some parents' conceptions of technology—how instructional technology is a silver bullet, the answer to all teaching and learning dilemmas. He joked about a television commercial that asserted that by simply watching online videos children would easily learn to balance chemical equations.

Data gathered in study observations indicated that the RMSD's ITCs use motivation technologies, interpersonal skills, and human relations approaches in their leadership. These observed characteristics were indicators of the presence of applications of psychological sources of authority for leadership.

Congeniality

The fact that the study's participants used congeniality was a corollary finding of this qualitative study. Promoting congeniality was a suggested strategy for school leaders wishing to tap psychological sources of authority. This study provided qualitative evidence that the RMSD's coaches used humor and/or personal charisma to encourage a congenial work environment. The coaches used selected faculty groupings, humorous video clips, popular media excerpts, quips, quotes, jokes, fun activities, or silly phrases to engage their teaching peers in professional proceedings.

For example, in one RMHS faculty meeting, Mr. N employed humor. He quipped with the teachers about some parents' conceptions of technology—how instructional technology was the silver bullet answer to all our educational issues; he joked about a

current television commercial that asserted that by simply watching some videos kids will easily learn to balance chemical equations.

ITCs were observed using their humor and facets of their personality to develop a congenial climate within their faculty professional development sessions. These efforts toward congeniality may be interpreted as indications that psychological sources of authority are being used in the diffusion of high access teaching and learning.

Goals and Interests

There was no evidence from data gathered in interviews and observations, or located in other study archives, that ITCs believed that the goals and interests of teachers were different than those of building principals or district administrators. Observations and interview data showed that all the district's educators were primarily focused on quality classroom teaching and engaged student learning. No data gathered in this study indicated that ITCs, or their administrators, had dissimilar goals or interests from those of classroom teachers.

Teacher Needs Fulfillment

ITCs used formal and informal survey data to identify classroom peers' skills and skills deficits. This can be considered an effort that indicated needs fulfillment as a leadership strategy. In participant observations, the ITCs were often observed soliciting colleagues' needs for professional development and classroom support. Their direct interactions with teachers showed concern with ascertaining and fulfilling their peers' needs in the diffusion of high access teaching and learning.

Contingent Rewards, Bartering and Trades

Sergiovanni (1992) contended that school leaders employ psychological sources of authority to barter or to negotiate tradeoffs for teacher compliance. Study evidence included the fact that the district offered a trade of teachers' time for an earned state technology endorsement. Teachers gave up (traded) time after school to attend the courses taught by the ITCs. In return, the teachers received the state technology endorsement. However, beyond this one isolated occasion, I found no evidence that ITCs were well positioned in the organization to barter or negotiate tradeoffs to achieve teacher compliance in diffusion of innovation.

Motivation, Human Relations, and Charisma

ITCs may use other human relations approaches that are representative of psychological sources of authority. Personal charisma and social congeniality may be considered features of psychological sources of authority for leadership. For example, in participant observations, the coaches' showed efforts to promote a climate of congeniality in their respective faculties. Observation data indicated that ITCs used personal charisma to develop a congenial work climate. Personal charisma and social congeniality may be considered features of psychological sources of authority for leadership.

In closing, this study has some evidence after analysis that ITCs exercise psychological sources of authority as defined by the study's theoretical framework. Additional research is needed to clarify the characteristics and features of psychological sources of authority and of the characteristics and features' application in school leadership.

Technical-Rational Sources of Authority for Leadership

The RMSD's ITCs had extensive knowledge of educational technologies. Their expert level knowledge and skills afforded the coaches technical rational sources of authority for leadership.

Compared to his classroom peers, Mr. N had exceptional technical knowledge, particularly in regard to the district's instructional management system—Canvas. As a matter of routine, which was noted in interviews and participant observations, Mr. N's peers sought out his technical rational knowledge and skills.

For example, the school's physical education teacher scheduled an appointment with Mr. N to learn how he might best incorporate the instructional management system to create summative assessments of students' knowledge after units of instruction. Also, during interviews in Mr. N's office space, teachers would stop by with questions or to get advice about instructional technology tools and other Internet resources. Mr. N was well positioned to use technical rational sources of authority for leadership.

Ms. M's exceptional knowledge of Internet-connected devices and resources served her similarly as sources of authority for leadership at Hill Middle School. For example, Ms. M was recruited by one of the school's social studies teachers to help plan and deliver a geography unit using Google Earth tools. Ms. M held prelesson meetings with the teacher. She then assisted the teacher with the class—demonstrating the use of Google Earth for students during 2 days of classroom instruction. Ms. M used her instructional technology knowledge and skills as a technical rational source of authority for leadership in the diffusion of high access teaching and learning.

Awareness and Use

This study determined that ITCs were aware of their specialized knowledge. Their collective knowledge and skills for high access teaching and learning was greater than that of their typical classroom peer. Coaches had access to resources and the time to learn new instructional technology tools and approaches. Their specialized positions provided them with the time and environment to create applications of new technology tools for student learning.

ITCs provided their teacher peers with access to their privileged knowledge in both formal and informal professional learning situations. Some examples include coach Mr. N's use of Prezi and demonstrations of Canvas in regularly scheduled professional development sessions with the RMHs and Junior High faculties. Another example was Ms. M's collaboration with a Hill Middle School social studies teacher. She conducted the technical aspects of the Google Earth application for students, and the teacher cotaught the subject area elements of the assignment.

The RMSD ITCs were aware of their technical rational knowledge and they use this as a source of authority for leadership in the diffusion of high access teaching and learning. ITCs in the RMSD had and used technical rational sources of authority for leadership. The coaches stayed current in their field. They were members of local, regional, and national professional organizations. The ITCs were commonly grounded in best practices literature and current professional standards for teaching and learning. Coaches' referred to standards of practice such as the State Effective Teaching Standards and the National Educational Technology Standards for teachers and students. ITCs

maintained memberships in professional associations and currency in the popular culture and the practitioner press. ITCs in the RMSD had and used technical rational sources of authority for leadership.

Asserting Privileged Knowledge and Skills

Through their positions, the RMSD's ITCs had greater access to knowledge and skills than their classroom peers. In interviews, coaches showed that they were aware of their privileges of access to knowledge and skills. Participant observations indicated that the RMSD's ITCs had an abundance of instructional technology skills and pedagogical knowledge. They employed their knowledge and skills as a source of authority for leadership. This was considered a technical rational source of authority for leadership.

Teaching as an Applied Science

Study data and analysis indicated that the RMSD's ITCs considered teaching to be an applied science. However, no data from observations, interviews, or archives indicated that coaches considered teaching to be an act of compliance bound by scientific truth. Though ITCs subscribed to methods of obtaining experts' knowledge and skills, there was no data or analysis to indicate that the study's participants considered teachers to be technicians expected to deliver predetermined scripts. In fact, the study's data and analysis indicated that coaches considered technical rational expertise to be informative rather than prescriptive.

Combining Sources of Authority

The RMSD's ITCs had great knowledge about the use instructional technology

for teaching and learning. The coaches were experienced classroom teachers. They were well trained and skilled in the use of instructional technology(s). Their applied pedagogical skill sets often went well beyond the skill sets of regular classroom teachers with regard to employing instructional technology for student learning. Coaches used their knowledge and skills—their technical-rational expertise—as a source of authority for leading the diffusion of high access teaching and learning.

This study indicates that the coaches' technical skills and their pedagogical expertise were synthesized with their respect for the classroom context. Consequently, the ITCs combined aspects of technical rational and professional sources of authority to support classroom teachers in diffusion of high access teaching and learning. Coaches' pedagogical expertise was enhanced because of their exceptional understanding of instructional technology resources. This included their specialized knowledge of computers, networks, software, and other Internet tools.

The power of coaches' technical-rational authority came from an integration of teaching ability and technical expertise. ITCs applied their technical and pedagogical expertise synergistically in leading the high access diffusion in the RMSD secondary schools. RMSD instructional technology coaches employed technical rational sources of authority for leadership.

For example, the ITCs had an expert's knowledge in using the district's selected learning management system—Canvas. Coaches helped to implement the learning management system with a variety of grade levels across the full span of subject areas. The ITC's advanced technical knowledge allowed them to provide training, professional

development, and individual support to a wide variety of content area teachers.

To further the diffusion of high access teaching and learning, the RMSD ITCs were charged with planning and leading some of the faculty professional development sessions at the three secondary schools. This included setting meeting agendas, selecting instructional objectives, planning professional learning activities, and assessing session outcomes.

Evidence, Logic, and Scientific Research

Coaches maintained their expertise through memberships in various e-mail lists, list serves, forums, and statewide instructional technology organizations. The reviewed archives show that the RMSD's ITCs recognized the importance of new and emerging information about teaching and learning with technology. By staying abreast with current practices, the coaches had access to technical rational sources of authority for leadership in diffusion of high access teaching and learning.

With these professional development leadership affordances this study finds evidence that the RMSD's ITCs were appropriately positioned to diffuse this innovation. They utilized their technical and pedagogic knowledge about instructional technology tools—sources of technical rational authority for leadership—in the diffusion of high access teaching and learning.

Technicians Executing Predetermined Scripts

Observation and interview data indicated that the ITCs sought deep engagement and meaningful application. None of the study's qualitative data suggested that coaches

were seeking execution of predetermined teaching/learning scripts by classroom teachers.

For example, in a lesson-planning observation with a classroom teacher, Mr. T often voiced, “What do you think about this?” His problem-solving stance, rife with respect for the classroom context, provided just one example of how the ITCs would maintain peer-like and partnership stances with classroom teachers to design learning opportunities for students.

There was not observation or interview data that suggested that coaches were guiding classroom teachers to simply execute predetermined scripts. Great efforts were shown by the coaches to provide supports in creative instructional design. Observations of teacher conferences and professional development sessions suggested that coaches were very respectful of the classroom context.

Limits of Technical Rational Authority

In a participant-checking interview, Mr. N indicated that over time his own superior technical rational expertise with Instructure’s Canvas’ had faded. He expressed that this decrease in his expertise, and a concurrent rise in peers’ expertise, signaled a lack of need for the instructional technology coaching role. In fact, Mr. N had resigned from the position to return to classroom teaching. Near the end of the study, Mr. N declared that his days as a coach had concluded when his faculty peers knew as much about Canvas as he did. This study participant declared the end of his expert’s technical rational expertise as a signal of the end of the district’s need for his role as an ITC.

Professional Sources of Authority for Leadership

ITCs in the RMSD understood and used professional authority. The coaches stayed current in their field. They were members of local, regional, and national professional organizations. The ITCs were commonly grounded in best practices literature and current professional standards for teaching and learning. The participant coaches' referred to standards of practice such as the State Effective Teaching Standards and the National Educational Technology Standards for teachers and students. ITCs maintained memberships in professional associations and currency in the popular culture and the practitioner press. These memberships and currencies marked the participants as having potential for technical rational sources of authority for leadership.

However, there is a distinction between coaches' use of technical-rational and professional sources of authority. That distinction was in the marked respect that coaches displayed for the teaching prowess of their regular classroom peers. ITCs utilized their technical rational expertise in ways that were respectful of the contextualized professional knowledge of classroom teachers. A marked element of respect for the classroom teacher was the distinguishing point between coaches' application of technical rational sources of authority and their use of more potentially expansive professional sources of authority for leadership.

Awareness and Use of Professional Sources of Authority

This study indicates that the RMSD's ITCs are aware of professional sources of authority; they are commonly grounded in best practices literature and current

professional standards for teaching and learning. More critically, for employing professional sources of authority for leadership, the RMSD's ITCs validated and promoted teachers' contextualized role in high access teaching and learning.

Professional Development and Support

Archival documents and observation notes showed that the ITCs were very active in creating and facilitating teacher professional development in strategies for high access teaching and learning. A major portion of the work of the district's coaches was devoted to planning and delivering formal or informal teacher professional development. In many cases, there were overt attempts on the part of the coaches' to be inclusive of the pedagogy and curriculum of the classroom teachers when planning for their professional development.

Dialogue as a Source of Authority

Observed in professional development sessions and in teacher instructional conferences, ITCs used dialogic stances in supporting teacher colleagues' implementation of high access teaching learning. Though some time was spent in professional development sessions telling participants about innovations and teaching applications, this time was always balanced with open-ended questions and tasks—opportunities for teachers to engage with instructional technology in ways that made it personal and more meaningful. This approach through dialogue represented the ITCs' use of professional sources of authority for leadership.

Consistent or Multivariate Practice

This study found that ITCs promoted both consistent and multivariate teaching practices. The consistencies were found in district-selected protocols; for example, the district's mandated use of the Canvas instructional management system.

Multivariate practices included the ways that coaches supported classroom teachers in their uses of Canvas. Observations of the ITCs during professional development sessions showed that coaches supported and encouraged teachers in idiosyncratic practices, often based upon the subject areas or disciplines taught. For example, the guidance that was provided for English teachers varied greatly from the support coaches provided to mathematics teachers. The ITCs provided differentiated professional development to support teachers' multivariate practices.

Inform or Prescribe Teaching

The participant ITCs used their expertise to inform teaching, rather than to prescribe teaching. This was a key element in distinguishing the participants' use of technical rational from their use of professional sources of authority. Study data indicated that the RMSD's ITCs were likely to inform their teacher peers, not prescribe practice for them. Coaches did not use their instructional technology expertise in ways that teachers viewed as mandated, required, or prescriptive. Prescriptive measures were affiliated with building principals and district administrators, those with the affordances of bureaucratic sources of authority for leadership.

Classroom Credibility

ITCs asserted that their experience as classroom teachers—both past and present during the course of this study—lead credibility to their work with classroom teachers. In interviews and informal conversations, ITCs indicated that “street cred” is important. A background in classroom teaching helped ITCs tap into professional sources of authority for leadership in the diffusion of innovation.

The RMSD’s ITCs were able to tap professional sources of authority. The ITCs were experienced classroom teachers. They understood the regular classroom teachers’ work. The ITCs’ understanding leads to credibility and is an avenue to utilizing professional sources of authority for leadership.

Classroom Teaching

ITCs asserted that prior classroom teaching was an important element in their work with teachers. Their assertion suggested that professional sources of authority for leadership may be boosted by classroom experience. Perhaps classroom teaching experience is a prerequisite for exercising professional sources of authority for leadership.

Moral Sources of Authority for Leadership

This study did not yield evidence that coaches’ use of moral authority as a source of authority for leadership in the RMSD. However, regarding ITCs and moral leadership, this study is inconclusive.

The body of gathered qualitative evidence—when viewed through the characteristics and strategies that defined moral sources of authority—showed that within

the RMSD there was concern for equity and access for underprivileged student populations. This was evidenced in conversations in school district meetings.

However, during the course of my fieldwork, there was no qualitative evidence that ITCs' tapped into widely shared values, or appealed to shared commitments, or proposed that which was right and good was more appropriate than that which was considered effective. These were appealing leadership approaches to the study's participants, but not evidenced by study data collection. There was potential for coaches' to employ moral sources of authority for leadership, but this potential is unverified by this theory-based ethnographic case study.

Awareness of Moral Sources of Authority

This research, study, and analysis did not yield convincing evidence that ITCs were aware of moral sources of authority. There was no significant qualitative evidence gathered that suggested that coaches employed moral sources of authority for the diffusion of high access teaching and learning. However, there were certain moral dimensions incumbent to the leadership roles played by instructional technology coaches.

For example, in one particular instance during the study, Mr. N talked with me about a moral dilemma that involved access to the learning management system by special education paraprofessionals. The paraprofessionals proposed to teachers that they should have full access to assignments, quizzes, and tests to support their students' individual education plan goals. RMHS faculty members had opposed this proposed access. The teachers felt that such access would provide academic privileges—contrary to fostering students' efforts—to special education students that were not available to

general education students. The special educators' argument was that the special needs of their students did merit such support. Mr. N had an academic background in philosophy and theology, and he struggled with comprehending the general educator's position on this moral issue.

Also, this study did find that there was evidence at the policy level for moral applications of the diffusion of high access teaching and learning. For example, the director of the RMSD's Education Foundation often voiced a strong interest in closing the digital divide for minority, low-income, low-achieving students. (The RMSD's Education Foundation is a nonprofit fundraising organization whose mission is to support District teachers and students.) In district meetings and through informal conversations, the director often voiced great concern that underprivileged students, mostly poor Latino families, did not have Internet access in their homes. This lack of access could be considered a moral problem; privileged families were able to provide costly wireless access in their homes, but poor minority families could not. The Foundation director was quite passionate about finding solutions to overcome this last element of the digital divide in the school district's diffusion of high access teaching and learning. The director seemed intent on harnessing moral sources of authority for leadership in addressing this access issue.

Though there was no evidence that ITCs harnessed moral sources of leadership, there were qualitative indicators for moral authority to be used in the school districts' efforts to diffuse high access teaching and learning.

Coda: Complementary Sources of Authority

This research study suggests that leadership in the diffusion of high access teaching and learning in the RMSD can be illustrated as three educators' positions and each the respective sources of authority for leadership of each position (see Figure 1).

This study found that certain sources of authority for leadership were embedded in three distinct educator roles: (a) teachers have professional authority, (b) ITCs had and used technical rational authority, and (c) principals were endowed with bureaucratic authority. Each of the three educator positions had leadership that could be used in the diffusion of high access teaching and learning.

Bolman and Deal (2013) contended that individuals increased the amount of power they held in their position by combining their power with a complementary form of power held by another player in the relationship. An ITC may not have bureaucratic

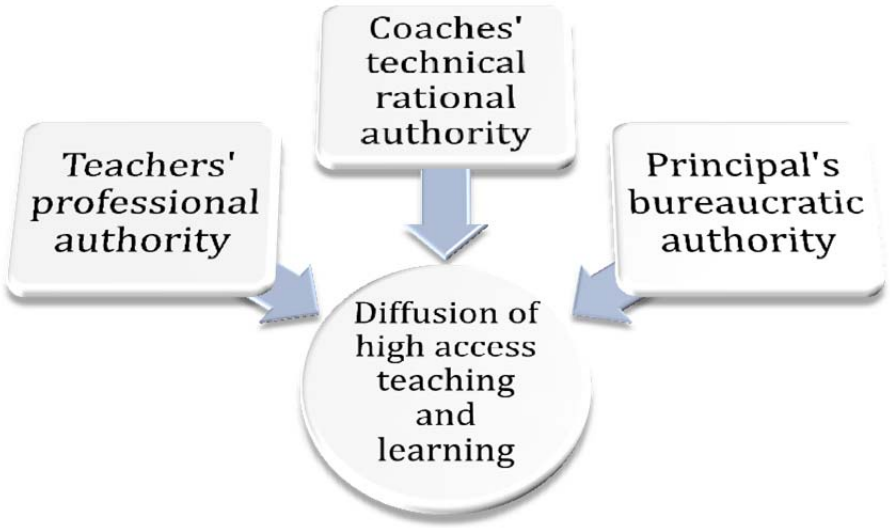


Figure 1. Teachers, coaches, and principals.

power, but may act under the bureaucratic power held by the principal. The teacher had professional authority evidenced by control of and autonomy within the classroom, but may be lacking the technical rational authority of an ITC. The principal might be lacking power drawn from a technical rational source, but could combine his or her bureaucratic authority for leadership with professional sources of the teacher and the technical rational power of the instructional technology coach to affect the diffusion of high access teaching and learning into the classroom setting.

A major outcome identified by this study is an enhanced understanding of the complementary relationship between the instructional technology coach, the principal, and the teacher based on the sources of authority they each possess.

Figure 2 illustrates that the three educator positions and their incumbent sources of authority for leadership may be conceived as interdependent. Working together teachers, coaches, and principals may provide the schools with complementary or synergistic sources of authority for leadership in the diffusion of high access teaching and learning. Each educator role had potential to provide schools with a distinct form of leadership. Perhaps teachers, coaches, and principals—and their respective sources of authority for leadership—should be deployed as necessary, collaborative, and interdependent.

Figure 2 also demonstrates how teachers, coaches, and administrators may collaborate and apply their respective sources of authority for leadership for diffusion. The suggestion is to appropriately harness the potential for each position to collectively enhance leadership for diffusion of innovation. In addition, perhaps a system's

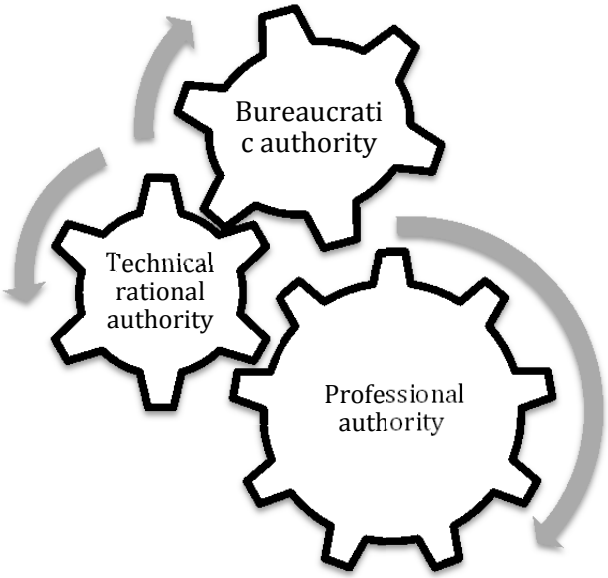
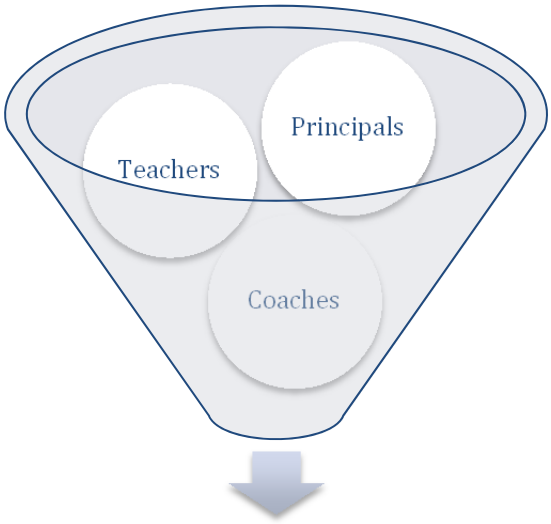


Figure 2. Complementary uses of the sources of authority.

leadership is enhanced by harnessing the potential of moral sources of authority (see Figure 3).

The funnel—representing a channeling of administrators, coaches, and teachers toward available moral sources of leadership—illustrates an assertion that each of these educators had access to moral sources of authority for leadership. Figure 3 suggests that working together administrators, coaches, and teachers may collaborate to provide expansive leadership by collectively employing moral sources of authority. Moral sources for leadership represent a source of authority that is accessible to all three positions.

Figures 1-3 show that certain sources of authority for leadership are specifically inherent in the positions of administrator, coach, and teacher. Each of these positions and their specifically inherent sources of authority for leadership are interconnected and



Flow to Moral Sources of Authority for Leadership

Figure 3. Untapped potential: Moral sources of authority for leadership.

interdependent. Finally, this interdependent relationship can be further enhanced if all educators were to surface and use moral sources for leadership (see Figure 4).

This section intentionally limits further discussion of psychological sources of authority for leadership. Theoretically, this source of authority is wide—ranging from bartering and trading to relationships of trust to humor and charisma. Consequently, the theoretical boundaries and definitions are uncertain for psychological sources of authority. Perhaps further academic study will clarify the proper taxonomy and place of the varied characteristics that constitute psychological sources of authority for leadership.

Areas for Future Study

This study and dissertation suggests five areas for future research: (a) the consequences of the various sources of authority for leadership, (b) the effect of

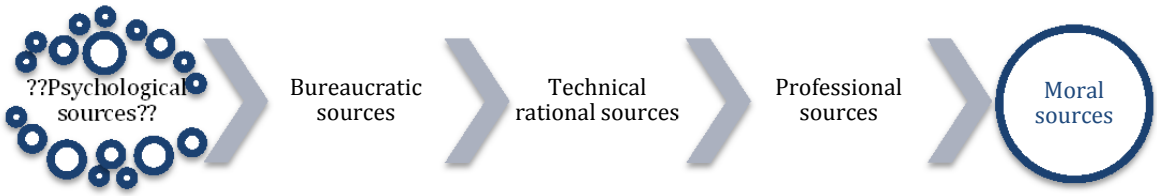


Figure 4. The limitations of psychological sources of authority.

combinations of the five sources of authority for leadership, (c) the relationship(s) between diffusion characteristics and the sources of authority for leadership, (d) the application of sources of authority theory and the emerging paradigm of professional learning communities in schools, and (e) the need to analyze emergent educational leader standards with the theoretical sources of authority.

Consequences of the Five Sources of Authority for Leadership

Additional research is needed to verify the profound consequences asserted by Sergiovanni (1992). He stated that there are certain performance consequences affiliated with school leaders' use of each of the five Sources of Authority (see Table 28).

Educators who recognize and use bureaucratic, technical rational, and psychological sources of authority for leadership may anticipate narrowed school performances. Educators' use of professional sources of authority will lead to expansive school performance. Educators who employ moral sources of authority will realize expansive and sustained performances in schools. Additional research is needed to explore the notable consequences asserted by Sergiovanni (1992). It is possible that the outcomes of applications of bureaucratic, psychological, and technical rational sources of

Table 28

Consequence of Sources of Authority for Leadership

Source of authority for leadership	Performance is…
Bureaucratic	Narrowed
Psychological	Narrowed
Technical rational	Narrowed
Professional	Expansive
Moral	Expansive and sustained

authority are "focused" rather than "narrowed." If so, there are major implications regarding the effectiveness of application of these sources of authority for leadership.

Combinations of the Five Sources of Authority for Leadership

This qualitative study of ITCs indicates that each source of authority for leadership does not manifest in isolation. In action, the sources of authority are not independent of one another. Table 29 illustrates how educators may pair sources of authority for leadership for use with one another. Additional research is needed on how, or whether, each source of authority for leadership complements or contradicts. Also, further academic research is needed to update, verify, and reinvigorate the characteristics, strategies and functions of each of the five theorized sources of authority for leadership. Table 29 suggests a starting point for such inquiry and investigation.

Sources of Authority for Leadership and Diffusion of Innovation

Diffusion research (Rogers, 1995) produced four characteristics in the diffusion of

Table 29

Combinations of Sources of Authority

SoA	BA	PsA	TRA	PA	MA	Consequences
BA	-					?
PsA	PsA+BA	-				?
TRA	TRA+BA	TRA+PsA	-			?
PA	PA+BA	PA+PsA	PA+TRA	-		?
MA	MA+BA	MA+PsA	MA+TRA	MA+PA	-	?

innovations: (a) the existence of social networks, (b) the function of communications channels, (c) the variable of time, and (d) the characteristics of an innovation. This study suggests further research into the relationship between the four characteristics of diffusion, and the five sources of authority for leadership (see Table 30).

Sources of Authority and ISSLLC Leadership Standards

The Council of Chief State School Officers (2014) provided administrators with standards for leadership in education. This study suggests using the sources of authority for leadership as a theoretical framework and tool of analysis for examining the ISSLLC standards. The draft standards are: vision and mission, instructional capacity, instruction, curriculum and instruction, community of care for students, professional culture for teachers and staff, communities of engagement for families, operations and management, ethical principles and professional norms, equity and cultural responsiveness, and continuous school improvement.

Table 30

Sources of Authority for Leadership and Diffusion of Innovation

Source of authority	Social networks	Communications channels	Variable of time	Innovation characteristics
Bureaucratic	BA/SN	BA/CC	BA/VoT	BA/IC
Psychological	PsA/SN	PsA/CC	PsA/VoT	PsA/IC
Technical Rat.	TRA/SN	TRA/CC	TRA/VoT	TRA/IC
Professional	PA/SN	PA/CC	PA/VoT	PA/IC
Moral	MA/SN	MA/CC	MA/VoT	MA/IC

Sources of Authority for Leadership and Professional Learning Communities

Sergiovanni's (1992) theoretical leadership framework had important implications for the popular school improvement initiative known as professional learning community (DuFour, DuFour, Eaker, & Many, 2010). If Sergiovanni's theory is correct, then school leaders should be wary of applying bureaucratic, psychological, and technical rational sources of leadership within emerging professional learning communities.®

In summary, this study identified five areas for future research including the consequences of various sources of authority for leadership, effect of combinations of the five sources of authority for leadership, relationship(s) between diffusion characteristics and the sources of authority for leadership, the function of emergent leadership standards in light of sources of authority theory, and finally the application of sources of authority theory and the emerging paradigm of professional learning community.

Conclusion

Some characteristics of each of the five theoretical sources of authority for

leadership are present in the RMSD. However, not all five sources of authority were available to or used by ITCs in the diffusion of high access teaching and learning in the RMSD.

This research study indicates that ITCs recognized bureaucratic sources of authority in the RMSD. However, study participants did not have or use bureaucratic sources of authority for leadership in the diffusion of high access teaching and learning.

The school district's ITCs recognized and used some facets of both psychological and technical rational authority. Applications of these sources of authority for leadership may be considered restrictive in diffusing high access teaching and learning. Administrators and coaches should be mindful of the limiting potential that may accompany the use of psychological and technical rational sources of authority for leadership.

There is strong evidence from this study that the participant coaches recognized and use professional sources of authority for leadership. Use of professional sources of authority may be considered expansive in diffusing high access teaching and learning. Administrators and coaches should attempt to further their use of a professional source of authority for leadership.

Finally, this research study is inconclusive regarding ITCs' understanding and use of moral sources of authority for leadership. There is post-study evidence of coaches' understanding of the power of moral sources, but there was no evidence of coaches' use of moral sources of authority for leadership during the course of the study.

The application of moral sources of authority for leadership may be considered

expansive and sustaining for the diffusion of high access teaching and learning. Consequently administrators, coaches, and teachers should identify and activate the collective commitments, core values, and shared beliefs that are vital for moral leadership.

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APPENDIX

BIOGRAPHY INTERVIEW

State date, time, location, participant's name. (NOTE: This is a semistructured interview that establishes the professional history of participants—their entry, practice, and projected exit from the position. With this protocol I hope to explore and learn more about informants' perceptions about the development of the RMSD's initiative for High Access Teaching and Learning).

Entry. How did you get started in education? Let's talk about how you ended up in the position you're in now.

Career. What is it that ITCs do? Let's read each of these items on the job description—how has each played out in the workplace?

Exit. How do you see this position playing out for you? For other Coaches outside of the RMSD? What do you see yourself doing in five years? Ten?

Template. Basic parameters, during interview.

Participant	Years Taught	Years Coach	Levels	Is an ITCs a school leader?
MN			High School	
SM			Elementary, Middle, High School	
ST			Elementary, Middle School	

EDUCATOR INNOVATOR INTERVIEW

Compared with the majority of your teacher peers would you say you are:

1.more likely / less likely to take-in teacher mass media

2. more likely / less likely to seek out new ideas about teaching & technology

3. more likely /less likely to have extended peer networks around teaching

4. more likely / less likely to cope with uncertainty in a new teaching practice

5. more likely / less likely to be among the first to adopt/try a new idea

6. more likely / less likely to depend on the opinions of others about a new idea

DIFFUSION CHARACTERISTICS INTERVIEW

Date: **Participant:**

1.The innovation. (Refer to ITC's biography interview: what are the characteristics of HATL?)

•*Innovations.* Today I'd like to talk about a. canvas b.1student/1laptop c. high access d. other emic perspectives. Tell me about _____.

•*Characteristics of the innovation*. So, you've mentioned _____ & _____. What are some of the other major characteristics of _____?

2.Communication Channels. In what ways do practitioners communicate about _____? Have you noticed that any of these channels of communication are more prevalent? How about more effective than others?

•*Heterophily* and *Diffusion.* How does your relative level of skill and knowledge relative to a teacher effect the way you work with a teacher?

3.*Time*. What is the role of time in the school's adoption of high access teaching and learning?

•The *innovation-decision process.* Was the impetus for the High Access initiative from teachers? Does this matter? In what ways?

•*Innovativeness* and *Adopter Categories.* In your experience, do teachers take to HATL at different rates? Do you sense 'categories' of adopters?

•*Rate of Adoption*. What effects different teachers different rates of adoption of high access teaching and learning?

4. A Social System. Schools are a social system. What does that mean?

•*Social Structure and Diffusion*. What school structures effect the adoption of new ideas like High Access Teaching and Learning?

•*System Norms and Diffusion*. Are there any social norms that effect educators' adoption of High Access Teaching and Learning?

•*Opinion Leaders and Change Agents*. Are there some teachers that you would identify as opinion leaders or change agents? Why?

•*Consequences* of *Innovations*. What do you see as the consequences of the adoption of High Access Teaching and Learning?

SOURCES OF AUTHORITY

FOR LEADERSHIP INTERVIEW

Sergiovanni (1992) provides readers with descriptors for each Source of Authority for Leadership, including: assumptions when a Source is primary; a Sources' strategy for leadership and supervision; and consequences for when a particular Source of Authority is employed. This protocol consists of excerpts from a table of descriptors. The interviews were recorded and subsequently transcribed and coded for analysis.

Interview Protocol

Informant is provided with a printed copy. Interviewer reads the primer with great expression—pausing to provide comprehensible input. The items are read slowly, pausing for potential responses before going on to the next phrase or question. Indicate the current location with a yellow highlighter mark.

Part I: Bureaucratic Authority, BA

Hierarchies, rules, and regulations are the marks of Bureaucratic Authority. BA is expressed through mandates and role expectations. Participants understand that they must comply with these expectations or face consequences.

Does this Source of Authority seem to be present in your work environment? Can you think of some examples? Is this a Source of Authority that you yourself might apply? What are the implications of this Source of Authority for Leadership?

Part II: Psychological Authority, PsA

Motivational and human relations skills characterize PsA. This is sometimes known as human relations leadership. Teachers are thought to cooperate within the

school environment because of the congenial climate that is established. There is an anticipation of tangible rewards for compliance.

Does this Source of Authority sound familiar? Can you think of recent examples where Psychological Authority has come into play? Is this a Source of Authority that you yourself might apply? Has this Source of Authority been "applied to you"? What are some anticipated outcomes if this Source of Authority for Leadership is primary?

Part III: Technical-Rational Authority, TRA

Scientific research and logical positivism mark this Source of Authority for Leadership. Teachers' compliance is required in light of "the truth." This is sometimes known as best-practices or evidence-based. Research knowledge is privileged over knowledge in practice: factuality and objectivity trump values, preferences, or beliefs.

In our school district is there evidence of Technical-rational authority that you can think of? Are there specific examples that come to mind? Is this a Source of Authority for Leadership that might be applied by an Instructional Technology Coach? What might be some long-term effects or outcomes if this Source of Authority were held primary.

Part IV: Professional authority

Professional Authority is marked by informed craft knowledge and personal expertise. It is assumed that classrooms are idiosyncratic, and that no one 'best' approach exists. Scientific knowledge is used to inform—not to prescribe practice. Professional knowledge is created in use during the course of teaching practices.

As you reflect on this statement can you think of scenarios that represent this Source of Authority, Professional Authority? Is this a Source of Authority that you find in

practice in the school district? Does Professional Authority provide Instructional Coaches with a Source of Authority for Leadership? How so? Is Professional Authority something you utilize in your work?

Part V: Moral authority

Moral Authority is marked by widely understood and shared community values and obligations. These ideals define curriculum, instruction, assessment, and professional development practices. The teaching community spawns and defends positive interdependence on a bedrock of shared commitments. That which is right and good is as important as what is deemed *effective*. Motivation comes internally, from emotion and belief. The school is fully defined as a professional learning community.

Do you recognize Moral Authority at work in your school? In the school district? Can you give examples or cases that might exemplify this defined standard? Are there acts of leadership or practice that remind you of these moral dimensions? Is Moral Authority a Source of Authority for Leadership that you might employ? How so?

10/16/11

Mtg. w Sam Thompson (ST), 10/14/11. re: defining roles & responsibilities for project implementation: inClass DIBELS, Mastery Connect - Journeys, Mastery connect - Common Core Math, Easy CBM Math. We had a talk about authority & Sam's relationship w/ LG - he mentioned "yes boss" attitude (BA), pondering more of a "peer to peer" relationship w/ LG. → 12/8/11 follow up w/ ST on this...

- We're defining the supports/organizational/responsibility structures for project implementation - Is this diffusion? What kind? Is forced diffusion infusion? Without BA can work get done? Can PSYA, TRA, PA or MA ever emerge?

- ST - how he became ETS 'manager' → introduced by LG in this role, so BA is bestowed...

★ PRESENTIFICATION

★ BESTOWMENT of BA/PSYA/TRA/PA/MA

Can each be bestowed?

↳ (?) ST, do you ever say I'll check w/ LG on that?

On 10/13/11 Matt Nagel (MN) led PCHS faculty prof. dev. session. MN is introduced by Hilary Hayes (HH)

ETHNOGRAPHY - what's really going on here?

MNs intro by HH = bestowment of BA

BA can be bestowed on 'lower' ranking members of an organization by higher ranking org members who have BA

Is it a spectrum?

Michele Wallace (MW) @ 10/12/11 admin training w/ inclusion center (TRA) "we know best" educators

MW was questioning this in light of socio-cultural acceptance & understanding of difference...

12/2/11 rec'd

emic

THE FRUSTRATING TAC, 12/16/11

ITCs, espc. MN, express frustration with ITs behavior, language, attitudes

↳ leaving meeting on the minute @ appointed hour

↳ block voting, "did you see them checking each other before they vote - they couldn't just vote on their own, they had to check for the party line.

↳ frustrated w/ ITs commentary when it ranges beyond mere technical commentary, yes/no - etc. i.e. "Why would they need to do that?" re: a proposal for some solution to an instructional design issue.

Meeting I caused tension. BP: "Issue keep/ec..." Same expressed by MN

ST, after conversations w/ 2-3 ITs who lingered after

Nurse & almost skipped to not go. Why? Need to attend all future key events.

RELATIONSHIPS

emic

us & them

(*) followup w MN - frustrated - later e-mailed apology to me

etic

The ITCs aren't accepting of IT staff's reticence to bite off more than they can chew

You were a little frustrated after that last TAC. Can you talk to me about that?

• REMEMBER, CONSIDER including the focus group protocol: a) purpose b) benchmarks c) outcomes measures.

TEACHER MEASURE, SURVEY

• SCHOOL

• SUBJECT AREA

• YRS EXP TEACHING

Ind.

sm. grp → pts. of agr. pts. of dissent

Whole

focus group scribe

What's wrong w/ the IT?	What would ideal be?	Other

1/13/12

- theme: role presentification
  - ↳ intra district
  - ↳ intra school
  - ↳ extra district

1/12/12 : KeepSafe Mtg., USOE basement

MK attended; other school & districts; patron 1st Lady & LegoLeague; I.O.W.A. history - tech endorsement; PCIF funding; dialogue regarding decision making; frustrations w/ IT (B.O.; "basement dwellers") MK frustrated w/ the IT locked door "symbolic" of the situation MK is "underling" for LG → presentification

@ a meeting of Utah Students Connect; "The Directors & their underlings go to sit @ the right hand of their superiors"

PRESENTIFICATION: state office staffer notifies MK that SS Shumway wants a school visit on behalf of state Bd. passage of Tech Standards

- theme: role identification
  - ↳ teacher of teachers
  - ↳ technocrat
  - ↳ quasi-administrator

} are ITCs ever teachers of students?

☆ attend I.O.W.A. Sessions, 1-2 ITCs

KEY EVENTS
SETTINGS

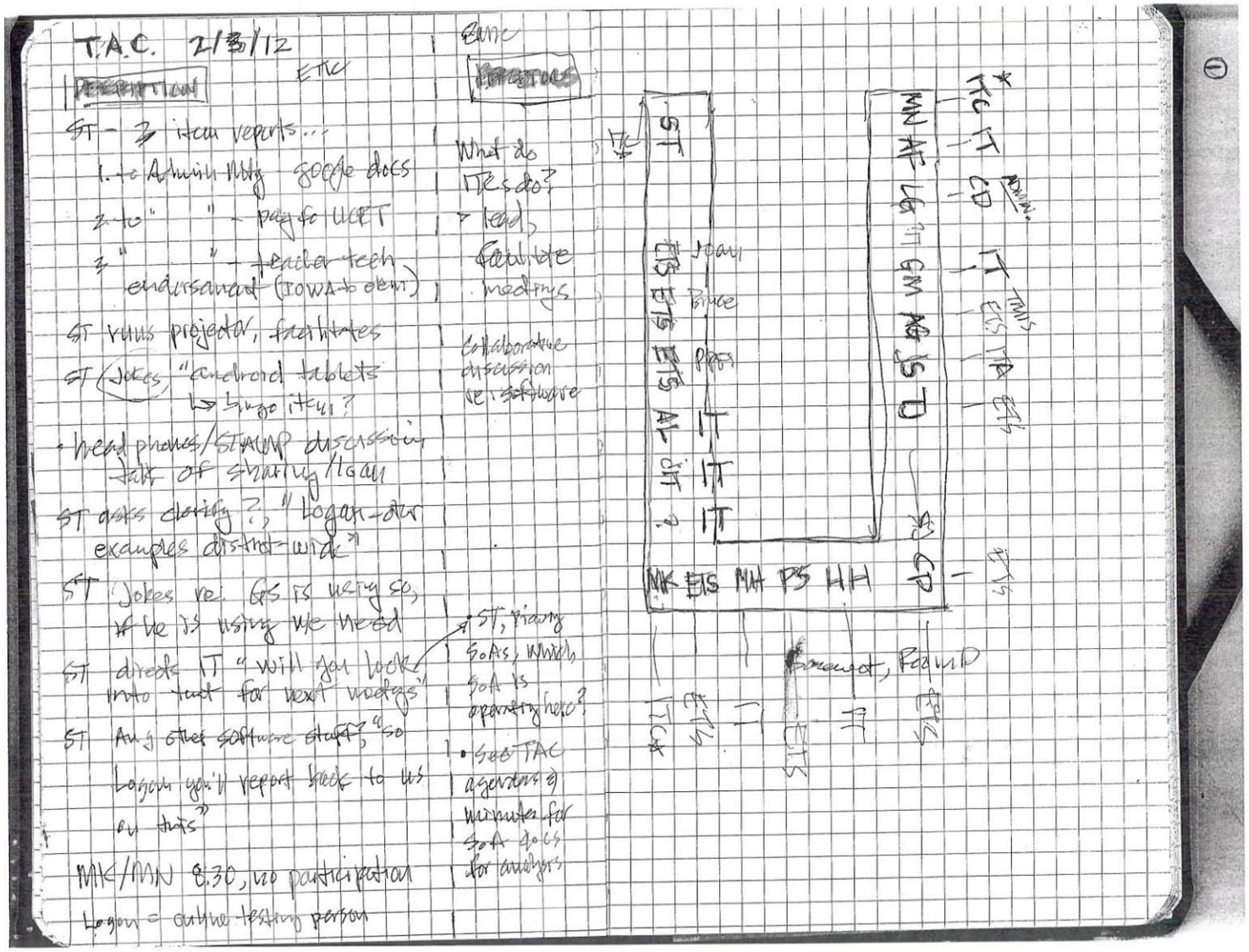
- ☐ TAC
- ☐ Late Starts
- ☐ A.A.T.
- ☐ I.O.W.A.
- ☐ Site Tech. Comm's.

- What do they do?
- Where do they go?
- Who do they see?

MK to Orlando?

MY ACCESS =

- scheduled interviews
- scheduled shadow experiences
- key incidents & events
- archived work
  - ↳ presentations
  - ↳ correspondence



T.A.C. 2/3/12

ETC

PERCEPTION

ST – 3 item reports...

1. to Admin Mtg google docs
2. to " " – pay for UCET
3. " " – teacher tech endorsement (IOWA to elem)

ST runs projector, facilitates

ST (jokes) "android tablets → bugs it?"

• head phones/STAMP discussion talk of sharing/loan

ST asks closing ?, "Logan + our examples distinct-wide"

ST jokes re. GS is using so, if he is using we need

ST directs IT "will you look into that for next meeting"

ST Any other software stuff? "so Logan you'll report back to us on this"

MK/MN 8:30, no participation

Logan = online testing person

Emc

PERCEPTIONS

What do ITRs do?
→ lead, facilitate meetings

Collaborative discussion re: software

• ST, viewing SoAs, which SoA is operating here?

• See TAC agenda & minutes for SoA goals for analysis

ST
TS ETS ETS AT IT ?
IT
IT
IT
Joan
Bruce
pres

MN AT LG IT GM AG JS D
GD
MK ETS MH PS HH

ITC IT
GD
IT
TMS
ETS IA ETS

ETS

ITC
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Bernard, Richard

ANNOTATED JOB DESCRIPTIC

Rocky Mountain School District
Technology Instructional Coach

GENERAL PURPOSE
The Technology Instructional Coach will provide site-based professional development to assist teachers in learning and applying knowledge and skills necessary to implement effective instruction in technology enhanced classrooms

SUPERVISION
Works under the supervision of the Director of Curriculum and Instruction

ESSENTIAL FUNCTIONS
Will coordinate the implementation of the High Access program, designing and implementing job-embedded professional development. Works closely with other instructional coaches.

Helps teachers transfer what they learn about new practices to implement in their classrooms. Collaborates in lesson development, promotes reflection and provides feedback. Establishes a safe environment in which teachers can strive to improve their practice without fear of negative criticism or evaluation.

Provides resources and materials to help teachers strengthen their practice. Helps teachers identify teaching and learning needs, barriers and weaknesses through data analysis.

Serves on the district's Technology Advisory Committee. Works closely with Information Technology personnel in the development, implementation and evaluation of the district's five-year technology plan.

Facilitates district and school-based high quality professional learning working with teams or individuals. Works with individuals, small and large groups to study and implement programs and practices consistent with school and district goals.

Models effective instructional practices. Demonstrates knowledge of current research regarding instructional practices using technology that is linked to student achievement and engagement.

Monitors program effectiveness and progress to provide information and feedback to individual teachers, school and district administrators and the Rocky Mountain Board of Education. Assists in gathering data points to measure effectiveness of high access and to support program sustainability.

Greg Proffit 10/21/13 6:34 AM
Comment [1]: Bureaucratic line of supervision and authority established between district office administrator and school based staff

Greg Proffit 8/5/14 3:52 PM
Comment [2]: Professional authority – expectation of collaboration/collegiality.

Greg Proffit 2/25/13 6:48 PM
Comment [3]: Professional Authority – elements of collegiality within the bounds of the classroom context.

Greg Proffit 10/18/13 9:45 PM
Comment [4]: Technical/Rational Authority – having access to and collecting data about students and teachers, learning and teaching. Access to data is related to a technical rational source of authority for leadership.

Greg Proffit 2/25/13 6:47 PM
Comment [5]: Bureacratic Authority – positions are embedded in the organizational constructs of the Rocky Mountain School District.

Greg Proffit 11/9/13 3:19 PM
Comment [6]: Professional Authority – supporting professional learning…

Greg Proffit 2/25/13 6:45 PM
Comment [7]: Technical-Rational authority linking current pedagogical models of logical positivism with emerging computers and network technologies.

Greg Proffit 10/18/13 9:47 PM
Comment [8]: Technical Rational Authority – utilize scientific and rational studies, the latest and greatest, scientifically proven.

Greg Proffit 2/25/13 6:44 PM
Comment [9]: Bureaucratic Authority – in some cases ITCs have been asked to audit teachers' compliance with administrative directives to utilize the adopted instructional management system.

QUALIFICATIONS

- Applicant must have a minimum of three years of exemplary teaching experience in the Rocky Mountain School District with extensive knowledge of and use of technology to foster student success
- Has the experience and education to serve as a teacher leader
- Demonstrate a commitment to ongoing professional growth and the ability to reflect on one's own practice
- Has a high level of knowledge of pedagogy
- Demonstrate skills in the use of standards-based classroom planning, instruction, and assessment
- Demonstrate knowledge of the developmental needs of students
- Demonstrate skills in collaboration. Has a history of positive and supportive relationships with teachers and administrators. Is able to work with district, school, and grade level/department teams in a variety of capacities
- Has a high interest in designing and delivering professional development at the school and district level.
- Has a high interest in being part of a collegial team
- Demonstrates organizational skills and initiative for working with minimal direct supervision

Greg Proffit 2/25/13 6:42 PM
Comment [10]: Technical – Rational Authority

Greg Proffit 2/25/13 6:41 PM
Comment [11]: Professional Authority as lived out via collegiality and collaboration

Greg Proffit 2/25/13 6:40 PM
Comment [12]: Professional Authority, an embuement of

SNAPSHOT CALENDAR

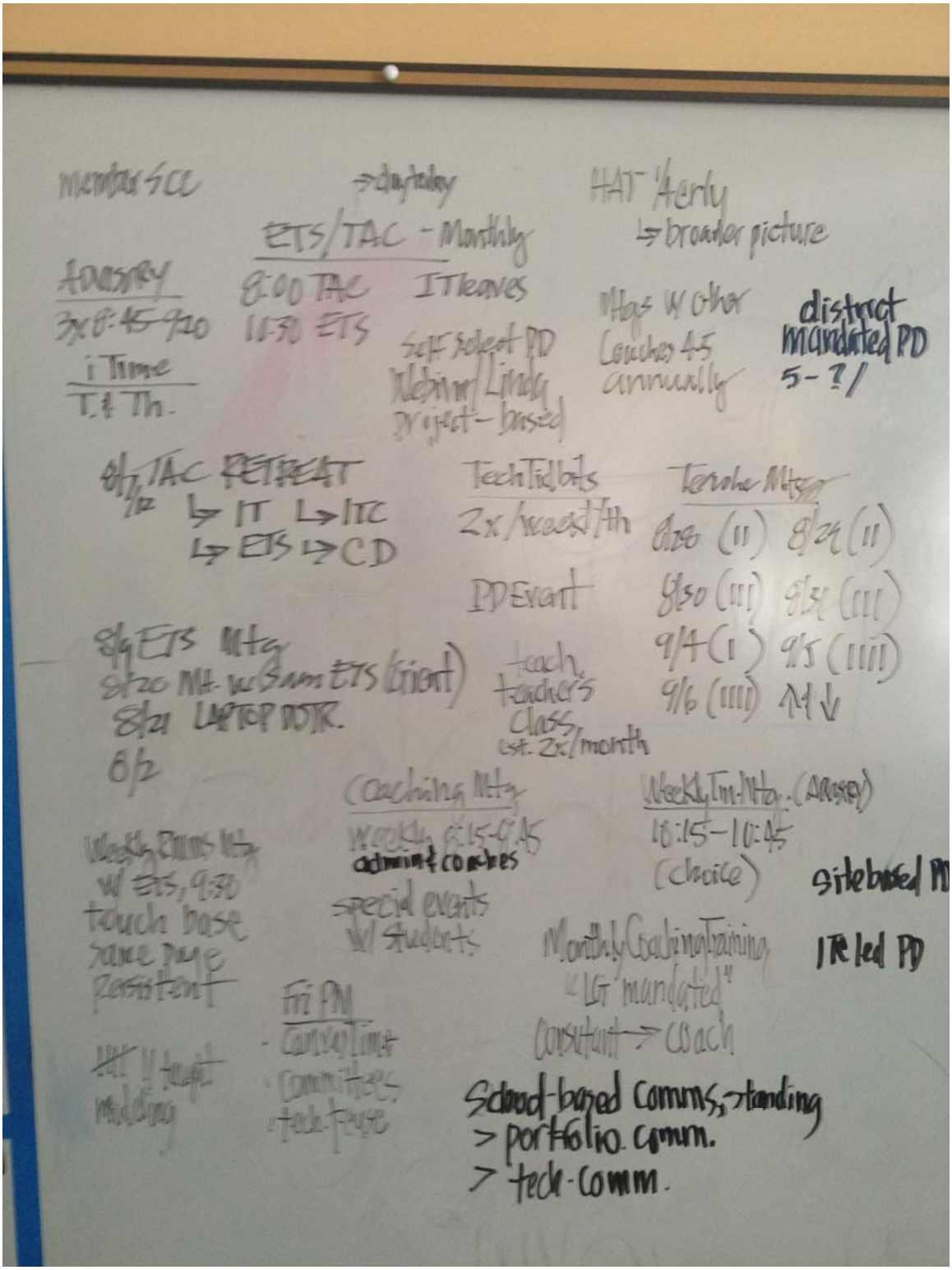
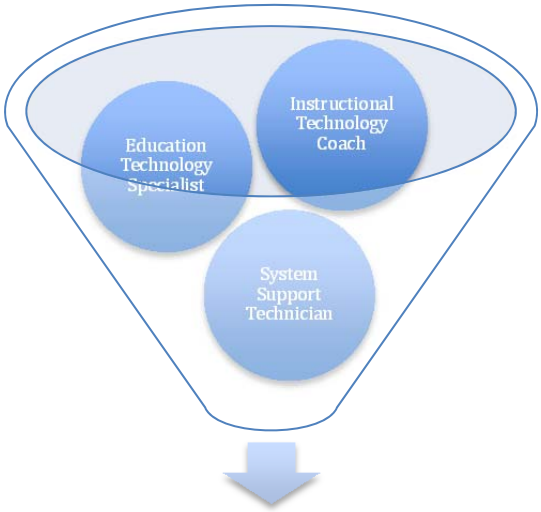
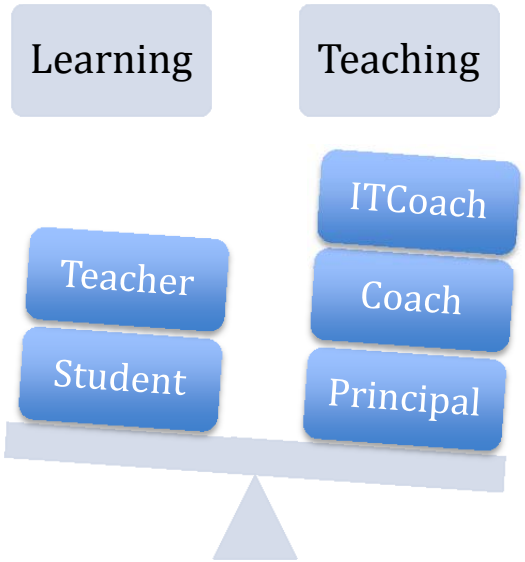


DIAGRAM 1



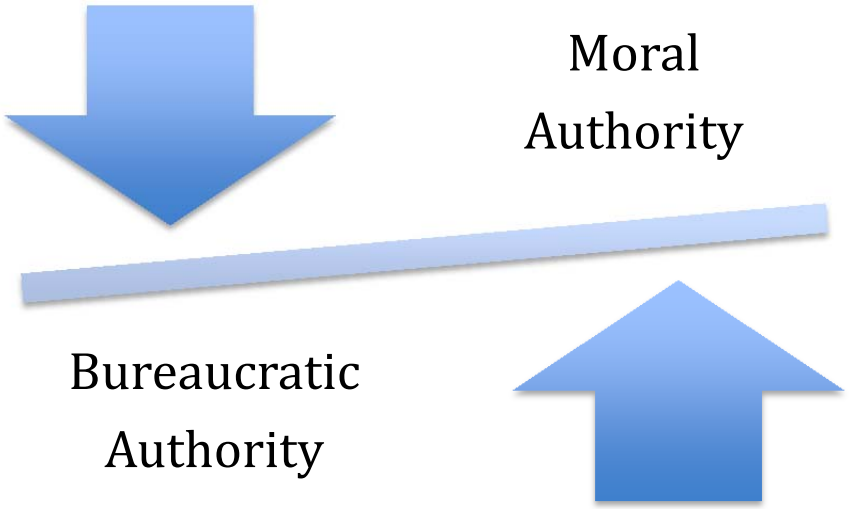
Support for High Access Teaching and Learning Paradigm

DIAGRAM 2



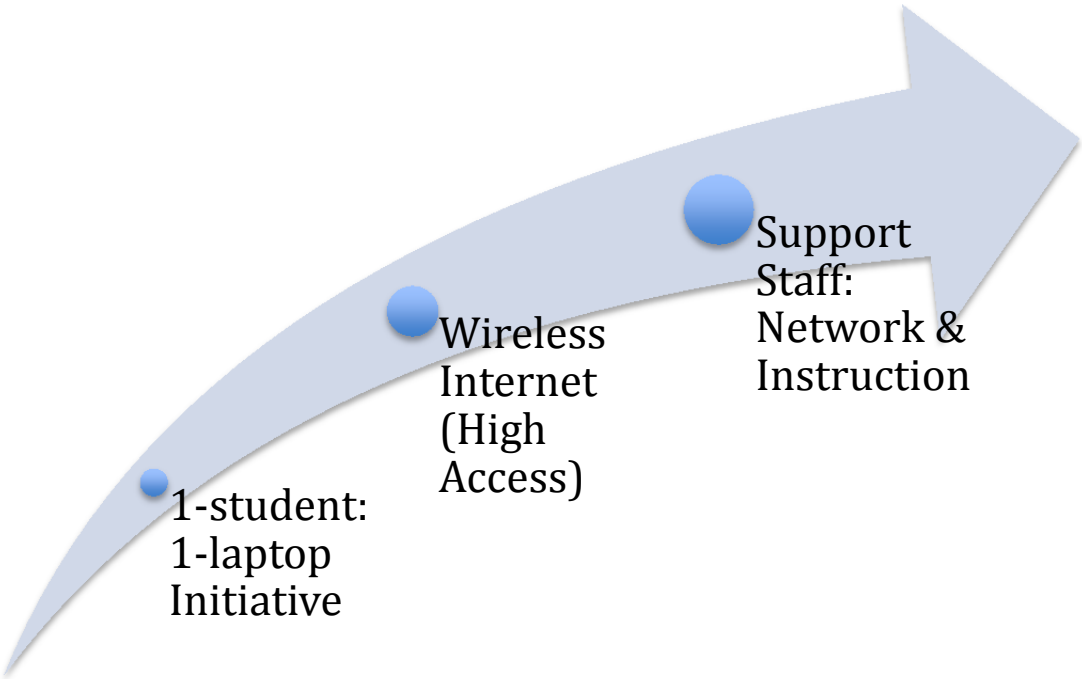
Participants in High Access Teaching and Learning.

DIAGRAM 3



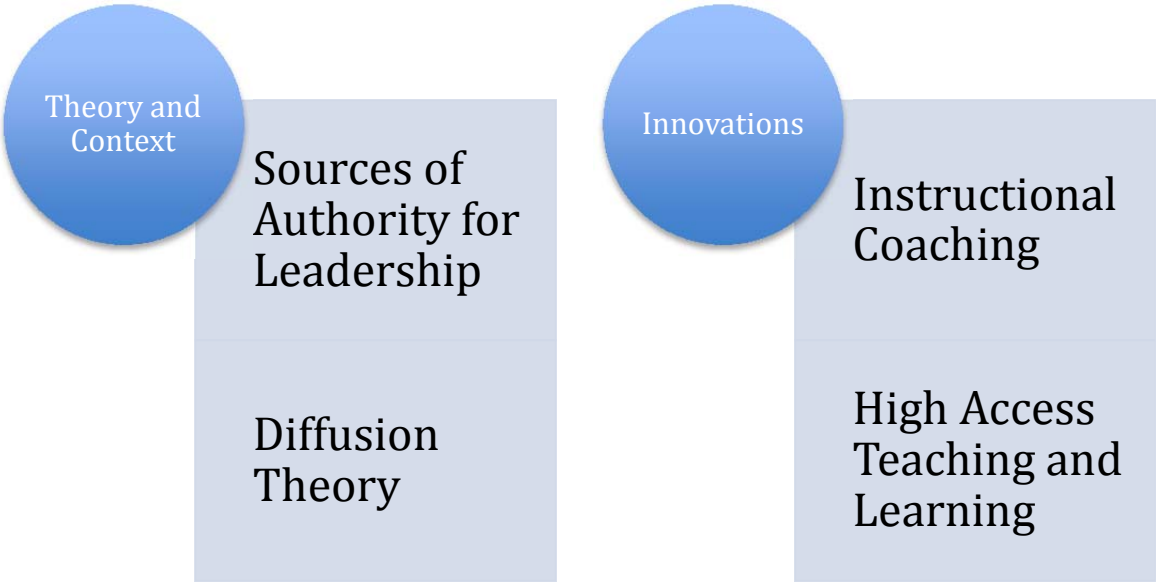
Application of Two Sources of Authority.

DIAGRAM 4



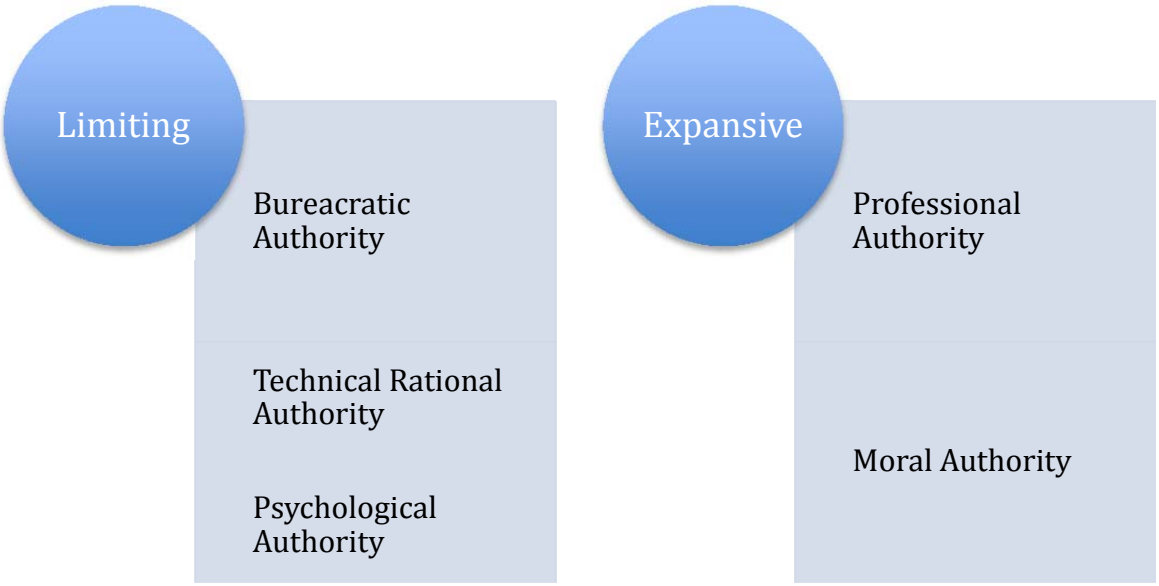
Components of an Innovation - High Access Teaching and Learning

DIAGRAM 5



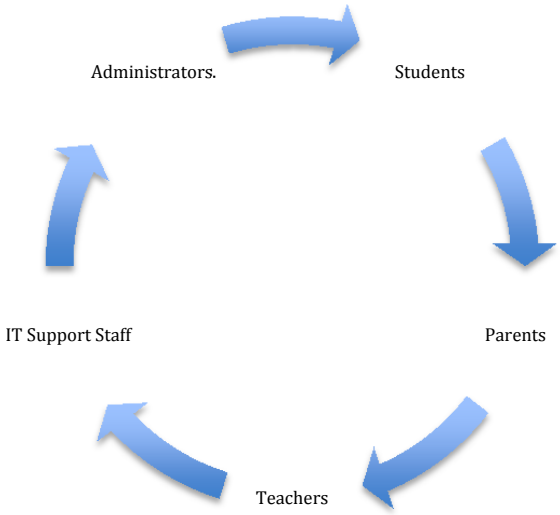
Major Elements of the Research and Dissertation

DIAGRAM 6



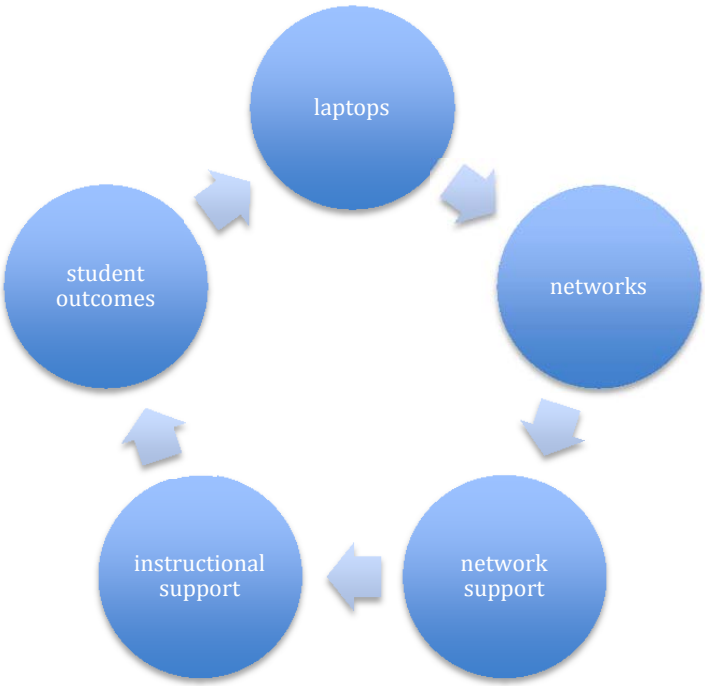
Theoretical Capacities of Sources of Authority for Leadership

DIAGRAM 7



ITCs' relationships

DIAGRAM 8



Theory of Action: High Access Teaching and Learning

LETTER OF INFORMATION

UtahState University
School of Teacher Education
and Leadership
2805 Old Main Hill
Logan UT 84322- 2805
Telephone: (435) 797-0385

Full AAHRPP Accreditation

Page 2 of 2
USU IRB Certified Exempt: 04/10/2012
Exempt Certification Expires: 04/09/2015
Protocol Number: 4413
IRB Password Protected per IRB Coordinator

LETTER OF INFORMATION
Instructional Technology Coaches' Sources of Authority for Leadership in the Diffusion of High Access Teaching and Learning: An Educational Ethnography

Confidentiality Research records will be kept confidential, consistent with federal and state regulations. Only the investigator will have access to the data which will be kept in a locked file cabinet or on a password protected computer in a locked room. To protect your privacy, personal, identifiable information will be removed from study documents and replaced with a study identifier. Identifying information will be stored separately from data. Records will be destroyed immediately following the completion of the study.

IRB Approval Statement The Institutional Review Board for the protection of human participants at Utah State University has approved this research study. If you have any questions or concerns about your rights or a research-related injury and would like to contact someone other than the research team, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu to obtain information or to offer input.

Investigator Statement "I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered."

Signatures of Researchers

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CURRICULUM VITAE

GREG PROFFIT

EDUCATION

2015 Doctor of Philosophy, Utah State University. Dissertation: Sources of Authority for Leadership, Instructional Technology Coaches, and Diffusion of High Access Teaching and Learning

1994 Master of Education, University of Texas at Austin - Educational Leadership, Curriculum and Instruction

1984 Bachelor of Arts, Elementary Education, University of Wyoming, Laramie

CERTIFICATION

Texas, Mid-Management and Supervision; Elementary Grades 1-8; Reading 1-8
Utah, Administrative/Supervisory, Grades K-12; Elementary Education, Grades 1-8

SCHOOLS

2013-2015, Principal, McPolin Elementary School and PCSD School Community Council Administrator, Park City, Utah

2010-2013, Principal and District Administrator, Park City Learning Center, Park City, Utah

1998—2010, Principal, Ecker Hill International Middle School and Jeremy Ranch Elementary Schools, Park City, Utah

1997-1998, Assistant Principal, Jeremy Ranch Elementary and Treasure Mountain Middle Schools, Park City, Utah

1996-1997, Assistant Principal, O Henry Middle School, Austin Independent School District, Austin, Texas

1992-1996, Teacher, 6th-8th Grade Language Arts and United States History, Walter Prescott Webb Middle School, Austin, Texas

1987-1992, Teacher, 8th Grade Reading and Reading Improvement, Perkins Intermediate School, Brownsville ISD, Texas

1984, Student Teacher, 4th-6th Grade Language Arts, Social Studies and Mathematics, Pioneer Elementary School, Torrington, Wyoming

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