

A GROUNDED THEORY STUDY ON LEADERS WHO LEAD BY LEARNING:  
PUBLICALLY AND PURPOSEFULLY

DISSERTATION

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San Marcos, Texas  
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A GROUNDED THEORY STUDY ON LEADERS WHO LEAD BY LEARNING:  
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## **DEDICATION**

In memory of my parents, Don and Virginia Buehner,  
who encouraged me, through their example, to love, learn, and laugh

To my brother, Mike Buehner,  
who encourages me, through his example, to be courageous, loyal, and committed

To my sons, Matt Buehner and Bobby Brown,  
who encourage me, through their example, to innovate and explore new ways of thinking

And to my husband, Kevin Johnson,  
who encourages me, through his example, to persevere

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## **ABSTRACT**

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SUPERVISING PROFESSOR: DUNCAN WAITE

Although both management and leadership are needed in schools so that schools function efficiently and have leadership for continuous improvement, English (2012) reports that the majority of professional research and literature focuses on the management, rather than leadership, of learning. This grounded theory study examines the practices of three leaders, a retired urban principal, a suburban associate superintendent, and a rural mathematics coordinator, who lead by learning through their organizations. These leaders purposefully utilized shared problem-solving and shared decision-making through shared learning in a collective leadership paradigm purposefully fostering a learning culture within. The central question that guides the collection and

analysis of the qualitative data is this: what are the practices implemented by leaders who lead by learning to create learning cultures for their organizations?

The qualitative data generated from interviews and observations of the three leaders is triangulated with the theoretical perspective of lifeworld and systemsworld borrowed from Habermas's Theory of Communicative Action and the theoretical perspective of the Chaos Theory. In this study these leaders use distributive power and a focus on collective learning to (a) create a collaborative culture, (b) share decision-making, and (c) build capacity. Fractals, representing self-similarity, are used as a metaphor to represent the learning culture created when the adults as well as students are learners within a district or campus. A network-type structure providing space for dialogue rather than a hierarchical structure allows for shared problem solving and decision-making and provides the opportunities for educators to self-organize rather than being managed by the leaders in this study. The findings from this study offer ideas for educational leaders who are purposefully developing learning cultures in their districts and campuses.

## **CHAPTER I**

### **INTRODUCTION**

#### **Purpose of Study**

This grounded theory study examines the phenomenon of leaders who lead by learning through purposefully fostering a learning culture within their organization. Leaders who lead by learning devote time and energy to developing teams that construct new knowledge, continually build intellectual capital, and that are committed to learn from one another at every level of the organization (Tichy, 2004). Through this study I seek to examine, uncover, and articulate specific practices of leaders who are in positions with access to resources and who intentionally develop human and social capital within their organizations. The practical applications of this study are centered on developing an understanding of leaders who lead by learning as well as the practices and actions taken to foster a learning culture within their organizations. The central and broad question which guides the research in this study is this: what are the practices implemented by leaders who lead by learning to create learning cultures for their organizations?

To understand the lens by which the researcher collects, analyzes, and reports the data and the theory developed and presented in this paper, it is important for the reader to know the assumptions regarding leading and learning held by the researcher.

Articulating any assumptions that may affect bias seems critically important to the reporting of the study. Reporting assumptions and biases should be made as explicit as possible so that others may understand and take into account while judging our work (Dewalt & Dewalt, 2002). The efforts of communicating assumptions are not intended to transform the reporting account into a personal one but rather to help each reader understand the position of the ethnographer throughout the reporting of the findings (Wolcott, 1999, p. 175). The next section of this paper articulates the assumptions brought to the process.

### **Five Assumptions of the Researcher**

*Schools are where children and adults learn.* Sarason (2004) asked, “What are schools for? The universal answer is that they are places where children learn. No one, educators or otherwise, has ever said that schools are places where teachers learn” (p. ix). If schools are expected to be places that have a learning culture, then shouldn’t everyone be learning, including the adults? Learning is a social process that occurs in an interpersonal and group context that continually reinforces the learner wanting to learn more. Studying the context in which adults productively learn is critical to the school improvement process (Sarason, 2004, p. vii). I assume that for there to be learning cultures in schools in order to promote student success, adults must be productive learners within those contexts.

*Learning is a social process that educators embrace and share as the primary role of education.* Social learning theories, from a primarily psychological perspective, have placed the “emphasis on interpersonal relationships involving imitation and modeling, and have focused on the study of cognitive processes by which observation can become a

source of learning” (Wenger, 1998, p. 280). Extending the view of learning beyond an observation process of acquiring cognitive knowledge, learning includes emotions, values, intuition, and creativity (Kezar, 2005). Sarason (2004) contends that until educational research articulates the basis for distinguishing between productive and unproductive contexts for learning, educational improvement and reform will not be successful. Productive learning is described as “one which engenders and reinforces wanting to learn more” and unproductive learning is described as “absent wanting to learn” (Sarason, 2004, p. x). The perspective that constitutes affective learning has shifted from a focus on the benefits of diligent practice to a focus on understanding and application (Tomlinson & McTighe, 2006). Argyris and Schön (1978) distinguish *single-loop* and *double-loop* learning by the detection and correction of error.

Single-loop learning occurs when the error is detected and corrected without changing present objectives, policies, or procedures. For example, a thermostat reacts to the room temperature by turning the heater on or off (Argyris & Schön, 1978). Double-loop learning occurs when, through the process of detection and correction of error, the correction of the error requires the organization to change not only the actions, as with single-loop learning, but also the values that govern the theory-in-use (Argyris, 2004, p.10). Cartwright (2002) offers an instructional strategy to encourage double-loop learning through providing the opportunity for learners to dialogue in ongoing interaction with one another in a social process.

*Communities with effective learning cultures nurture double-loop learning.*

Double-loop learning allows for members of the organization to constantly assess the systems to determine whether the systems are effective (Argyris & Schön, 1978, p. 2).

Double-loop learning has occurred in schools when the faculty operates within a learning culture to seamlessly assess their own behaviors in relationship to the environment (Burns, 2002). In complex organizations such as schools, double-loop learning can be used by members of an organization in order to change beliefs and values within the environment.

Double-loop learning is not the opposite of single-loop learning (Argyis, 2006). Single-loop learning has occurred when the agents of a system focus and react to their own behavior without considering the impact to the environment. In an organization single-loop learning encourages stability through reliance and commitment to past policies and procedures. Double-loop learning occurs when organizational members add the purposeful practice of reflection to the adapting process with a shared effort to improve through learning (City, 2009). By establishing a culture of trust, members of an organization can be empowered to experiment and learn from both successful and failed experiments for long-term achievement around the core values and shared purposes (Burns, 2002). In organizations with defensive routines, such as performance appraisals, where trust is limited or compromised, double-loop learning is unlikely to occur (Argyris, 2000).

Kahneman, Gilovich, and Frederick (2002) propose that modes of thinking can be classified into two categories: System I thinking, which is relatively effortless and automatic, and System II thinking, which is more effortful and resource-dependent. System II thinking, involving deductive reasoning, revises System I's procedural understanding through more careful consideration of information and problem-solving (Kahneman, Gilovich, & Frederick 2002; Sloman 1996). System I and System II can be

aligned to the single-loop and double-loop learning defined by Argyris and Schön (1978), considering that deductive reasoning is a fundamental aspect of double-loop learning and that single-loop learning is a result of maintaining the policies and procedures established through automaticity and intuitive implementation.

*Leadership occurs out of commitment to the shared purpose.* Dewey (1938) asserts the importance of learner participation in the formation of the purposes, which direct the learning process, and that purpose is an end-view (p. 67). Expanding on the idea of purpose being the end-view, Senge (1990) suggests that effective leaders understand both the vision and the current reality and understand the creative tension that exists in the gap between the current reality and vision. An outcome of double-loop learning manifests through creative and ongoing adjustment of systems such as policies, structures, or procedures to assist the organization in movement towards the vision, the shared purpose, or Dewey's end-view, formed by the learners.

Articulating commitment to a shared purpose requires the leaders to demonstrate through their actions by personal example what it means to passionately commit. (Kouzes & Posner, 2007). A shared commitment to purpose is necessary in order to share leadership responsibility. In learning cultures where shared commitment to purpose exists, ensuring the team members' compliance to procedures is not the role of the administrator. Instead, school leaders can overcome the power differences in hierachal structures that threaten trust and interpersonal relationships through genuine caring, commitment, and purposeful action (Tschannen-Moran, 2004, p. 16).

School or district administrators functioning as purposeful leaders whose shared purpose is learning demonstrate commitment to this purpose by monitoring structures,

rather than people, to ensure policies, procedures, and systems maximize the impact of the work on the articulated vision and purpose. Hierarchical structures, frequently found in educational organizations, represent the vertical ranking of positions and roles and are dependent upon inequitable resources (Ingersoll, 2003). In an organization where double-loop learning exists, both the systems and implementation of the systems are monitored through the lens of support to the purpose. In hierarchical structures the subordinate's performance is monitored to determine efficiency and implementation of the procedures and policies. Conversely, through providing a network-type structure instead of a hierarchical structure, ideas are contributed from throughout the organization in the shared work of problem solving. Double-loop learning flourishes because solutions are not limited to the single vision of the administrator.

*Leaders' actions, both purposeful and unintended, affect the culture of the organization.* Kouzes and Posner (2007) detail how leaders model the desired culture by their actions within an organization. Purpose and meaning are essential in helping a school become an effective learning community: “to be successful at culture building, school leaders need to give attention to the informal, subtle, and symbolic aspects of school life (Sergiovanni, 2000, p. 1). Reeves (2011) argues that regardless of the policies and procedures in place on a campus, culture determines the level of implementation of a strategy or initiative. Reeves (2012) states, “Culture trumps policy every time.” When experiences in schools do not contribute to cultures wherein learners, both children and adults, want to continue to learn (Sarason, 2004), is school leadership to blame? In complex systems with learning cultures that foster double-loop learning, leadership is not limited to the actions of one, but shared throughout the organization. This study focuses

on the actions of the leaders in positions of power who are placed there through traditional hierachal structures and processes, where the leaders' actions have purposefully created a learning culture where members of the organization implement double-loop learning, shared problem solving, and shared decision-making.

### **Statement of Problem**

Although both management and leadership are needed in schools so that schools function efficiently and have leadership for continuous improvement, English (2012) reports that the majority of professional research and literature focuses on the management rather than the leadership of learning. In many schools, depending upon the extent to which the policymakers don't value teachers and the teachers' ability to make decisions, administrators are expected to utilize the direct supervision leadership approach (Sergiovanni, 2000). In such contexts administrators are expected to provide clear expectations for teachers regarding what to teach and how to teach it. When managing teaching by consistently monitoring the curriculum and instruction of the classroom is a primary role of school administration, hierachal structures and missed opportunities to build trust in teachers to solve problems are the result (Tschannen-Moran, 2004). The general perception of leadership is that leadership is tied to a person rather than a group action (Dufour & Marzano, 2011).

Coupling the problem of creating a learning culture at every level within the schools with the need for a collective and shared leadership in which the members of the organization are committed to learning together to create an authentic learning culture, this study aims to determine the purposeful actions that leaders in positions of power should implement to create learning cultures. Findings from a 50-state analysis, which

investigated the relationship of teacher qualifications and student achievement and the implications for quality and equity in education indicated that states investing in curriculum control and standardized testing tend to score lower than states investing in teacher professional development (Darling-Hammond, 1999). Educators in the United States have overinvested in the management of teaching and underinvested in teaching (Sergiovanni, 2000, p. 124). If many leaders positioned in public education critically need the leadership knowledge and skills to develop, support, and sustain a learning culture in their classrooms, on their campuses, in their districts, in our nation, and in our world, then by studying the actions of those leaders who have developed, supported, and sustained learning cultures, this study contributes to the literature on the learning leader.

### **Rationale**

Leithwood (2004) reports that leadership is second only to teaching when considering school influences that affect student success. In a later study conducted by Universities of Minnesota and Toronto commissioned by the Wallace Foundation, Leithwood and Louis (2010) share key findings that “collective leadership has a stronger influence on student achievement than individual leadership” (p. 19). This study aims to contribute to the professional literature on collective leadership in so much as the leaders in this study purposefully utilize shared problem-solving, shared decision-making, through shared learning, in a collective leadership paradigm.

Frequently the context of the organization has been a determinant of the leadership style, characteristics, or skills of the leader (Johnson, 1996; Jones, 2007; Sergiovanni, 1999). When considering the contexts of schools, professionals have not had a high tolerance for leadership styles that foster bureaucratic rituals, hierarchies, or

command leadership (Sergiovanni, 2000). Wheatley (2006) suggests that organizations do not need bosses or policies and procedures that curtail contributions, but rather leaders who understand concepts that require participation. The type of leadership required currently in the social sector, such as schools, might be the model of leadership the business sector adopts in the future (Collins, 2005). Instead of leaders who tell people what to do and how to do it, organizations need leaders who ensure clarity about what the purpose of the organization is so that individuals can make congruent decisions.

This study examines how three leaders take on the challenging task of developing a learning culture for adults as well as students, as the purpose that is central to the work of the schools. This study also examines *how* these leaders implement systems that support and nurture learning as the purpose of schools. Through observation and examination of the phenomenon of the three leaders who lead by learning, this study contributes to the knowledge of authentic educational leaders by identifying the leaders' actions and structures that were purposefully implemented to develop a learning culture that supports the development of human capacity.

### **Lifeworld and Systemsworld**

Habermas (1984) has constructed a two-level concept of society that integrates two paradigms: the lifeworld and the systemsworld. The term "lifeworld" refers to the shared common understandings and values developed in a community. The lifeworld of a community is the background of beliefs, cultural traditions, and social processes that produce personal identities within the community. The term "systemsworld" refers to the forces and activities that relate to the economic and productive operations necessary for physical survival (Sloan, 1999). Sergiovanni (2000) explains that the learning culture

flourishes in school contexts where the lifeworld of a school is the generative force influencing the systemsworld. To assist in distinguishing between functions of the two co-existing worlds, Sergiovanni (2000) clarifies that, “the lifeworld is concerned with cultural things, and the systemsworld is concerned with instrumental things” (p. 123). The lifeworld represents the purpose and culture of a school where the systemsworld provides all the actions, activities, procedures, and processes to support the lifeworld. When educators purposefully utilize double-loop learning, in which corrective feedback empowers the educators to adjust systems so that procedures, policies, and processes continue to serve the lifeworld, learning cultures flourish. Alfred North Whitehead wrote:

It is the first step in sociological wisdom, to recognize that the major advances in civilization are processes which all but wreck the societies in which they occur: like unto an arrow in the hand of a child. The art of free society consists first in the maintenance of the symbolic code; and secondly in fearlessness of revision, to ensure that the code serves those purposes which satisfy an enlightened reason. Those societies which cannot combine reverence to their symbols with freedom of revision, must ultimately decay either from anarchy, or from the slow atrophy of a life stifled by useless shadows. (Whitehead, as cited by Sergiovanni, 2000, p. 122)

Whitehead suggests societies must be willing to revise their systems and symbols in order to support innovation. Authentic leaders flexibly support the culture of schools by demonstrating courage in conviction to purposes and ideas, or lifeworlds, of schools. Educational leaders also understand the complex political systems of schools, the

instrumental management of adhering to policies and procedures, and the accountability that compose the systemsworld. The challenge for educational leaders is to maintain the critical balance of these two dimensions, the lifeworld and the systemsworld, by keeping the lifeworld central to the culture of the school as the generative force which determines the systemsworld.

### **Conceptual Framework**

The epistemological lens, my paradigm, through which I observe the world, reflects on my experiences and analyzed situations to aggregate new knowledge such as that learned throughout this study, exists in the intersection of systems theory (Senge, 1990) and chaos (Gleick, 1987) and complexity theory (Pascale, Millermann & Gioja, 2000) that I apply as a metaphorical lens (Davis, 2007) to leadership and change. Fullan (2001) connects the two concepts in the science of complexity theory to leadership: “the most powerful coherence is a function of having worked through the ambiguities and complexities of hard-to-solve problems” (p. 116). With a clear understanding of the lifeworld of schools and through self-organization around the purpose of shared problem solving to continually improve education, a faculty will continue to learn as it solves the difficult challenges faced in schools together.

Parallel to the dynamical relationship of the systemsworld and lifeworld is the balance of chaos and order. Dewey (1938) explains that mankind has the tendency to think in terms of “*Either-Ors*,” or in other words, in extreme opposites or binaries. In reality the extremes may not exist and practical application presents the opportunity to compromise. I regard the compromises that arise out of the practical applications of Either/Or, chaos and order, and systemsworld and lifeworld, as influencing the

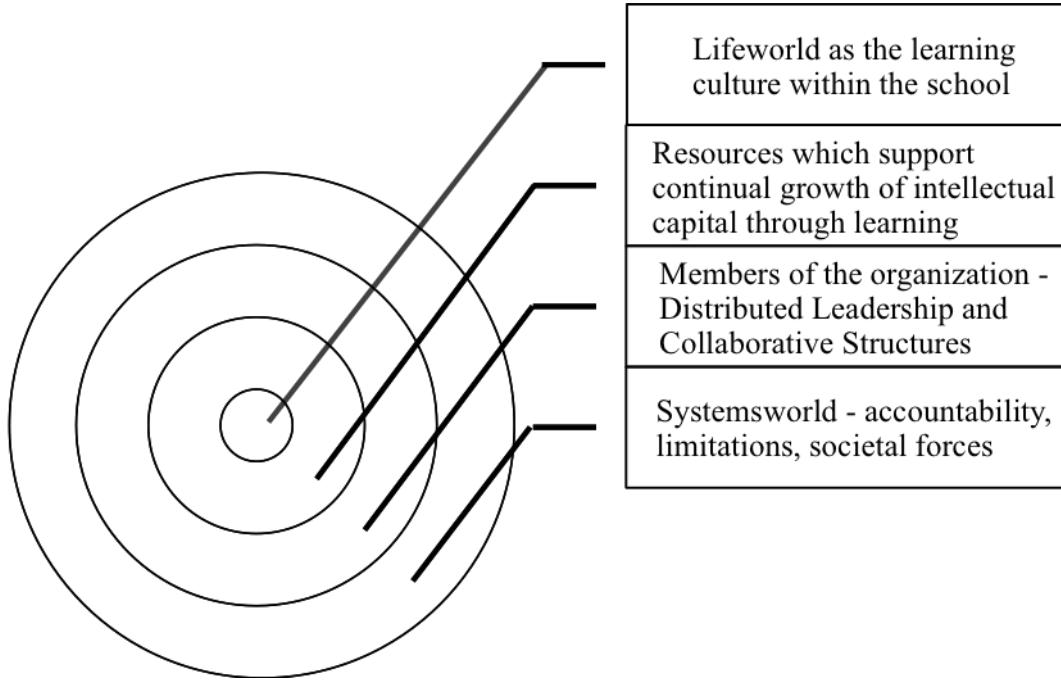
conceptual framework of this study. Order can emerge as patterns that develop over time (Wheatley, 2006). In the paradox theories of chaos and order, chaos offers opportunities for new patterns to emerge after the deconstruction of old patterns, and in organizations such as schools, the change that chaos brings offers opportunities for new patterns and new ways of thinking.

Our universe is comprised of an infinite amount of fractals. Fractals are infinite designs of simple patterns, which take shape depending upon their hidden boundaries. Wheatley (2006) notes that the boundary is never defined by scientists or those who measure the fractal, but rather by the fractal itself. Organizations are centered and effective or considered a self-organizing system when there is strong clarity of purpose and direction (Wheatley, 2006).

An urban middle school principal shares an example of a self-organizing system by commenting on how critical it is to trust the intelligence of her faculty (Interview, April 1, 2009). She confesses that although she solves many problems before anyone even knows the problems exist, occasionally the campus faces situations much larger than she can solve alone. When this occurs, she brings the problem to the faculty and lays it out in all its complexity, knowing with certainty that before she returns to her office, she can count on at least three teachers to bring solutions or ideas to help the campus through the situation. The principal insists through reiteration that the most powerful talents of the campus she led exists within the creative members of her faculty (Interview, April 1, 2009).

The following graphic, Figure 1, illustrates the original conceptual framework that I shared during my study proposal. The center of the circles represents the lifeworld, or

purpose, of the campus, which is the shared belief that the school is a learning culture for all members, adults and students. The outer three rings that surround the lifeworld represent components of the systemsworld and include resources, structures, and society.



*Figure 1* Researcher's Original Framework of Study - Before Data Collection

### **Influencing Factors for the Researcher as a Student of Leadership and Change**

In this section I attempt to share the influencing factors that prompted inquiry into the leadership phenomenon. I have been fortunate to witness abundant student success in my teaching experience with children. I faithfully implement research-based best practice instructional strategies such as the use of questioning to probe learning, mathematics manipulatives, cooperative learning, and authentic assessment (Zemelman, Daniels, & Hyde, 2005). In 1991 my classroom was participated in a study for development of thirteen assessment prototypes in mathematics. To participate in the study, teachers had to meet the criteria of demonstrating the practice of teaching

mathematics conceptually and rigorously through providing ongoing opportunities for students to think critically and creatively because the students would be asked to do so with each of the thirteen assessments (Mathematical Sciences Education Board, 1993).

The earliest frustrations as a teacher evolved not from a lack of student success in the classroom, but in sharing effective strategies with colleagues. I aspired to be a leader so that I might share my own success with those teachers who I could get to listen to me. What I soon discover in my first formal leadership position is that I have very few followers, very few listeners. Although there are many educators who share the practice of implementing research-based strategies, it seems there are many more educators who do not. Motivated to improve the support I provide to my peers, I begin my journey to understand leadership and change. This study of understanding the practices of leaders who lead by learning is an extension of my continued journey.

Seeley (2006) shares an analogy highlighting the importance of sustainability in the context of school improvement: a project in South Africa provides rural villages with water pumps so that the villages will have improved access to water. Today many of those same villages are once again without a reliable water supply as the pumps are broken. Failing to adequately train the local communities about how to maintain and repair their water pumps results in unsuccessful sustainability of the innovation. Transformational leaders are willing to realign structures and relationships to achieve genuine and sustainable change (Elias, O'Brien, & Weissberg, 2006). Leadership and capacity building are essential to success for positive change and involve building collective ability, including collective knowledge, skills, and resources (Fullan, 2005).

Leaders who skillfully ensure sustainability of change, in addition to being well-versed in understanding change as a process, understand how to meet people's concerns and needs throughout the transformation process (Friel & Gann, 1993; Fullan & Stiegelbauer, 1991; Guskey, 1986; Hall & Hord, 1987). Authentic leaders understand the process of change so that they can adjust their support strategies to meet the spectrum of organizational needs throughout the change process. Building trusting and collaborative relationships helps leaders and organizations survive the myriad of challenges they and their organizations face. "Trust is fundamental to cooperation, and yet trust can be difficult to establish once a cycle of suspicion, competition, and retaliation has begun" (Tschanne-Moran, 2004, p. 160).

Understanding the tensions change brings presents a challenge for leaders. Senge (1990) suggests that the creative tension brought about by the gap between the current reality and the vision is part of the organizational move towards the vision. Leaders, as coaches, assist the organization as it moves toward a vision. By encouraging the development of a questioning culture in the organization, leaders establish a learning organization wherein new ways to solve problems can be explored (Marquardt, 2005). In order to build a learning organization, leaders design the work to integrate with consideration of the organization as a system (Senge, 1990). Growth, change, and improvement occur in complex, chaotic, and dynamic organizational systems, rather than in linear, orderly, and stagnated organizations. Marris (1975) proposes that leaders allow time and provide support for reformulation:

When those who have the power to manipulate change act as if they have only to explain, and when their explanations are not at once

accepted, shrug off opposition as ignorance or prejudice, they express a profound contempt for the meaning of lives other than their own.

For the reformers have already assimilated these changes to their purposes, and worked out a reformulation which makes sense to them, perhaps through months or years of analysis and debate. If they deny others the chance to do the same, they treat them as puppets dangling by the thread of their own conceptions. (p. 166)

In the passage above Marris (1975) articulates a frequent misconception held by so-called well-intended reformers or leaders of change, who might perceive resistance from members of the organization as a negative situation. Instead, leaders who understand that change is a process, not an event (Hall & Hord, 1987) foster learning cultures where each member of the organization provides ample space and support for sense-making throughout the change efforts.

### **Definition of Terms**

The following definitions clarify the conception of the terms in their relationship to this study of three leaders who lead by learning and the practices they implement to create a learning organization. The terms leadership and leader are frequently used interchangeably (Lambert, 2002). In an attempt to distinguish *leader* from *leadership*, this study examine leaders in specific roles, taking leadership as collective influence, in a deconstructionist or postmodern perspective (Gardner & Laskin, 1995). Origins of the definitions are included in their description. Selection of the conceptual description was influenced by a constructivist epistemology and the understanding of the concepts continues to evolve for this researcher.

*Change process.* Leaders who desire sustainability of change understand change as a process, not an event, and understand how to meet people's concerns and needs throughout the transformation process (Friel & Gann, 1993; Fullan & Stiegelbauer, 1991; Guskey, 1986; Hall & Hord, 1987). The change context is social, not individual (Fullan, 2003). Changes symbolically communicate commitment and send the message whether or not student learning is at the center of the work of the school (Tschanen-Moran, 2004).

*Culture.* Ting-Toomey (1999) defines culture as "a complex frame of reference that consists of patterns of traditions, beliefs, values, norms, symbols and meanings that are shared to varying degrees by interacting members of a community" (p. 10). When considering a collaborative culture, Sergiovanni (2004) suggests that in order for the collaboration to be effective, each member has a defined role with obligations with relationships involving reciprocal obligations. Wheatley (2006) compares culture to fractals or recurring patterns of behavior that exists throughout the organization. Mandelbrot (1983) has developed a new geometry to describe shapes in nature that cannot be described with Euclidian geometry. Mandelbrot (1983) shares the examples that "clouds are not spheres, mountains are not cones, coastlines are not circles, and bark is not smooth, nor does lightening travel in a straight line" (p. 1). Fractals are irregular shapes that although there is an element of chance, their irregularities, and regularities remain complex and statistical. Nature, as well as the complexity in schools, represents an infinite array of patterns that do not narrow to mathematical calculations. Mandelbrot (1983) explains that the most useful fractals in nature tend to be scaling with their irregularities and fragmentations identical at all scales. Wheatley (2006) suggests:

In organizations, we are very good at measuring activity. In fact, that is primarily what we do. Fractals suggest the futility of searching for ever finer measures that concentrate on separate parts of the system. There is never a satisfying end to this reductionist search, never an end point where we finally know everything about even that one small part of the system. Scientists of chaos study shapes in motion. If we were to understand organizations in a similar way, what would constitute the shapes in motion of an organization? (p. 125)

If the idea of fractals in organizations can be used to describe school culture, the self-similarities from the macro to the micro would describe the nature of the collective work of the members of the campus community. In other words, if learning cultures are desired in classrooms where students are expected to think critically and creatively to solve challenging problems and transfer their developing knowledge and skills to their own authentic situations, then wouldn't the adults on the campus have a scale of this motion as well?

*Decision-making power and authority.* An essential piece of constructivist leadership is the realignment of power and authority so that formal positions of power are distributed to members of the organization (Lambert, 2002). Distribution of power and decision-making communicates the importance of voice and collaboration. A leader interviewed in this study explains, "Power simply means voice" (Interview, April 1, 2009).

Actions and the role negotiations of individuals' roles are influenced by systems such as patriarchy, power, and class (Sandstrom, Martin, & Fine, 2003). Burns (2002) describes a lesson from Chaos Theory that long-term success is not ensured by an organization adhering to any one plan, but rather by sticking to the purpose and core values of the organization throughout decision-making.

Establishing an equitable space for shared decision-making power and autonomy to solve problems collaboratively depends upon the public sphere within the organization. The public sphere (Habermas, 1989) provides access for all members where free speech communications and interactions between humans around matters of general interest in a space where power dynamics are distributed. Spaces that are absent asymmetrical power dynamics allow for contributions from each person within a dialogue. In contrast, a hierachal structure does not provide a public space for free speech democratic dialogue that is necessary for shared decision-making.

*Leader.* Frequently, the term *leader* is applied to a specific person or role. Although the leaders who participated in this study have held administrative positions within their districts, not all leaders are administrators. Wheatley (2008) offers a broader definition of leaders: "a leader is anyone willing to help, anyone who sees something that needs to change and takes the first steps to influence that situation." (pp. 1-2). Even the meaning of the term *leader* has been controversial, as some use the term to describe qualities of both Hitler and Gandhi (Burns, 2003). Lambert (2002) describes the constructivist leader as a leader who redistributes power and authority by relinquishing power taken from formally-held positions and evoking power from others to create a work situation of shared responsibility. Effective leaders at any level of an organization

utilize the assets under their control, including people, information, technology, and resources to add value and improve the organization (Tichy, 2004).

*Leadership.* Rost (1993) encourages researchers of leadership studies to define their meaning of leadership because he argues that there is no common definition amongst the practitioners or theorists who write about leadership. To answer that charge, my leadership definition is that leadership is a shared commitment to sustain the purpose of the organization implemented by each educator purposefully working to achieve Dewey's end-view purpose of the work. In education, the purpose is simply learning and thinking critically and creatively, so leadership is then the commitment to collectively learn. The following perspectives also support my definition of leadership: Collins (2005) states that "true leadership only exists if people follow when they have the freedom not to" (p. 13). Gardner and Laskin (1995) define leadership as "persons who, by word, and/or personal example, markedly influence the behaviors, thoughts, and/or feelings of a significant number of their fellow human beings" (p. 8). Heifetz (1994) describes leadership for the future as mobilizing people to tackle tough challenges with the ability to adapt. Tichy (2004) explains that leadership requires teaching others within the organization how to make tough decisions. Leadership in the short-term helps people make sense of an immediate challenge; whereas, in the long term leadership generates capacity for people to meet ongoing challenges (Hopkins, 2006).

*Learning.* Argyris (1993) defines learning as "an action concept" (p. 3). The idea that learning involves action was justified by Argyris with three reasons: (a) action is evident in closing the knowledge gap between the knowledge stored and the knowledge needed for the context; (b) active learning is required for implementing new knowledge;

and (c) additional learning occurs for building policies, routines, and cultures within an organization to make the knowledge public and purposeful.

Fullan (1991) describes professional development as "the sum total of formal and informal learning experiences throughout one's career" (p. 326). My construct of learning has its roots in a quote frequently credited to Paulo Friere but in actuality is in Richard Shaull's (1970) foreword to Paulo Friere's classical work, *Pedagogy of the Oppressed*:

Education either functions as an instrument which is used to facilitate integration of the younger generation into the logic of the present system and bring about conformity or it becomes the practice of freedom, the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world. (p. 34)

This statement urges schools and educators to create learning cultures where double-loop learning flourishes and develops learners with the efficacy to transform their world. It reflects how single-loop learning fosters conformity and stifles innovation. Learning is when individuals participate in critical and creative understanding of their perceptions of reality so that they might also participate in the transformation or improvement of their world by expanding their perceptions, finding creative solutions, and communicating to contribute knowledge. Adult learners, as well as organizations, have brought their beliefs, past experiences, and cultural histories to their learning experience (Lambert, 2002). Diversity of perspective strengthens the learning culture of an organization. Learning is broadening our perspective of ever-changing realities. Learning is contingent

upon three essential aspects: our experiences, which may broaden our perspective; our reflection upon those experiences; and our communication in collaborative relationships with those who share and those who do not share our perspectives. Wheatley (2009) states that “conversation is the way we discover how to transform our world, together.” (p. 31)

*Organizations.* Organizations are groups of people working together toward common goals. Wenger (1998) defines organizations as “social designs directed at practice.” Wenger further defines the practice or an organization as, “the practice (or, more accurately, the constellation of practices), gives life to the organization” (p. 241). Developing a teaching organization has made it possible for members of the organization to contribute and create new knowledge at all levels through interactive teaching and learning. The day-to-day operating mechanisms of such an organization, including structures and process, are all built to promote interactive teaching among the members of the organization (Tichy, 2004).

Bolman and Deal (2008) suggest that organizations are similar to four distinct metaphors: factories, families, jungles, and temples or carnivals. The metaphors each represent an aspect of school organizations which are frequently a hybrid structure consisting of components of each of the metaphors. Factories represent the hierarchical-type structure(s?) depicted by organizational charts and have clearly articulated procedures, rules, and systems. The family metaphor represents organizations viewed through a human resource lens and values the members of the organization as a priority. The jungle metaphor best represents the political aspect of organizations and the temples/carnival metaphor represents the culture of an organization including the

symbols and the meaning of the symbols (Bolman & Deal, 2008).

*Relationships.* Sandstrom, Martin, and Fine (2003) describe relationships as “an association with others that consists of shared expectations about identities, values and meaning, goals, roles, and a future” (p. 139). Building trusting and collaborative relationships helps leaders with the organization’s challenges. Relationships between leaders and the members of their organizations are complex (Fullan, 2001). An asymmetrical relationship, where one role has a disproportional power or control over another, results in this unequal dependency (Emerson, 1962). Interactions between diverse members of different social classes and roles can be better understood when the asymmetrical relationships have been analyzed (Sandstrom, Martin, & Fine, 2003).

*Roles.* Roles articulate the expectations and obligations applied to a social status in a particular situation. Ambiguities exist in situations where role definition has alternative meanings among participants in a situation and negotiation is necessary (Sandstrom, Martin, & Fine, 2003).

*Sustainability.* Fullan (2005) defines sustainability as “the capacity of a system to engage in the complexities of continuous improvement consistent with deep values of human purpose” (p. iv). Hargreaves and Fink (2000) explain that by developing initiatives without compromising surrounding environments, sustainability is much more than just ensuring that innovations will last into the future. This study does not focus on the innovations of the diverse organizations, but rather, understanding the leaders who are thoughtful in their design of the work to create sustainability within their organization (Senge, 1990)

## **Organization of Remainder of Study**

Chapter Two consists of a review of the literature pertinent to this study including literature pertaining to the chaos theory, systems theory, Mead (1932) and Blumer's (1969) symbolic interactionism, double-loop and single-loop learning, decision-making, and non-managerial leadership. Chapter Three is a detailed description of the qualitative research methods used to gather, analyze and interpret the data generated for this study which provide the grounded evidence for the theory developed in Chapter Four. Chapter Four details the analysis of the study and reports the findings. The findings in this study are reported in a table in Chapter Four. The decision to utilize Chapter Four as a chapter dedicated to analysis of the data arose from the need to report how the findings shifted my own understanding of leadership. The summary and application of the findings, limitations of the study and suggestions for continued research comprise Chapter Five.

## **CHAPTER II**

### REVIEW OF THE LITERATURE

This chapter is a review of the literature informing this study on leaders who lead by learning. Non-linear measurement concepts from the chaos theory have been borrowed from the mathematical sciences to use as an analogy in this study for analyzing governing values and patterns within the facilitation strategies used by the three educational leaders studied. Peat (1991) suggests that “[chaos theory] is the best that science has to offer and it certainly provides a rich series of images and metaphors for complexity” (p. 197).

The first section of this literature review provides an overview of the discovery and development of the chaos theory, the specific meaning of terms and components of chaos theory, and the application of a chaos theory analogy as a theoretical construct for understanding non-hierarchical leadership. The second section presents the systems theory literature, including understanding schools as complex and intelligent learning environments, communities of practice, and the application of recent literature on professional learning communities. The third section presents literature on symbolic interaction and sense-making. The fourth section provides historical information and an overview of the development of Argyris and Schön’s concepts referring to theory-in-use and espoused theory with specificity given to single-loop and double-loop learning and then the applicability to chaos theory. The fifth section presents literature that examine

collective leadership in the role of decision-making and change. The final section explores non-hierarchical, non-managerial leadership, including constructivist and transformational leadership.

In Chapter Three the connection between the grounded theory literature and chaos theory is drawn to frame the non-linear methods used to gather and analyze data in this study. In the analysis of the study in Chapter Four, additional literature is presented, which specifically focuses on the three specific tenants that leaders who lead by learning adhere to in order to facilitate learning to support positive change: (a) creating a collaborative culture (b) providing the context for collaboration in shared decision making and collective problem solving, and (c) a commitment to developing internal expertise as a priority to facilitate professional learning and achieving desired outcomes. The literature presented in Chapter Five supports the findings of the study in respect to the current literature.

### **Chaos Theory**

What is chaos? Liebovitch (1998) defines chaos as “complex output that mimics random behavior that is generated by a simple, deterministic system” (p. 124). Three defining characteristics of a chaotic system include: (a) the system is deterministic; (b) the system only has a small number of independent variables; and (c) the system’s output, or dependent variables, are so complex that the values may initially appear to be, but are not, random.

In mathematics, systems are linear and non-linear. Systems are considered linear when the independent and dependent data points plotted on a coordinate plane form a straight line. Unlike non-linear systems, any change in the independent variable of a

linear system would cause a direct proportional change in the dependent variable. Non-linear complex systems, including differential equations, behave differently than linear systems when the independent variable is changed. In a non-linear system the outcome, or dependent variable, is more complex and does not produce a change to the first power.

In a chaotic system, which is non-linear, the outcome, or the infinite set of complex dependent variables, follows a determinant pattern. Although the output data may mimic the appearance of randomized data, data from a chaotic system is not random (Liebovitch, 1998). The noun “chaos” is an adversely descriptive term for the theory as “chaos” frequently implies randomness. Contradictorily in the sciences, chaos represents a description for complex patterns (Brennan, 1997; Burns, 2002). Chaos can no longer be thought of as an absence or lack of order, but instead suggests that there are infinite patterns in an infinitely complex non-linear universe (Peat, 1991). When scientists, both physical and social, have considered turbulence and complex change, such as in cloud movement or school improvement, the ability to describe non-linear phenomena and precisely predict in terms Newtonian math has been impossible (Burns, 2002; Gleick, 1987; Wheatley, 2006). Linear measurements dependent on cause and effect to measure and describe a dynamic and complex world have been inadequate (Burns, 2002). Recognizing the scientific impact that the discovery of chaos theory has had in transforming research methods and theories of the physical sciences, Burns (2002) predicts that “social scientists have begun an exploration of chaos that promises to revolutionize the theories we use to understand leadership and management” (Burns, 2002, p. 42).

Between 1881 and 1886, long before computers assisted in studying chaotic

patterns, the first mathematician to understand the possibility of chaos Jules Henri Poincaré analyzed dynamic systems and looked at differential equations globally rather than considering one set of possibilities at a time (Gleick, 1987, p. 46). In 1961 Edward Lorenz, research meteorologist at the Massachusetts Institute of Technology (MIT), brought public attention to the chaos phenomenon (Wheatley, 2006). In an attempt to save time while running a lengthy weather pattern sequence on a Royal McBee LGP-30 computer, Lorenz began the sequence in the middle rather than the beginning. This variance resulted in a very different outcome and provided a fundamental property of the chaos theory termed “sensitivity to initial conditions” or the Butterfly Effect, meaning that small differences in initial conditions brings about large differences in chaotic systems (Liebovitch, 1998, p. 126). The Butterfly Effect is taken to mean that, when considering predicting weather patterns, if a butterfly flaps its wings in Peking today, the atmosphere might be changed enough to transform a storm system next month in New York (Gleick, 1987, p. 8). In addition, Lorenz determines that rounding off three of the decimal places drastically changes the results when beginning at the same place in the sequence. Lorenz’s chaos theory experiment illustrates that there exists a very sensitive dependence on initial conditions (Doherty & Delener, 2001).

In contrast, in linear systems a small change in initial values results in similar proportional changes in outcome values. Understanding the difference between the properties of chaotic systems allows us to understand whether data are completely random or chaotic and representative of a complex system (Liebovitch, 1998). Chaos theory has allowed scientists to consider that there are complex patterns that represent a deterministic theory of nature rather than being an irrational description (Peat, 1991).

Prior to the understanding of chaos theory and complex systems, scientists assumed that complex outcomes were a result of complex causes and consequently built in a random or error factor into any realistic theory to compensate for any unexplained outcomes (Gleick, 1987). For many years in science, turbulence was associated with disorder, noise, or error, but today scientists understand that where the motion may appear irregular on the macroscopic scale, it may be highly organized on the microscopic scale (Prigogine & Stengers, 1984). An example of a simple nonlinear equation the Verhulst equation has been applied to a range of studies, including insect populations in orchards, the speed at which people spread rumors, and the movement of genes through different populations (Peat, 1991)

Benoit Mandelbrot, a research scientist for IBM, first contributed the geometric language of fractals and asked his students and colleagues to consider the process for calculating the length of the coastline of Britain (Mandelbrot, 1983). Mandelbrot was illustrating that his question was impossible to answer because the shoreline could be magnified to smaller and smaller precision infinitely and a precise measurement would be impossible (Wheatley, 2006). Fractals contain repeating patterns within a chaotic system and can be characterized by: (a) self-similarity meaning that each piece of the pattern resembles the larger pattern regardless of the magnification; (b) self-similarity produces a scaling relationship; (c) the dimension is a measure of self similarity and scaling; and (d) fractals have statistical properties, but the variance may be infinite (Liebovitch, 1998).

In a chaotic system over time values take on specific combinations and organize into complex patterns, which correspond to a specific region in the phase space. Strange Attractor is the term given to represent the end state of a dynamic system. An example of

a strange attractor is the idea that given any cup of coffee, regardless of the multitude of variables such as cup size, coffee temperature, or cup material, the coffee within the cup, regardless of current temperature, is approaching room temperature. Although it is a complex problem to determine a comparison of temperature between two cups of coffee in the time frame of a minute, it is easy to determine the temperature of both cups of coffee in an hour (Gleick, 2008).

To further illustrate the meaning of attractors, a critical property of chaos, Cohen and Stewart (1995) describe a scenario of two vendors selling ice cream at the beach. At the beginning of the scenario, two vendors are located on opposite sides of the shoreline but in full view of one another. After the first customers purchase ice cream from one of the vendors, the other vendor moves closer to the location of the initial sale. The move was successful for the vendor as the second set of customers purchase ice cream from that vendor. Consequently, the other vendor then moves closer to the second sale of ice cream. This continues until both vendors were relatively side-by-side. The attractor was not a point in the sand, but their interaction and response to one another's successful ice cream business, which results in the attractor pattern forming.

Organizations such as schools have been described as nonlinear dynamic systems (Wheatley, 2006). As a nonlinear dynamic system, schools have independent variables with a complex set of dependent variables or outcomes. Wheatley (2006) uses the metaphor of recurring patterns of behavior in chaos theory to represent the culture of the organization (p. 128). The cultures of the school are a part of the lifeworld of the school (Sergiovanni, 2000). The independent variables within a complex non-linear chaotic system, such as an educational organization, in the Chaos metaphor represent the same

governing values, which determine the organization's lifeworld, as described by Jürgen Habermas. These consistent and shared values, or independent variables, influence the complex patterns and outcomes, deterministically generated.

Most significant to this study is the role of leadership within a chaotic system. In chaotic complex organizations leadership is not limited to a specific role or person. Instead, leadership is shared by all members through the equal access to information (Burns, 2002). In chaotic biological systems, such as an ant bed, there is no designated leader. Each ant organizes around the purpose of finding food sources, determining the best food source available, and then memorizing the information associated with the food source. During the phase of individual ants seeking food and marking the food path, information is shared with neighboring ants and the coordination phase begins (Li, 2005). In complex organizations such as schools, Burns (2002) suggests that the primary function of leadership is to continuously inspire the members to revisit the purpose and core values of the system. The secondary function of leadership is to continually assess the demands put upon the organization from its environment and implement adaptive schema derived from feedback. Shared leadership allows members within organizations to understand with clarity how the work directly relates to the common purpose. Organizations with hierachal structures are limited to the vision of the person at the "top," whereas organizations structured for shared information and leadership allow for input from multiple sources.

### **Systems Thinking**

Systems thinking (Senge, 1990) has been the term used to describe a conceptual framework to assist in identifying patterns and enabling change to occur by

understanding the “invisible fabrics of interrelated actions” (p. 7). Systems thinking is not the same as the systemsworld (Sergiovanni, 2000). The concept of a systemsworld, as introduced in Chapter One, can be described in education as the management systems, which exists because of the lifeworld, or purpose, of schools. However, “systems thinking is a discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static ‘snapshots’” (Senge, p. 68).

Systems thinkers understand that organizations are non-linear entities with each agent within a system connected through the purpose of the work. Leaders who are systems thinkers perceive schools as a complex organization with many interdependent components (Thornton, Peltier, & Perreault, 2004).

The International Society for Systems Science, ISSS, was founded in 1954 by two prominent scientists, Ludwig von Bertalanffy and Kenneth Boulding (Liebovitch, 1998). Systems science and chaos theory are distinguished from the reductionist Newtonian perspective of linear cause and effect predictable relationships that exist primarily in theory. Newton developed linear equations to represent the one-to-one cause and effect relationships that were used at one time to predict outcomes. Systems thinking suggests that there are multiple, many times infinite, variables that are interconnected and influence outcomes. Specifically, complex systems, such as schools, are not linear and cannot be described with linear data. Burns (2002) argues that social scientists should place any non-linear theory, such as systems and complexity theory, under the larger umbrella of Chaos Theory.

There are two types of complexity; detail complexity, of many variables, and

dynamic complexity, when cause and effect are not close in time and space and obvious interventions do not produce expected outcomes (Senge, 1990). The exchange of knowledge and information within and between subsystems is critical for operating from a systems standpoint (Senge, 1990). As a chaotic complex system, a school district or individual campus strengthens its ability to engage in second-order change, or double loop learning, when leaders addresses systemic and structural change for events and patterns.

Bolman and Deal (2008) discuss that when the link between actions and consequences is clear, learning is easy, but in complex settings, such as schools, consequences may not be directly linked to the actions. In a systems model with delay, short term gains may result in a cost (Bolman & Deal, 2008). Senge (1990) explains that although learning occurs through experience, the effects of decisions do not occur immediately. Many critical decisions made in organizations have consequences that do not occur until years later.

### **Symbolic Interaction and Sense-making**

Two social scientists who helped develop the conceptual framework lens of symbolic interaction as a research methodology are George Herbert Mead and Herbert Blumer (Silva, 2011). Blumer plays a significant role in the process, which helps Mead achieve recognition as Blumer was Mead's translator and apprentice. Mead's analysis of social interaction includes two forms or levels; non-symbolic and symbolic. Explicitly responding to one another's gestures and actions constitutes non-symbolic interaction, and likewise, symbolic interaction relies on interpretation of one another's actions and interactions (Blumer, 1969, p. 65).

In schools educators in professional learning communities come together to dialogue, learn, and problem-solve. Individual thought is mostly a product of collective thought and interaction with one another (Nichol, 1996). Blumer (1969) shares the nature of symbolic interaction through three premises: the first premise is that behaviors are based on the meanings people have for things. In the social sciences researchers frequently are concerned with behaviors and the factors that contribute to those behaviors, but the researchers may fail to acknowledge the role of meaning in the formation of behavior. This negligence can lead to a misunderstanding of the behavior under study (Blumer, 1969).

Second, the meaning people have for things derive from social interaction. According to Blumer (1969), the “meaning of a thing for a person grows out of the ways in which other persons act toward the person with regard to the thing” (p. 4). A premise from my understanding and application of symbolic interaction is that leaders’ actions and behaviors give meaning to concepts in the work of the organization and impact the decision-making and learning that occurs.

The third premise is that meanings are modified through an interpretative process used by the person who is revising the meaning. In organizations where double-loop learning occurs, members of the organization will adapt meaning based on feedback and interpretation of that feedback. In learning organizations where feedback plays a key role in learning, how people interpret the feedback directly impacts the learning that occurs.

### **Two Systems of Learning: Single-loop and Double-loop**

Charmaz (2011) articulates that one of the components of grounded theory research design (Glaser & Strauss, 1967) is that the researcher conducts the literature

review after analysis of data. For example, a piece of data generated during an interview with the associate superintendent of the suburban district who was leading a change effort in her district prompted my investigation into the literature around first-order and second-order change.

Marzano, Waters, and McNulty (2006) communicate the connection between learning and change, “Argyris and Schön (1974, 1978) address the distinction between first- and second-order change in their discussion of single-loop learning and double-loop learning” (p. 66). The impact that single-loop learning has on change is that an organization may determine whether a strategy is successful and react by either believing the strategy works in some situations and not in others or trying a different strategy. Conversely, second-order change involves double-loop learning because there is no existing strategy that works to prompt members of the organization to think differently about the problem.

Single-loop learning and double-loop learning are practices evident in organizational learning. Cartwright (2002, p. 68) distinguishes the difference as “single-loop learning involves changing methods and improving efficiency to obtain established objectives (i.e., “doing things right”). Double-loop learning concerns changing the objectives themselves (i.e., “doing the right things”).” The key difference between single-loop learning and double-loop is that single-loop learning has been the result of linear cause and effect thinking where the intention is to affect the behavior of an individual. Double-loop learning has honored the non-linear and complex thinking found in systems theory and acknowledges that a change at any point in the system will affect

all other aspects of the system. It focuses on changing the underlying causes affecting the behaviors in order to change behaviors in the long-term (Argyris, 1993, p. 50).

Senge (1990) discusses delays and feedback loops as the “building blocks of systems thinking” (p.79). The importance placed on delays and feedback loops in systems thinking is due to their impact on long-term learning. Delays and feedback were previously considered inconsequential and ignored in the short term, but are now seen to come back to affect the learning of the organization (p. 92).

### **Two Systems of Decision-making**

Thus far, in this review of the literature I have attempted to draw parallels between single- and double-loop learning (Argyris & Schön, 1974) and first- and second-order change, through the discussion of linear research and dynamical systems theory research (Gleick, 2008).

Kahneman, Gilovich, and Frederick (2002) propose that modes of thinking can be classified into two categories: System I, which is relatively effortless and automatic, and System II, which is more effortful and resource dependent and will revise System I’s understanding through more careful consideration of information and problem solving (Kahneman, Gilovich, & Frederick 2002; Sloman, 1996).

Garmston (2011) proposes eight principles that assist in unlocking group potential including the principle that people make the best choices available to them. In decision-making opportunities, depending on experience with the context, the approach taken varies. Kahneman (2011) shares an example of the two systems for decision-making through the context of a game of chess. The master chess player sees the chessboard differently than someone who is novice at playing chess. Playing chess for the novice

requires decision-making that involves deductive reasoning and critical thinking.

Although the same is true for the master chess player, many of the moves have become intuitive and a function of System I thinking.

Brown (2012) applies traffic statistics to a decision-making model. The United States is one of the only countries to use an intersection system to manage traffic when two roads cross. Many countries use roundabouts for the traffic system. Traffic intersections, however, are the place where most accidents occur unlike the alternative roundabout where very few accidents occur. Brown (2012) attributes this to the abundance of rules and procedures in place at the traffic intersection, which causes the traveler to access decision-making that is rote and involves very little critical thinking or deductive reasoning. On the other hand, the traffic structure of a roundabout requires the traveler to access decision-making processes that are deductive in nature and involve close attention and purposeful decisions. Brown applies the two structures to education as a metaphor and encourages leaders to develop structures within schools that are structured enough for collaboration, but without an overabundance of rules and procedures that get in the way of critical and creative thinking. One category that emerges from the data in my study is that leaders who lead by learning establish structures, such as the roundabout metaphor shared by Brown (2012), which allow for shared decision-making using System II (Kahneman, 2011) thinking involving deductive reasoning in order to solve complex problems.

Chapter Three details how I collected and analyzed the data through the lens of grounded theory. Grounded theory is a research method that provides the research opportunity to employ System II thinking rather than System I thinking (Kahneman,

2011) in so much as the constant comparative data are dependent upon the researcher deducing patterns and meanings without a predetermined hypothesis and procedural process. Grounded theory requires the researcher to be open and flexible with the process (Charmaz, 2011).

## **CHAPTER III**

### **RESEARCH DESIGN**

#### **Introduction**

The underlying assumption of grounded theory is that not all the concepts pertaining to a particular phenomenon have been identified or understood (Strauss & Corbin, 1998). Grounded theory as a research design allows the research question to be framed in a manner that will allow flexibility and freedom to explore the phenomenon in depth. The justification for selecting and utilizing a grounded theory approach at the time I proposed this study was prompted, in part, because of the limited amount of research regarding the phenomenon of leaders who lead by learning. Earlier in my studies, after conducting a small research study on teacher leadership, I had familiarized myself with the professional literature on teacher leadership that fosters my curiosity regarding the concept of leadership through teaching.

The grounded theory approach asks the researcher to refrain from forming a hypothesis or anticipating findings before data collection and analysis (Strauss & Corbin, 1998). (My advisor suggested that I keep an open mind because I might learn something). Grounded theory as a research design requires the researcher to keep an open mind through recognizing the tendency towards bias (Strauss & Corbin, 1998) in order to determine patterns emerging from within the data. The most difficult challenge for me is to improve my listening skills, skills necessary for gathering better data

through grounded theory. Technical listening requires the researcher to not only hear what the participants are saying, but to consider the meaning assigned to the concepts discussed. The constant comparative process helps to reveal meanings and covert understandings and assists the researcher in challenging his/her assumptions (Charmaz, 2011).

Through observation and examination of the phenomenon of leaders who lead by learning, this study aims to contribute to the knowledge of authentic educational leaders, the processes utilized to develop a learning culture, and the actions of leaders in development of a learning culture.

### **Grounded Theory as a Mathematical Process**

Strauss and Corbin (1998) describe qualitative research analysis as a non-mathematical process of interpretation and express that qualitative researchers using the methods of grounded theory should not quantify the data. Qualitative research has been referred to as “any research that produces findings without statistics or any means of quantification” (Strauss & Corbin, 1998, p. 10), which implies that if mathematical processes were simply statistics and quantification, then qualitative research would not be considered mathematical. Strauss and Corbin (1998) discourage coding data gathered in grounded theory in any way that quantifies or allows for statistical analysis. However, and to my mind, the idea that mathematics is the science of numbers has ceased to be an accurate description (Devlin, 2000).

Instead, mathematics is the science of patterns that enables articulation of abstract concepts through representation (Devlin, 2000). In addition to representation of concepts, another application of mathematics used in research is the process of

measurement. Patterns identified have been “either real or imaginary, visual or mental, static or dynamic, qualitative or quantitative, purely utilitarian or of little more than recreational interest” (Devlin, 2000, p. 3) and they represent the world around us. The quantification of data in quantitative research has relied on the numerical mathematics derived from statistics and has utilized cause and effect thinking, reduction to specific variables and hypotheses, and questions (Creswell, 2003, p. 18) to yield empirical findings, which, if valid, can be replicated (Campbell, 2010). This process is similar to the single-loop learning described in Chapter I when it aims to replicate existing procedures, structures, and practices.

### **Scientific Research Alignment Considerations**

Quantum mechanics, one of the three significant scientific findings of the twentieth century, “eliminated the Newtonian dream of a controllable measurement process” (Gleick, 2008, p. 6). Specifically, and of critical interest for this study, grounded theory methods, through the lens of complex dynamical systems, allow for the researcher to analyze the data through a process that naturally aligns with the research problem and encourages non-linear analysis at every stage.

French mathematicians Pierre Fatou and Gaston Julia had begun the study of complex dynamical systems in the early twentieth century. When Benoit Mandelbrot utilized the computer capabilities available later in the century, he was able to produce beautiful complex structures known today as the Julia sets (Devlin, 2000). As mentioned above, the complexity of measurement in mathematics has been illustrated through consideration of the length of the coast of Britain (Mandelbrot, 1983, p. 25); because due to the curvatures along the ridged shoreline, the length of the coast was determined to be

greater than the length of a straight line from the boundaries of the coast. When considering the actual physical measurement of each of the infinitesimally small irregular curves, the coastline was determined to be of an infinite length, as would be any other coastline measured.

Mandelbrot (1983) determines that length was not an accurate measurement for comparing coastlines. The Britain coastline example serves as an authentic metaphor and provides a basis for any argument concerning the critical importance of the alignment of research design to the nature of the study. Arbitrary results might be generated using linear measurement to measure non-linear systems, such as the coastline, or to articulate leadership actions that affect the learning culture. The world of social phenomena is complex (Schreiber & Stern, 2001). A non-linear approach, such as grounded theory works best for the purposes of this study.

### **Relationship of Chaos Theory to Grounded Theory**

Patton (2002) asks the foundational question concerning chaos and complexity theory in relationship to research as, “What is the underlying order, if any, of disorderly phenomena?” (p. 120). Although perceived as disorderly systems, chaotic systems, such as weather, human beings, and schools, are complex, but not random. My posing whether mathematical processes exist within the grounded theory analysis was necessary because during the research analysis, I observed a significant connection among chaos theory, a mathematical science, and grounded theory and leadership theory and have taken the opportunity to articulate in my findings.

In order to comprehend the connection between the mathematical and research theories, I studied, learned, and relearned the concepts critical to understanding

dynamical systems theory. In this paper I do not detail each of the mathematical concepts behind dynamical systems theory, but I borrow the mathematical science of dynamical system theory both in data analysis and development of leadership theory. In order to describe my findings and present my analysis in the upcoming Chapter Four, the articulation of specific concepts in physics, such as the definition of power, is essential to reporting the findings of this study.

Based on the present day understanding of mathematical science, which can be subcategorized into approximately 60 to 70 distinct categories (Devlin, 2000), complexity theory and dynamical systems theory are relatively new to the science. Mathematics is now seen as the science of patterns (Devlin, 2000). Specifically, two fundamental mathematical processes are utilized in the design and analysis of this study: *chaos and complexity theory* and *pattern recognition*. In this chapter I detail the data collection processes, including both the original design and the necessary changes I make to the proposed research design due to my application of the constant comparative process (Strauss & Corbin, 1998) implemented in the research process.

I aim to demystify the mathematical sciences which contribute to grounded theory by presenting an example of how the mathematical processes of pattern recognition and the articulation of patterns observed between leadership actions and learning cultures inform the analysis and help me to develop the grounded theory of leaders who lead by learning; publicly and purposefully.

## **Qualitative Research**

When studying the qualitative research typology presented by Wolcott (2001), this study fits participant observation and branches into phenomenology. Strauss and

Corbin (1998) define qualitative research as “research which produces findings not arrived at by statistical procedures or any other means of quantification” (p. 10). My decision to use qualitative research depends largely on the nature of the research problem (Strauss & Corbin, 1998), my personal experiences, and the intended audience (Creswell, 2003). Qualitative research means different things to different people (Strauss & Corbin, 1998). Through the qualitative process of attempting to understand the meaning or nature of the experiences of these leaders, and by getting out in the field as a participant observer who has learned and has applied the concepts within my own leadership work, qualitative methods help me to understand that the phenomenon of leaders who lead by teaching is, in fact, a study on leaders who lead by learning.

There has been a distinction between the terms methodology and methods. Methodology is defined as “a way of thinking about and studying social reality,” where the term method captures “a set of procedures and techniques for gathering and analyzing data” (Strauss & Corbin, 1998, p. 3). Qualitative research methods can be used to explore phenomena about which little is known or, in those cases in which much is known, to gain novel understandings (Schreiber & Stern, 2001). The next sections of this chapter describe the methodology and methods of this study.

### **Grounded Theory Methodology**

Two sociologists, Barney Glaser and Anselm Strauss, are credited with developing the methodology known as grounded theory (Charmaz, 2011; Strauss & Corbin, 1998). The purpose of this is to build theory derived from the data, rather than beginning with a theory in mind and using the data to test the theory (Charmaz, 2011; Creswell, 2003; Patton, 2002; Strauss & Corbin, 1998). Glaser and Strauss develop

grounded theory for research done by their teams in hospitals observing and interviewing dying patients (Charmaz, 2011) and provide investigators the tools to examine the phenomenon of dying through the lens of those experiencing it (Schreiber & Stern, 2001). With their teams Glaser and Strauss collaborate in long conversations about the patterns seen within the data collected. The research needs of the Glaser and Strauss research teams that contributed to the development of grounded theory include (a) the need for authentic field experience, (b) relevance of theory to development of a concept as a basis for social action, (c) the complexity and variability of phenomena for human action, (d) the belief that people respond to problematic situations, (e) the realization that people act on their basis of meaning, (f) understanding meaning is defined and redefined through interaction, (g) sensitivity to the evolving and unfolding nature of events (process), and (h) the awareness of the interrelationships amongst conditions (structure), action (process), and consequences (Corbin & Strauss, 1997, pp. 9-10).

Grounded theory emphasizes analysis of data over description of data (Charmaz, 2011; Glaser, 2011). Within the grounded theory methodology, my research perspective aligns with the constructivist perspective of Charmaz (2011), who defines constructivist inquiry methodology for researchers as:

a social scientific perspective that addresses how realities are made. This perspective assumes that people, including researchers, construct the realities in which they participate. Constructivist inquiry starts with the experience and asks how members construct it. To the best of their ability, constructivists enter the phenomenon, gain multiple views of it, and locate it in its web of connections and

constraints. Constructivists acknowledge that their interpretation of the studied phenomenon is itself a construction. (p. 187)

My decision to use a grounded theory approach as the methodology for this study is based on the strong alignment of the rationale for the development of grounded theory as a method (Glaser & Strauss, 1967) and the original aim of this study of the phenomenon of leaders who lead by teaching. Grounded theorists ask a broad central question which is narrowed and focused as relationships are identified (Strauss & Corbin, 1998). The central question this study aims to answer is: What are the practices implemented by leaders who lead by teaching to create learning cultures for their organizations?

### **Grounded Theory Methods**

Creswell (2003) describes the two primary characteristics of grounded theory as (a) the constant comparative method to develop categories through a systematic process, and (b) theoretical sampling for determining similarities and differences. Validation is built into each stage of the process of sampling, data collection, and data analysis. With each set of data, the researcher's interpretations are validated, or negated, or modified (Strauss & Corbin, 1998). Only categories and variations that were able to withstand the rigorous constant comparative data analysis emerged as statements for the purpose of a developing theory, as detailed in Chapter Four, surrounding the phenomenon of leaders who lead by learning; publically and purposefully. Data collection and analysis through grounded theory provide a method that allows the researcher to understand the participants' meanings and actions (Denzin & Lincoln, 2011).

Glaser and Strauss (1967) articulate the defining components of grounded theory methods as: (a) integration of data collection and analysis; (b) construction of codes and categories derived from the data rather than testing deduced hypotheses; (c) constant comparative process at every stage; (d) advancement of the theory development during each step of the data collection and analysis; (e) memo-writing as a tool to define relationships between categories; (f) sampling intended for theory construction as opposed to population representation; and (g) conducting the literature review after the researcher analyzes the data (Charmaz, 2011). The literature review is used in grounded theory to provide theoretical constructs and assists in connecting the categories of the phenomena studied (Marshall & Rossman, 1999). Through utilizing grounded theory methods, researchers are able to increase the analytical power of their work (Charmaz, 2011). The following sections detail the grounded theory methods as they are used in this study and the analytical processes I use to develop the theory presented in Chapter Four.

### **Selection of the Participants**

The three educational leaders who participated in this study were identified through a referral process. To minimize bias only individuals with whom I was not personally acquainted were asked to participate in this study for the initial collection of data. In order to identify three leaders for this study, I asked 25 educators, whom I knew through our prior professional relationships, to each nominate or recommend a leader who represents identified criteria of what I imagined at that time constitutes the behaviors of a leader who leads by teaching. The 25 educators I asked for recommendations met the following criteria:

- They held educational leadership positions such as teacher leaders, principals, central office support staff, or educational support positions such as leaders at the state agency, regional service center specialists, university professors in educational administration departments.
- They held positions that allowed them to encounter and have relationships with leaders who met the criteria necessary for participation in this study.

The 25 referring educators were asked to identify leaders who they perceive to exemplify the following descriptive criteria. Someone who:

- Stays current on research and best practice findings;
- Develops and articulates a strong vision, shared with members of the organization;
- Values human capital (professional growth of individuals), evident by supporting both formal and informal professional development activities;
- Has access to financial resources to support development of human capital;
- Utilizes the expertise within the organization by establishing structures for members to contribute knowledge and skills in collaborative efforts;
- Resists dependency on outside expertise by requiring external forms of expertise to build capacity within the organization;
- Utilizes data from multiple sources for shared decision making; and
- Provides structures for distributed decision making among members of the organization.

I created nomination packets for each of the 25 educators. I chose to use colored paper to facilitate in the sharing and understanding of the information, so that the educators might read the information provided them with ease (Irlen, 1991). Using colored paper has been a reading strategy I used in the classroom with students and in professional development with adults and has shown over the years to be a strategy that (a) helps adults make sense of information, and (b) increases the likelihood the material would be read in its entirety. In order to focus the readers' attention on specific directions for the nomination process, critical information was either bolded or bulleted. Because many of the educators received their information by mail, it was important to ensure that the process for nominating a potential participant was clearly communicated.

Because some of the 25 educators were local, I was able to hand deliver the packet to them. At that time I discussed the purpose, study, and criteria for participant selection, and I arranged a time to collect the materials from the educator. Each of the meetings took approximately thirty minutes with a range of five to 50 minutes for the conversation, explanation of my request, and the educators' questions. In order to improve future research that I might conduct, I took field notes regarding the clarifying questions that the nominating educators asked, as well as their concerns in the process. The ideas for improvement on the nomination process are indicated in the following table (Table 1).

Table 1 *Suggested Revision in Nomination Process for Research*

Concern	Adjustment to Guide Further Research
Too much reading to understand study and criteria	Summary of study included in the cover letter is enough. The IRB summary could be made available upon request, but was not read by the majority of the 25 educators and did not need to be included in the information packet.
Criteria too rigorous, too many characteristics to qualify participants	Revise the characteristics of leaders to be that of leaders who lead by learning publicly rather than lead by teaching and limit the qualifying criteria to a percentage of the characteristics.
Misconception that I was identifying teacher leaders	Checklist instead of open space on the nomination form asking for the role of the leader.

For each of the 25 educators, I provided a packet of information. I included a cover letter copied on gray-colored paper that details the purpose of the study, their role in the process, my contact information, and a promise of confidentiality (see Appendix A for Dear Colleague letter). I created a template on bright blue paper (see Appendix B for Nomination Form) for each of the 25 educators asked to nominate leaders. One half of the paper provides space for them to openly write comments that answer the statement:

Details about the leader prompting your nomination as a possible participant for the study (see Appendix B for Nomination Form). In addition, I provided each of the 25 educators a list of the criteria on yellow paper detailing qualities that a nominated participant should exhibit in their work (see Appendix B for Nomination Criteria) and, on plain white paper, a copy of the proposal summary submitted to the Institutional Review Board (IRB).

I mailed the documents to the various educators who were not located locally. I received three phone calls around three areas for clarification. First, one colleague wished for more information on my study and preferred hearing about my plans rather than reading the IRB documents. Another educator sought further clarification on the time commitment for the participants. This educator, a principal himself, was concerned about recommending someone who might regret participating because of the time commitment involved. “Before I give you the contact information of [name of principal considered for recommendation], I want to make sure that she wants to do it because I don’t want to recommend [name of principal considered for recommendation] and add more to her plate” (personal communication, January 29, 2009). When I received the nomination form returned through the mail, the educator concerned with time commitment had nominated a teacher leader instead of the principal he had in mind during our phone conversation. This conversation, which occurred early in the research process, caused me to consider the time commitment asked of each of the three leaders in my study and helped me to realize the importance of respecting their time. The third caller sought further clarification on the criteria or characteristics of leaders who lead by teaching because she was unable to identify one from the leaders who she had met over the years.

At the time of the participant selection process, I was under the assumption that I would be studying leaders who lead by teaching because, at that time, although unaware, I held a hierachal perspective of leadership. During the data collection analysis, and with considerable thought and challenge to my own epistemology as an educator and researcher, the leadership style was redefined to become leaders who lead by learning, both publicly and purposefully. The perspective of leadership based on structures of hierachal leadership with authoritarian power tied to a role transformed to a network structure of shared leadership and shared decision-making power as discussed in further detail in Chapter Four. The criteria listed (see Appendix B Nomination Criteria), if written today for additional participants, would read much differently based on my transformed understanding of this leadership phenomenon. The table below represents the change in wording of the characteristics of leaders who lead by learning that is based on my transformation of leadership from hierachal to that of a collegial leader of learners.

*Table 2 Characteristics of Leaders Who Lead by Learning*

Nomination Form	Revised Criteria
Stay current on research and best practice findings	Utilize research and professional dialogue when solving problems and implementing innovations
Develop and articulate a strong vision shared with members of the organization	Represent and articulate the strong purpose developed and shared by the members of the organization

Table 2 *Characteristics of Leaders Who Lead by Learning* (continued)

Nomination Form	Revised Criteria
	Value human capital (professional)
Value human capital (professional growth of individuals) evident by supporting both formal and informal professional development activities	growth of individuals and self) evident by supporting and participating in both formal and informal professional development activities utilizing both internal and external resources
Has access to financial resources to support development of human capital	Has access to financial resources to support development of human capital Utilize expertise within the organization by establishing structures for members to contribute knowledge and skills in collaborative efforts
Utilize expertise within the organization by establishing structures for members to contribute knowledge and skills in collaborative efforts	organization by establishing structures for members to contribute knowledge and skills in collaborative efforts with an intended purpose of learning from and with one another
Resist dependency on outside expertise by requiring external forms of expertise to build capacity within the organization	Resist dependency on outside expertise by requiring external forms of expertise to build capacity within the organization
Utilize data from multiple sources for shared decision-making	Utilize data from multiple sources for shared decision-making

Table 2 *Characteristics of Leaders Who Lead by Learning* (continued)

Nomination Form	Revised Criteria
Provide structures for distributed decision-making among members of the organization	Provide structures for distributed decision-making among members of the organization

From the 25 educators asked to nominate, nine responded by returning a completed blue nomination form. As I encouraged the remaining 17 to respond to my request, I was told by several that they did not know any leaders who fit the criteria that I described in the request asking them to nominate. Two admitted they did not have time to really read the information I provided and either did not want to nominate someone incorrectly or feared that they might be nominating someone who would not live up to my expectations. One of my colleagues explained that, although he knew effective leaders who stayed current on best practice, he was unable to recommend any of the leaders because of the criteria requiring that the leader provide structures for distributed decision-making among members of the organization. When I proposed the design of this study, I had anticipated that I would receive 25 nominated leaders. The difficulty of nominating leaders who fit the criteria provided evidence which supported the rationale for this study. Regardless of the past three decades of educational research findings on instructional leadership, the majority of the practitioners struggled to nominate a leader for this study.

After the nomination process was completed, the list of recommended participants was narrowed to represent the initial sample of leaders at various levels and in variety of roles in education. The study was limited to leaders in educational leadership positions in

educational institutions such as public schools, universities, educational service centers, and state educational agencies.

Out of the nine educators who responded to my request to nominate leaders for this study, two recommended the same leader, who was a district math coordinator of a local rural district. The two educators who recommended the same person were an urban district mathematics supervisor and a university instructor of mathematics education, both of whom had worked closely with the math coordinator and were confident that she exhibited the qualifications that I was looking for. Because this recommended educator, the math coordinator, was conveniently located and because she had been recommended by two educators independently I asked her to participate.

The second participant for this study, a newly-retired urban principal, was recommended by a teacher leader, who has since become a curriculum specialist and is well-versed in professional learning communities. The teacher leader offering the recommendation is a strong implementer of so-called best practice instructional strategies and I value her opinion greatly. The urban middle school campus where she worked for six years under the direction of the principal was identified as a Title I campus with over 90% of the students receiving federal assistance for meals. The middle school campus had a district reputation for retaining teachers, positive teacher-student interaction, and satisfactory state test scores in spite of the large percentage of students from families below the federal poverty level.

Although I had not met the principal at that time, the principal has a strong reputation and I had heard of her good work at the middle school campus. In addition, the teacher leader and additional teachers from her campus had attended several

professional development opportunities over the past few years where I had facilitated learning activities and dialogue. My experience with professional development structures that require teachers to be pulled off campus during the school day has been that many principals discourage the attendance of teachers in order to avoid classrooms staffed by substitute teachers. Both the teachers' attendance and participation during the professional development I led indicates to me that this principal is truly supportive of professional development. Another indicator that this principal is a leader who fosters a learning culture is that the teacher leader pressed for materials, such as sharing my presentation slides, because she would be expected to share what she learned with her campus upon her return. A third indicator that this principal would be a good participant to learn about leaders who lead by learning was that the teachers from her campus attending professional development sessions attended in teams of learners, sitting together, participating together, and having rigorous dialogue about implementation.

My curiosity for effective leadership strategies prompted my desire to interview this principal even before initiating the nomination process and I was thrilled when she was recommended for the study. The recommendation by the teacher leader confirmed my assumptions and provided the opportunity for me to ask the principal to be a participant in my study. In the nomination process additional notes were written on the nomination form by the teacher leader, “[Donna] is the reason that our school is such a great place for students and for teachers too” (Nomination Document, January 14, 2009).

The third recommendation, selected as the third participant in the study, came from a district assessment administrator with whom I had consulted for many years and who I consider a leader who leads by teaching. Before serving as an assessment administrator,

he had been a teacher, principal, and a superintendent of a smaller district. This district administrator recommended the associate superintendent of his district and explained, “[Ann] has been with [our district] for two years. She is a dynamic leader who meets all the criteria for your study” (Nomination Document, February 2, 2009). Based on his recommendation, the associate superintendent was asked to participate in the study and I had satisfied one aspect of my research design of selecting three participants.

However, although I would only select three participants, I originally had anticipated that the three leaders would manifest ethnic and other types of diversity. The three recommended participants were conveniently located within a two-hour radius of my work location, but all were middle-aged white women. Before contacting any of the three participants I had selected, I had the opportunity to have lunch with a member of my dissertation committee who was interested in the progress of my study. When discussing the lack of diversity within the three participants, she asked if she could recommend a participant for the study. I wasn’t sure if a recommendation from a committee member would be allowed because I had not included my committee as a nomination resource in my proposal, but I encouraged her to share the recommendation with me. She recommended an African-American male who had worked closely with her at a nearby university in a department that interfaced with K-12 public schools.

The recommended educational leader had been a teacher, assistant principal of an affluent middle school campus, principal of two middle schools (both diverse in demographics), a university assistant professor, and was about to take a position within my district as a top district administrator. Although I had not met this leader yet, I was familiar with his reputation as a strong instructional leader. I made the decision to refrain

from securing permission to ask him to be a participant because he had accepted a position with our district and I was not confident if the validity of my study would be hurt because of power dynamics within a work relationship where the participant is a top leader. At the time our district had strict practices limiting the interactions based on the level of position held by the employee. Because the position I had was not an administrator position within the district, I would not be allowed to interact with a top-level administrator without securing permission from my supervisor. Considering the restraints of communication, I considered the difficulty in balancing access to the leader and maintaining his anonymity, and I determined I would not seek his participation.

The dissertation committee member who shared this recommendation was accurate in her decision to recommend this leader as a participant in the study. After he took a position in our district, because of his articulated passion for shared leadership, shared decision making, and public disregard for protocols which limit communication, such as the policy to converse through hierachal restraints, I came into contact with him frequently in my work supporting schools. Through authentic interaction, as a participant observer, this leader played an ongoing role in answering questions I asked about his actions and decisions. We had many conversations throughout the three years I worked on the data collection and analysis section of this study. I refer to him as my fourth participant, selected by self-selection sampling, because he contributed data gathered through my observations and informal clarification questions during the ongoing constant comparative data collection and analysis. By observing this leader in action, artfully implementing the theory I was developing added growing validity to the analysis. In Chapter Five, I will share strategies co-learned with the leaders of this study as a

participant observer.

The six leaders who were recommended during the nomination process but not selected to participate in this study includes a master teacher at a Teacher Advancement Program (TAP) campus, a regional service center administrator, an educational director in a suburban district, a professor in New Mexico, a district science coordinator, and a math specialist.

### **Interview Guide**

Before I met with the first leader, Ellen, the mathematics coordinator in a fast growing rural district, I made a list of possible questions to ask during the interview around specific topics. I considered these topics and questions as a guide, not a fixed path. I gave myself permission to deviate from these questions if the leader shared ideas and information I had not anticipated. These questions and topics are listed in the table below:

Table 3 *Question Guide for Initial Interviews*

Topic	Question
Utilization of external and internal expertise	How do leaders utilize external expertise while building the human capacity of internal expertise within the team?
Balance of immediate results and time for development of capacity	How do leaders balance the urgency for immediate results in an era of high-stakes accountability while allowing the time needed for authentic growth of human capital?

Table 3 *Question Guide for Initial Interviews* (continued)

Topic	Question
Lifeworld of teaching and learning	How do leaders keep the lifeworld of teaching and learning central to the culture of the organization?
Structures, protocols, and norms	What structures, protocols, and norms are established in the educational organization to sustain continued growth of human and social capital?
Roles	How do the members of the organization perceive their role, expertise, and avenues for contribution?
Conflict, debate, discourse, and diversity	How do leaders utilize conflict and diversity of perspective to build collective knowledge within their organization?
Sustainability	How do leaders maintain sustainability of human, social, and intellectual capital in the developing learning organizations? Do members leave? Stay? Why?
Leadership philosophy	How do you view leaders and leadership?
Activities for building a professional learning community	What formal and informal activities do you initiate so that members of your organization learn? Who initiates these activities?
Decision-making	How do you share decision-making with members of your organization?

## Data Collection

Researchers who undertake participant observation as a fieldwork method for collecting data participate in three activities: *experiencing*, *enquiring*, and *examining* (Wolcott, 1999). Although those three activities are listed sequentially, experiencing, enquiring and examining occur throughout this study simultaneously. Analysis of the empirical data gathered throughout the interviews, observations, follow up interviews, and literature review contribute to a constant comparative process. After each interview, observation, and document review, similarities and differences are identified and categorized using theoretical comparisons. Through this theoretical comparative process, properties and dimensions develop that guide further data collection by theoretical sampling (Strauss & Corbin, 1998). Data collection and analysis alternated, as concepts emerged from the data. The methods for data collection include: (a) *enquiring* through structured open-ended interviews with each participant and follow up interviews with two of the three participants; (b) *observing* through observations of activities facilitated by one of the participants; and (c) and *examining* documents and artifacts, such as meeting agendas, tools, handouts, and reading the literature referred to by each of the participants.

With the exception of Ann, the associate superintendent of a suburban district, I establish an ongoing learning relationship with each of the participants. I continue to dialogue with each of them regarding resistance, support, learning, and a menu of concepts related to leadership of schools. To continue gathering data during the ongoing constant comparative analysis of studying leaders who lead by teaching, I have dialogued with Ellen and Donna through emails, informal conversations, text messages, and phone calls.

Field notes were taken during the audio-taped interviews. The audiotapes were then transcribed and examined to develop categories and subcategories. Participants were asked follow up questions for clarification through personal interviews and email and telephone correspondence. As the categories emerged, additional questions were asked of the participants that add clarity to the variations. Pertinent sections of the audiotapes were transcribed verbatim. The audio and videotapes were kept for only the duration of the study, viewed and listened to for purposes of analysis, and were destroyed upon completion of the study and analysis. The next section of this chapter details these steps as they occurred in this study.

### **Enquiring through Initial Interviews to Begin Open Coding**

*Initial interview with Ellen, observation, and follow up interview.* My first interview was with Ellen, the mathematics coordinator in the rural district. I had arranged to meet with her in her office to ask her questions about her work as a leader. During the initial interview, Ellen and I discussed various colleagues who we both know and work with in our work in mathematics education. I felt that establishing a climate of trust before I began the interview was critical to gathering quality data. I wanted Ellen to be confident that her identity would be kept confidential and that the purpose of this entire process is to learn together about leadership and share with others. I confessed my own anxiety regarding the interview process as a novice researcher. Ellen shared that she was honored to be asked to participate and hoped to be able to share something that I didn't already know. In the first few minutes of our initial meeting, Ellen confessed that she believed that she would be learning the most from this process; she said, "I just worry how much you're going to learn from me. I am the one who is learning as I go. Besides,

what can I possibly tell you that you don't already know about this? I see this as me learning from you" (personal communication, March 2, 2009).

I didn't initially recognize the importance of those statements. During the final stage of the selective coding process where I was clarifying the connections between concepts, and transformed the study from teaching leaders to learning leaders, I recognized the evidence had been in the data all along, but I had failed to notice it because I had neglected to look at ideas outside of the actual interview.

*Examining the data collected during the open coding process.* At the end of the first interview with Ellen, we agreed that I should observe her work in a classroom the following day with a specific teacher so that I might better understand the process she uses to support improved instruction in the classroom. During this next step of the data gathering, I was able to observe interactions between the principal, the teacher, and Ellen, the math coordinator. After the first interview, when I began to transcribe the tape and analyze my notes, I understood the value of audio taping the interview to capture the participant's words correctly. Throughout the first interview, the majority of my attention was focused on developing a follow up question, if needed, for the statements made by the leader. I also discovered that I needed to be flexible with the order of my questions. Beginning with the question regarding expertise was awkward because it assumed that the leader utilized outside expertise. The "expertise question" was awkwardly placed as the initial question. In reflection, this question topic stemmed from my own personal bias about hiring outside consultants rather than utilizing the expertise within the organization. I have come to understand that both internal and external expertise is necessary in education. By choosing the word "expertise," I was operating

under the assumption that knowledge is hierachal in nature and that leaders must possess a fair amount of it in order to lead by teaching.

The second interview that I conducted with Ellen was different from the first interview because the interview occurred immediately following the classroom observation. I had developed specific clarifying questions to ask based on what I observed while Ellen was modeling an instructional strategy for the teacher in her classroom. When the tape recorder had been set and I was ready to take notes, Ellen began the second interview by expanding on a follow-up question that I had asked in the initial interview. She explained,

What I thought about after you asked me the question about how do we retain teachers, what do we do to try to retain teachers. The more I thought about it, I think one of the things that helps us to retain teachers is that we really try to provide a lot of embedded professional development. We feel like, if we can offer them ways to train, improve, and learn more, they'll want to stick with us. And the support piece that goes with it. Because you know, you can give professional development and that's the end of it. They show up, they get a notebook, they write things down, and nobody ever mentions it again to them or gives them any support for trying to use it. But you know, we try to offer professional development and then really follow up on it. (Interview,

March 3, 2009)

Her comment spoke to the rationale of conducting job-embedded professional development in the classroom experience where she modeled how to solicit student

engagement and mathematical literacy through questioning techniques. During the axial coding stage of the grounded theory process, I came to discover that the consistent theme found within the statements made by Ellen coalesced around purposeful, intended learning directed at improving the quality of instruction in the classroom, and continuous support of learning through a collaborative approach. For example, the following statements from Ellen are included in the following data table (Interview, March 2 and March 3, 2009).

Table 4

*Data from Ellen Regarding Professional Development and Collaborative Learning*

Statements from data	Purposeful Professional development	Collaborative learning with support
It's making teachers feel good about what they're doing, and feel confident, and like, also to value the district because they feel like they're learning something.	X	X
I think if we can just give her those tools she will learn how to question rigorously.	X	X
If we can offer them ways to train and improve and learn more, they'll want to stick with us.	X	

Table 4 *Data from Ellen Regarding Professional Development and Collaborative Learning* (continued)

Statements from data	Purposeful Professional development	Collaborative learning with support
Learn together right there in the classroom, like we did today.	X	X
And she [teacher] plans some kind of professional development, something we're gonna work on.	X	X
We really try to provide a lot of embedded professional development.	X	
All the elementary administrators and all of their teacher leaders and all of us, we get together... plan some kind of professional development, something we're gonna work on. Like last time it was running records.	X	X

### **Observing Ellen in the Classroom**

My presence in the elementary mathematics classroom involved a simple covert and honest explanation to the teacher. Ellen and I explained to both the teacher and her principal that I was learning the process of how Ellen supported teachers by using job-embedded professional development. We explained that I would be taking notes, asking questions, and observing the actions in the classroom. The teacher and principal

publically welcomed my participation in both the model lesson and the follow-up debrief conversation after the model lesson. The conversation occurred immediately after the model lesson because it was the teacher's conference period. I did not audiotape or video tape any of the activity during this section of data collection. I did take extensive notes, as did the teacher. Ellen suggested that the teacher record the observation and questions for the follow-up conversation.

During the initial interview with Ann, the associate superintendent of a fast-growing suburban district, although I had considered restructuring the order of the interview guide of questions, I did not. Naively wanting to remain consistent with the questioning process in my early understanding of grounded theory and misconception of the flexibility needed during the interview process, I kept the questions in the same order. Perhaps because Ann had already received a doctorate in her field and understood the research process better than I did, the interview was productive regardless of the order of the questions. At the end of the interview with Ann, I had sought the opportunity to observe interactions with her and the principals of her district, but the decision was made to limit the interactions to interviews in order to avoid additional risks that might identify her as the leader who participated in this study. Therefore, the data collected with Ann are limited to only the initial interview. However, during the interview, I was directed to literature and research that would later prove to be helpful in developing the theory presented in Chapter Four. Ann referred to double-loop learning and recommended that I read literature by Rick Stiggins who is well-versed in assessment for learning (Interview, March 11, 2009). Digging deeper into Ann's reference to double-loop learning led me to Argis (1994) and the concepts of single-loop versus double-loop learning.

The initial interview with Donna lasted for almost two hours because we found so many ideas to discuss. When we met to audiotape the initial interview, I used the same order and style of questioning that I had used with both Ellen and Ann. During the interview, Donna pressed for clarification on questions that were not clear to her. Beginning with my first question regarding utilization of outside expertise, Donna questioned me,

Okay, let me tell you what I think that's saying. Alright? 'Cause a lot of those questions are lots of big terms, and current terminology. How can I, as a leader, utilize training—the ongoing training and expertise that I should be getting, through professional development? Through reading books, and literature, and keeping up with the current issues? How can I then build those ideas and pass that on to staff? And build internal strengths with that? Is that the question?

(Interview, April 1, 2009)

Donna reframed my question asking how leaders utilize external expertise while building the human capacity of internal expertise within the team to a friendlier question asking about her own learning, first, and then building the staff. Her answer then paralleled and further confirmed that she viewed herself as a continuous learner.

Number one, as a leader, you have to be willing to be an ongoing learner, continuous learner. And if you're not role-modeling that for staff, they're not going to see it as something that's important to you, as a teacher, or in leadership, or on the campus, as far as the staff. So, you need to role model the importance of continuous learning. You need to share what you've gone to and what you've learned with staff. And that can be done in many ways. It can be done

informally. It can be done through professional development on campuses. It can be, “Hey this little thing I just learned would really take off with this certain grade level, or this certain teacher, or this certain little cluster of people who I know, who have this interest.” And meet with them, and see if you can't plant seeds, or try to start a portion of something small within that it's then built on. (Interview, April 1, 2009)

Within the data each of the leaders were telling me that they consider themselves learners. However, I had created categories with the initial assumption that leaders lead by teaching, and was naively listening for how the leaders taught the members of the organization. Charmaz (2006) offers a symbolic interactionist approach to grounded theory that challenges historical positivistic assumptions in categorizing data. I realized that my own perspective of the leaders' role fostered the assumption from a positivistic perspective influenced by a hierachal view of leadership. The data from the leaders consistently represented learning collectively with the members of their faculties and departments, not teaching them through an expert position of power.

### **Data Analysis during Data Collection**

In analysis of the data, a preliminary indexing system was used to sort the data into categories and variations (Dewalt & Dewalt, 2002). The indexing system used a matrix articulating categories and variations in the categories (see Appendix D for Data Matrix). Creating the data matrix was similar to creating an Innovation Configuration, which is one of the components or tools of the Concerns-Based Adoption Model (Hord, Rutherford, Huling-Austin, & Hall, 1987) that is used to monitor implementation of an innovation using categories and variations for designing follow up support for

implementation. A distinction between the two matrices is that the variations in an innovation configuration indicate a hierachal spectrum from novice to expert in implementation, whereas the variations articulated in the grounded theory indexing system matrix tool indicates non-linear differences. The initial matrix, although preliminary in the identification of categories, provides significance by organizing early ideas of concepts and their relationships.

The data were obtained and analyzed in three stages of sampling and analysis, as outlined by Strauss and Corbin (1998). The first stage of analysis, the initial sample, occurred during the open coding phase of research. Initial sampling “is a relatively open process because the aim of open coding is to discover, name, and categorize phenomena according to their properties and dimensions” (Strauss & Corbin, 1998, p. 206).

Analysis and coding of data occurred as the data were being collected from each interview and I adjusted the interview protocols based on emerging concepts (Strauss & Corbin, 1998). Strauss and Corbin (1998) describe grounded theory researchers as researchers who have flexibility and openness with having learned how to sustain a fair amount of ambiguity. Dewalt and Dewalt (2002) describe the process of analysis as inherently iterative; “the investigator should continually be reviewing field notes and transcripts and continually tossing out old ideas and posing new questions for study during fieldwork and post fieldwork phases of research” (p. 13).

The second stage of my analysis was “relational and variational sampling” and occurred during axial coding. In this stage, I was looking for a range of variations in the concept and for any connections or relationships between the concepts. The final stage was “discriminate sampling,” which occurred during selective coding. It was during this

stage that I determined I would revisit the participants for additional questions in order to seek saturation for the categories and to clarify the relationships between categories (Strauss & Corbin).

This study used ethnographically-informed qualitative methods and symbolic interactionism (Blumer, 1969) for data collection and analysis. Because of this lens, in Chapter Four, I have shared a graphic representation of the triangulation between components borrowed from Habermas's Theory of Communicative Action, Chaos Theory, and data from the leaders participating in this study. The triangulation represents the meaning derived from the relationships between these theories and the actions of the leaders I studied. As I inquired, observed, and examined during the course of this study, as proposed, I developed a much deeper understanding of shared leadership, collaborative adult learning, and the distribution of decision-making power.

## **CHAPTER IV**

### **DATA ANALYSIS**

Grounded theory analysis is about concepts, not description of data (Glaser, 2011). The constant comparative method used in grounded theory data analysis is an ongoing process of theoretical sampling, integrating the collection of the data, the coding, and the analysis of the data (Artinian, Giske, & Cone, 2009). The patterns that emerged from the constant comparative method were noted in theorized memos by the researcher and inform additional data collection, analysis of the data, and collection of supporting literature within the field of study. Specific to the grounded theory methodology, professional literature supports the researcher's inductive approach rather than a deductive approach (Patton, 2002). Because an inductive approach was used during the analysis to generate theory, the adequacy of a theory is connected to the process that generated the theory (Glaser & Strauss, 1967). The theory-method linkage connects how the researcher conducted the study with what the researcher learned during the study (Patton, 2002). A suggested characteristic of a grounded theory researcher included being able to recognize the tendency towards bias (Patton, 2002). A difficulty in grounded theory research was allowing the theory to emerge from the data rather than forcing a fit. Using a grounded theory analysis meant that I had to listen to the data openly and resist imposing preconceived ideas about leadership onto the data. The methodology of grounded theory required me to allow the data from the study to

transform my own understanding of leadership and organizational structures.

As a researcher, I implemented the constant comparative method in a process including both analysis and learning about the leadership concepts throughout the emergence of the central theory. The choice to collect and analyze the data using the grounded theory methodology for this study made sense because grounded theory allowed the researcher to participate in the study as a learner who identified patterns within the data, synthesized the patterns, and then presented the central theory. The goal of grounded theory analysis was simply to determine patterns within the data for the theory product (Glaser, 2011).

The initial line-by-line microanalysis of the data generated two initial categories, the leaders' use of power and use of focus. By implementing the constant comparative method in the analysis of the data, informed by supporting literature, open coding, and axial coding, relationships between the data emerged to generate a theory to explain three leaders who lead by learning by utilizing every opportunity to learn throughout the problem-solving process or implementation effort. This chapter tells the story of the analysis and learning that took place in the constant comparative process of identifying patterns within the data, the learning of the concepts, and the literature that supported the developed theory: the leaders participating in this study of the phenomena of leaders who lead by teaching, in fact, lead by *learning*, both publically and purposefully.

In the proposal for this study, I anticipated utilizing Chaos Theory as a metaphor. I continued to read and learn about how the mathematics and science of Chaos Theory contributed to various fields, such as physics, weather, biology and scientific research. Throughout the analysis of the data and the supporting literature, I came to understand

Chaos Theory as the organizational science behind both grounded theory (Patton, 2002) and organizational theory.

### **Triangulation**

Triangulation is a research metaphor borrowed from a trigonometry process used to determine an unknown point or location by using the position of two fixed points a known distance apart. The research metaphor of triangulation was inspired from construction, surveying, and navigation at sea. The application of this concept in research was to use two or more aspects of research to increase the ability to interpret the findings (Polit & Hungler, 1995). Research triangulation is the combination of two or more data sources, researchers, methodological approaches, theoretical perspectives (Denzin, 1970), or analytical methods (Kimchi, Polivka, & Stevenson, 1991) within the same study.

For the analysis of this study, as represented in Table 5, I triangulated the data generated from interviews and observations with the theoretical perspective of lifeworld and systemsworld borrowed from Habermas's Theory of Communicative Action and the theoretical perspective of the Chaos Theory. The inner cells in Table 5 represent the leadership actions identified in my analysis of the study in the intersection of major components of the Chaos Theory, the strange attractor, self-organization, and fractals, represented in the horizontal headings.

*Table 5 Findings Aligned with Chaos Theory Concepts*

Strange Attractor	Self-Organization	Fractals
Focus on purpose: team shares a common purpose that is based on common values and a commitment to learn.	Shared problem-solving: with clarity of purpose, members share problem-solving, decision-making to support the shared purpose of their work.	Collective learning: learning occurs at every level of the organization.
Distributed power: leader utilizes power as energy used to move the work rather than authority over individuals.	Shared ownership: members of the organization work to solve problems through collective learning.	Commitment to build capacity: in a non-hierarchal network structure, learning extends beyond the classroom to include students and adults.

As I made sense of new concepts as a learner, I created conceptual visuals, such as tables and graphs, to illustrate relationships between ideas. Theorized memos were created during the analysis of the data from reviewing supporting ideas within the research literature, attending conference sessions hosted by researchers, and dialoguing with educational practitioners. The theorized memos informed the evolution of visuals

which assisted to illustrate these ideas. Throughout this chapter, I have shared the evolving versions of the conceptual visuals representing the evolving versions of the concepts throughout the analysis, and the story of how the data and supporting literature of the concepts, which emerged through the data inspired the evolution of the theoretical product: the leadership style and actions of leaders who lead by learning, publically and purposefully. The evolution process of reflection and evolution of ideas through writing, as one analyzes and learns, was captured in the quote by philosopher Mahatma Gandhi who cautions his readers:

I would like to say to the diligent reader of my writings, and to others who are interested in them, that I am not at all concerned with appearing to be consistent. What I am concerned with is my readiness to obey the call of truth, my God, from moment to moment, and therefore, when anybody finds any inconsistency between any two writings of mine, if he has still faith in my sanity, he would do well to choose the later of the two on the same subject. (Deshpande, 1999, p. 28)

As the participant observant in this study, my evolved truth was not offered in this analysis as a singular truth. Rather, as a practitioner in education who courageously assumed the challenge of re-engaging with truth and truth-speaking in educational leadership in a way that did not reduce truth to perspectives (Biesta, 2011), my truth in analysis of this study was offered for acceptance or rejection, as Biesta (2011) suggested for “transformation or even for destruction,...take the encounter serious and not to try rising above it” (p. 10). As a participant observer who has implemented the leadership lessons learned throughout the constant comparative process, I have made meaning of the

relationship of the data both theoretically and within the practice of leadership.

Originally, the proposal for this study was written in the conventional third person with the occasional first person pronoun when discussing the technical work of the researcher. My proposal read awkwardly and sterile in referring to myself as “the researcher.” Revising this Chapter 4 analysis process in the first person reporting was inspired by Biesta (2011) who suggested that:

Pursuing this existential approach calls for forms of philosophising that take a first person perspective rather than a third person perspective; it calls for forms of philosophising that to not try to theorise from the outside thus running the risk of overriding the existential, first person perspective but rather do so from the inside, so to speak, that is, in a way that does not override and replace what occurs on the existential plane. (p. 10)

Throughout this chapter, I have presented data gathered from the experiencing, enquiring, and examining of interviews, observations, and document reviews to understand the phenomena of leaders who lead by learning as they developed authentic learning communities within their organizations. This chapter looks at how three leaders learned with the communities of learners within their school districts.

The first section has detailed the meaning of terms from the Chaos Theory and Habermas’s Theory of Communicative Action in respect to this study. The second section has described the three leaders who participated in this study. The third section discussed the commonalities of their use of power, debunking the idea of either bottom up or top down hierachal structures, and the use of focus on purpose, two strong themes that emerged from the data and the specific leadership moves, or actions, from the data,

which the three leaders specifically utilized to purposefully develop and explicitly support a learning culture for themselves and the organization. The leadership traits that emerged through this study and that are presented here illustrate situations that require leadership that purposefully attends to providing learning opportunities for the members of an organization.

### **Learning Theory**

The learning theory that I adhered to during the gathering of these data is that of social learning theory (Wenger, 1998), which occurred through social participation. The three leaders interviewed and observed in this study definitely encouraged learning opportunities for themselves and the organization but have not adhered to the learning epistemologies where they are the expert teacher in the room or where the members of the organization are required to learn from them exclusively, as the leader. As one of the leaders stated, “If I am the smartest person in the room, then we are all in trouble” (Interview, September 14, 2009). One leader began her interview by explaining that her role was not about changing teacher practice, but having conversations with teachers about what students are doing and how teachers can raise the level of cognition. Therefore, “It’s not Ann telling us what we gotta do, it is us figuring out how to make the kids do more work than the teachers” (Interview, March 11, 2009).

### **Leadership Theories**

The leadership theories I adhered to during the nomination process and interview preparation for leaders interviewed for this study was that of Level 5 Leadership (Collins, 2001) and constructivist leadership. Level 5 leadership was identified by the leader’s ambition for success of the organization with intense but humble diligence for results

with reliance on inspired standards, not inspired charisma, to motivate community members (Collins, 2001).

Constructivist leadership, as a concept not limited to individuals, roles, and behaviors, has been defined as the “reciprocal processes that enable participants in an educational community to construct meanings that lead toward a common purpose about schooling” (Lambert, 1995, p. 29). The three distinguishing characteristics of constructivist leadership included the belief that leadership is shared within the community through a reciprocal process, the belief of constructivist learning, and the recognition of the need for a community of learners (Lambert, 1995). A community of adult learners was the heart of constructivist leadership theory grounded in the assumption that adults can work together to construct meaning and knowledge. Wheatley (2010) suggested that a key principle for creating a healthy community is to provide legitimate opportunities for members of a community to have dialogue with one another because conversation is the way that human beings have always thought.

### **The Leaders**

The leaders who participated in this study have been actively engaged in influencing change within their respective school districts through their actions. Coupled with their formal leadership positions, their willingness to teach those who work on their teams provided me the opportunity to identify them as participants in my study. Each of these leaders fit my original definition of leaders who lead by teaching through helping others as they learn together and facilitated change within their districts.

The first leader, Ellen (pseudonym), interviewed and observed for this study is an elementary mathematics coordinator in a rural school district. In her role she is required

to train teachers in so-called best practice instructional strategies in mathematics and to support the implementation of the district's new curriculum, called CSCOPE, not an acronym. In addition to providing professional development to teachers on new instructional strategies, activities in her role have included modeling for teachers, providing feedback to teachers, and hosting community information nights. At the end of the initial interview, she expressed that she considered herself a constructivist mathematics teacher but had not really considered the ramifications of constructivism for leadership before our interview conversation (Interview, February 3, 2009).

The second leader interviewed in this study, Ann (pseudonym), serves as an Associate Superintendent of Curriculum and Instruction in a fast-growing suburban district, which also implemented the CSCOPE program. She was instrumental in purchasing the program and, as the top administrator for curriculum and instruction, is associated with the decision to implement the program in her district and the large-scale change that this brought to the district curriculum structure. I interviewed this leader in her second year with the district; she has served in a similar leadership position in an urban district and has specific, well-developed leadership knowledge and experience with leading change initiatives (Interview, March 11, 2009).

The third leader interviewed and observed for this study, Donna (pseudonym), is a recently retired middle school principal in an urban district. Donna currently works as a part-time administrative and bilingual program consultant supporting leadership teams of campuses with a Texas Education Agency (TEA) accountability rating of Academically Unacceptable within urban districts (Interview, August 28, 2009). In the nomination process additional notes were written on the nomination form, "Donna is the reason that

our school is such a great place for students and for teachers too" (Nomination Document, January 14, 2009).

### **A Network Structure Connected by Purpose**

Fullan (2007) reminded us that historically, educational change has swung from top-down government-led management, to bottom-up campus-led management; and then recommended a direction from the center combined with bottom-up capacity building. Change process leaders understand that neither top-down nor bottom-up strategies are effective when implemented in isolation of one another. It is only when bottom-up and top-down forces interact and are mediated in purposeful directions that improvement occurs. Fullan (2007) suggested that the principal is the key person to play the mediating role. However, the language of bottom-up and top-down both have described an approach to the hierachal structure of power within an organization.

In the following section I have discussed the two themes that I found in the data. I discussed how those two broad themes guide the decision-making of the leaders in how they purposefully work to establish a learning culture within their teams. Then I discussed the three leadership actions, which clarify how the leaders purposefully distribute power.

### **Systems Support Purpose – Not the Other Way Around**

Glaser (2011) encouraged the grounded theory researcher to begin the constant comparative analysis immediately, the first night, after the initial data were collected. After my first interview with Ellen, I began to analyze our conversation by listening to the taped interview during my return trip home. My initial analysis of her conversation was that as a leader, she determined focus for the activity. Ellen explained that each

month her district had focused meetings on various aspects of instruction, such as improving questioning techniques, or differentiation strategies. Ellen stressed that each meeting had a focus, which was determined by an instructional need:

Once a month, we get all the elementary administrators and all of their teacher leaders together and we plan some kind of professional development that's focused on something we're gonna work on. Last time it was running records. Our focus varies between topics each month, such as questioning techniques, differentiation, or whatever is needed that month to help instruction. (Interview, March 3, 2009)

Based on my review of the initial interview, it was my initial assumption that focus was an important category to identify in the initial open coding process of the data analysis. After more data were collected and analyzed through a constant comparative analysis, I came to realize that the significant word from Ellen's report was not the word "focus" in isolation, but that it was coupled with the words at the end of the sentence "to help instruction." The consistent monthly focus was determined to improve a process from the systemsworld, such as questioning techniques, to support the purpose of the school, the lifeworld, and instruction. The collaborative work of the leaders to provide structures, such as monthly meetings focused on instructional techniques and served the purpose of the schools, improving instruction.

A large portion of Ellen's leadership support work included supporting beginning teachers in their first three years of teaching. The system that Ellen implemented to support the learning of the novice teacher includes Ellen collaboratively planning with

the teacher and the teacher's principal prior to Ellen co-teaching or modeling teaching strategies in the teacher's classroom. Second, the teacher either observed or co-taught with Ellen with the task of generating notes, ideas, and questions. The principal supported the process by observing with the novice teacher as Ellen either modeled or co-taught with the teacher. The final and third step of the system, following the co-teach or modeling is that Ellen then debriefed with the teacher and the principal, asking questions, answering her questions, discussing key points of the lesson, and dialoguing about the teacher's use of the strategies in follow-up work.

My initial analysis was formed through a goal setting, outcomes-based, task-focused perspective. A review of recent professional literature encouraged a simplistic focus on implementing a few initiatives. Schmoker (2011) encouraged school leaders to resist pursing multiple new initiatives before implementing the highest priorities and structures, and quoting Collin from his *Good to Great*, "We must attain piercing clarity about how to produce the best long-term results, and then exercise the relentless discipline to say, 'No thank you' to opportunities that fail the hedgehog test" (Collins, 2005, p. 17 as cited in Schmoker, 2011). Pfeffer and Sutton (2000) criticized leaders who resisted simplicity because they were enamored with complexity.

In this early stage of analysis, I felt confident that a simple instructional focus was the key to the process described by Ellen. I followed up by emailing Ellen to ask about the role of focus while planning with the teacher. Ellen confirmed that during the planning section of the process, an instructional focus was determined;

There has to be a focus if any progress is to take place. The focus is the reason for the activity, project, or model-teach. As I dialogue with teachers

and their administrators, we look for areas for improvement. The area that is chosen becomes the focus for our work together. Everything revolves around that focus. If it's a lesson, we develop that lesson together to meet the goals of our focus. After the lesson, we discuss the aspects that are relevant to our focus, and did we accomplish what we'd hoped to? Our work isn't complete until we see some sustainable progress toward the areas for improvement. (personal communication, April 5, 2010).

The analysis of Ellen's email reply was different when a network structure was applied to the analysis process rather than a more simplistic hierachal approach. Through my initial hierachal analysis, I placed the emphasis on the leaders' action of providing focus as the critical action. Through a network lens for analysis, I noticed the frequent use of the plural pronouns, "we" and "our," which suggested a collective understanding of purpose.

Sergiovanni (2005) applied Habermas's concepts of lifeworld and systemsworld to schools and described the lifeworld of schools as "the stuff of culture, the essence of values and beliefs, the expression of needs, purposes, and desires of people, and about the sources of deep satisfaction in the form of meaning and significance" (p. 5). Operating as separate but interdependent domains, the lifeworld is the generative force that drives the systemsworld. If education, as teaching and learning, are the purpose of schools, or the lifeworld, then the systemsworld is comprised of all the management systems which are in place to support the lifeworld of education such as budget, books, schedules, and so on. The actions in the lifeworld are both *expressive*, individual actions, which express

the culture of the school, and *normative*, collective actions, which communicate a shared vision and culture.

Actions in the systemsworld are both *teleological*, setting objectives and establishing systems to achieve the objectives, and *strategic*, making decisions to maximize value (Sergiovanni, 2005, emphasis added). All four necessary actions, expressive, normative, teleological, and strategic, are essential to the success of a school and co-exist. The leaders who lead by learning and who participated in this study worked to keep the lifeworld as the generative decision-making force by keeping teaching and learning consistently as the focus of activities on their campuses. This is the focus, targeted attention to education, referred to in the analysis in the findings from the study. Wheatley (2008) suggested that leaders help to select critical values we choose to organize our actions around. Specifically, each of the leaders in this study maintained a purposeful focus on the lifeworld of education as the generative force of their leadership decisions and their leadership actions. Habermas' Theory of Communicative Action suggests that both the lifeworld and systemsworld co-exist with each generating the decisions in the other world. Examples of systems in the field of education include all of the structures which help schools function such as class schedules, course syllabuses, curriculum, and even standardized testing. The shared lifeworld of education is the education of every student.

When decisions are made with the purpose of protecting or sustaining functions in the systemsworld without honoring the purpose of the lifeworld of teaching and learning colonization occurs. “Colonization” is the term Habermas used to describe the reverse order of decision generation where the systemsworld dominates the lifeworld rather than

decisions made and systems established for functionality of the lifeworld (Sergiovanni, 2005). For example, if the schedule of a school dictates or limits teaching and learning, then the lifeworld is sacrificed to the mercy of the systemsworld and colonization has occurred. In education colonization of the lifeworld occurs when the systems, such as standardized testing, are the primary factor that impact decision-making. For example, in Texas schools many administrators and teachers group students according to test scores and then adjust instruction around the subjects most tested in order to improve test scores. When this occurs in schools, the system of standardized testing becomes the generative force of decision-making and colonization occurs. Colonization in schools has eroded both expressive and normative actions (Sergiovanni, 2000).

Glickman (1993) encouraged “public schools, in order to sustain themselves, to refocus their goal on the very reason for their creation: to prepare citizens for productive participation in a democracy” (p. 148). In most public schools Glickman contended, the learning goals have little relevance to becoming a citizen. The leader’s use of focus on keeping education at the center of decision-making in both actions and language is how the leader purposefully worked to prevent colonization from occurring in our schools. An example of how leaders use the lifeworld as the focus of decision-making as illustrated in this study is when Ann shared ideas to adjust the systemsworld of pulling teachers for separate professional development to support the lifeworld of education. She said:

And we talk about professional development, yeah, it’s important. But the most important thing is teaching and learning. How do we do professional development without pulling from teaching and learning every single time

we do it? How do we make sure that teaching and learning is occurring while we're doing professional development? You know, we pull ESL teachers for ESL strategies, we pull them for literacy strategies, and we pull them for math strategies. What we forget is, we're pulling the same teacher for all of those things. How do we develop the system that integrates this, because we expect the teacher to go back in the room and use all of those pieces? (Interview, March 11, 2009)

When a leader consistently articulated the shared purpose to the team or faculty, three benefits have arised First, focused activities are more apt to produce the outcome desired. Second, focused activities provided a context for dialogue that provides opportunity for the members to take risks, explore options, and share areas of agreement and disagreement. Third, and most importantly, focused work allowed decisions to be made around the enduring purpose of the organization, determined by the ongoing vision of the organization, not by the urgency of the project. The third aspect of focus, decisions and actions focused on the purpose of the world, provides the leader the opportunity to nurture the lifeworld of the schools.

### **Purpose to Achieve Desired Outcome: an Example**

A focused activity, having produced the desired outcome, is illustrated by this observation: Ellen provided a model-teach in a novice teachers' classroom, then discussed the lesson scenario with the teacher and her principal immediately after the model-teach. The first-year elementary teacher had been struggling with learning the instructional strategy of providing opportunities for students to explain their thinking and mathematical reasoning to one another. In the initial interview, Ellen explained to me

that she always tries to have the teacher determine the focus of the model lesson, because encouraging the teacher to select the focus allowed the teacher to have ownership of the learning in the model lesson process. Ellen explained, “When I model teach, there needs to be a focus determined by what the teacher wants to learn from my demonstration lesson” (field notes, March 6, 2009). The focus of the demonstration lesson I observed was how to increase the amount of time that the students discussed mathematics with one another.

Before the lesson, Ellen met with the teacher and the principal to determine the focus of the lesson. The lesson was taken directly from the district curriculum and was an hour-long math lesson on using concrete models to understand and connect the formulas for perimeter and area. The campus protocol for observing a model teach required the observers to record observations, which would be shared in a follow up conversation after the observed lesson. The first-year teacher recorded observations about the students’ conversations that she noticed on the left side of the paper and listed questions she had on the right side of the paper. At the end of the lesson, the teacher had generated six pages of notes, including observations and questions she had for Ellen.

After the lesson the teacher, principal, and Ellen discussed the observations that the teacher had made and the questions that had been generated during the model lesson. The majority of the observations focused on student engagement and conversation. The questions for Ellen centered on the teacher understanding how Ellen facilitated a classroom where the students were discussing the mathematical concepts. The teacher observed that Ellen limited her initial direct instruction time and quickly got the students to the task. The teacher commented that she also noticed that the students really seemed

to know a lot more than she thought they did. She said, “The kids come in with so much knowledge” (field notes, March 6, 2009).

Ellen shared her reasoning for having the teacher select a focus before the observation:

The focus of the observation, well especially in her case, there were so many things we talked about, you know. There was just a whole list of things. There’s no way she could try to do all of it, so we had to say, “Let’s pick a few things that she could focus on during the observation.”

Without a focus, [teachers] go in and start looking at the bulletin boards. [The teachers] will not focus on the things you want them to focus on unless you are very clear about the purpose of the observation. Oh, other things in the classroom will still be observed and discussed, but an observation focus allows for the follow up conversation to have a purpose.

(Interview, March 3, 2009)

### **Providing Space for Dialogue**

The second benefit of the leader’s use of purpose was providing a safe and creative context for members of the team, to guide their decision-making as they worked towards a solution to a shared problem, outcome, or action. When members have agreed upon a purpose for the dialogue, their different perspectives towards reaching the desired result produced a strong collective understanding. During healthy debate and dialogue, members pay attention to the three essential elements of dialogue: themselves, the process, and the new whole that emerged from the dialogue (Garmston, 2009). If the productive dialogue produced a whole that is greater than the sum of its individual parts,

the learning community grew, not only through results, but also in process. Each of the three leaders discussed the role of dialogue in shared decision-making. Donna shared the following observation;

As a building principal I looked for opportunities to have conversations with people. When you're running a campus of one thousand two hundred and twenty, and you've got a staff of almost a hundred, there are a lot of conversations going on in the building. You know, talk about Power. See, Power, to me, is a scary thing. If you think you want it all to yourself. Because you want to be the tsar in the tower, the ruler, then it's a lot harder, because you have to cover everything. But to share the power and the responsibility, the task at hand is solved so much greater than if you are a service leader, where you empower your staff. And you help them, and you literally say, "Let me know. You're my experts." You know, and we're going to continuously build on our expertise together, you need me to send you places, and I did. We sent the Math teachers together to the National Conference last year (Interview, April 1, 2010). However, when the participants are unskilled at reflective listening and collaborative dialogue, frequently the decisions made do not reflect the consensus of the participants, and the decisions made are frequently of low quality (Garmston, 2009). By providing a space with consensus as an expectation from the dialogue, the leader can help the shared decision evolve from dialogue. This was illustrated in an example given by a leader participant in this study:

The associate superintendent, Ann, asked four principals to determine a common

schedule, when heretofore the middle school campuses each had a distinctive one. Some campuses had block schedules and others had more traditional schedules. The superintendent provided a room, a focus, and asked the principals to problem solve the situation:

Well, instead of me telling the middle school principals, “Here’s the schedule you’re gonna follow next year, a 7-period day, we staff teachers teaching 6 and 7,” and I told them, “You tell me what you want to do. It just has to be that we’re going to follow the same schedule.” I had chill bumps thinking about it. Because they came out with, not only something that they could live with and support, they thought of it. It’s their idea; it’s not my idea. (Interview, March 3, 2009)

In the duration of the principals’ dialogue, many topics influencing the decision were discussed, including equity of instruction and the sharing of resources, such as the number of dyslexia teachers and counselors. However, consensus was achieved and a creative and common schedule was determined. Ann commented that this activity produced greater results than just a schedule, which they initially did not agree on, because it provided them with a process for problem solving and realizing what they could accomplish by debating issues they grappled with.

### **Focus to Nurture the Lifeworld**

A third benefit of focus was the leaders’ commitment to support the unique traditions, rituals, and norms that contributed to a school’s culture and that influenced the lifeworld of a school or district (Sergiovanni, 2000). A shared lifeworld helped to

mitigate possible conflicts that would be otherwise fostered by members' diverse perspectives (Habermas, 1996).

The three leaders studied used focus to ensure that the work or purpose of the current activity remained tied to the broader purpose of the school, teaching and learning. The focus was directed to the intersection of where the team members agree or where they perceive the desired outcome of their collaborative work to be. For example, Donna, the urban principal, explained to me that by providing a focus, the teachers would rally around the project at hand, whether it be designing an afterschool program or designing a better way of contacting parents. She explained that, "without a focus for the meeting, the conversation could very well drift to problems that are out of our ability to solve, which just frustrates everyone and achieves nothing" (field notes, September 10, 2009). She explained that the focus couldn't be too simple to create an afterschool program, because then the school would be providing a service for afterschool care. Instead, the focus was to provide additional support to students in areas where they traditionally struggle during the school day. She said, "We kept this purpose at the heart of our planning and we ended up designing an afterschool program around the fine arts, so that the students could learn math concepts in ways that they didn't normally learn them during the day" (field notes, September 10, 2009).

The role of the educational leader is to consistently champion the lifeworld of education and to keep it as the focus of all activities and at the heart of decision-making. Donna reiterated the lifeworld of her school when she said:

The whole focus is supposed to be about developing the whole child, and the child finding out what they like, and don't like, and where they have

skills that they didn't even know, or interests that they didn't even know existed. And, you know, getting them ready to go to high school, where they want to develop certain things further. That's why there should be lots of experiences on a campus. Lots, and lots, and lots of experiences for kids to choose from. (Interview, April 1, 2010)

### **Leaders' Use of Distributed Leadership Power**

The second overarching theme was the leaders' use of power. In my analysis of the findings of this study, I defined power as the distributed energy needed to move the organization in change. Power in the physical and mathematical sciences was described through the terms work, energy (power in motion), and time. Foucault (1980) challenged us to consider that although not much had been written concerning the relationship between knowledge and power, they are and will always be integrated with one another. He explained the dynamic relationship between power and knowledge: "the exercise of power perpetually creates knowledge and, conversely, knowledge constantly induces effects of power" (p. 52).

Rather than use power to control, the leaders who participated in this study purposefully distributed power to members of the organization. Throughout the interviews, observations, and conversations with the leaders, all three used the word "we" rather than "me" when discussing their work or decision-making. A leader who has designed structures for expertise to be shared and for problems to be owned and solved by the members of the organization has communicated an expectation of shared decision-making. When discussing the impact of providing a structure for bringing principals together to collaborate on a curriculum implementation project, and then providing

professional development around the project, Ann shared this:

It has been interesting. I have been the initiator of professional development for principals. But what I am finding now, it's like this thirst has been whetted. They want to learn. They want to build their own capacity. It's not me nudging or me pushing them, or telling them, "Go learn this." It's about them being reflective. It's about them being the owners of their own learning, and saying, you know what, I know some stuff but I want to know more about it. (Interview, March 11, 2009)

In physics power is defined as the rate that work is performed. In an analysis of leadership literature from 1900 to 1990, Rost (1993) described a composite definition of the "industrial leadership paradigm," where leadership power is hierarchical, linear, with the emphasis on controlling, influencing, or managing with authority. Power can also be defined as a means to control the outcome, such as "the capacity to get others to think, feel, or act the way we want them to, even if they don't want to think, feel, or act this way" (Sandstrom, Martin, & Fine, 2003 p. 147). Understanding how leaders use power is an integral part of studying leadership, because it is one of the ways leaders get things done (Nahavandi, 2006).

French and Raven (1959) proposed five sources for leaders to achieve power, including legitimate, reward, coercive, expert, and referent. The three leaders in this study maintained legitimate power through their official administrative titles. By having the source of legitimate power, the leaders are able to access resources, such as budget allocations and time to support efforts. A contribution of the present study is how the three leaders used their legitimate power to provide opportunities for other educators to

contribute their expertise, their ideas for problem solving and decision-making, and to develop their capacity individually and as a team. Rather than controlling the outcomes of the process, these leaders focused on providing opportunities for the power to be shared, as energy for learning and improving the work of the team. Ann shared this:

I'm a learner then. At that point, I can sit down in the front row and I can learn and have conversations with them as the learner and it's no longer, "Ann, you're making me do this," it's, "Ann, you're learning with me." We're in a learning community. We're determining how to best move our district forward as learners rather than as someone who's the boss saying, "You're going do it." It stops being a top-down mandate. It then becomes, "We're in this together; we're learning how to best implement these things." (Interview, March 11, 2009)

In our conversation about her leadership work with middle schools, Donna shared an understanding that guidesd her work as a campus leader. She said:

William Glasser basically says that whether you're an adult, or a child, you have five basic needs that must be met in order for you to perform at your optimum level and those are, freedom, fun, power, survival, and belonging. (Interview, April 1, 2010)

Donna continued and described her interpretation of the five needs identified by Glasser. She included an insightful perception of power:

Power, simply means voice. Whether I'm the child on the campus, a staff member, a custodian, a cafeteria [worker], a bus driver, whatever my purpose is on the campus, I know that my voice, if I want to have

something said, or if I have a concern, or I have an idea, I'm excited, I know that I have voice here and that it will be sincerely heard. And I know my voice is not going to be vaguely listened to, but really heard and my ideas considered. (Interview, April 1, 2010)

In sharing decision-making power, Lovely (2005) suggested that leaders find tasks that suit each individual, which will allow for individuals to experience success and a sense of accomplishment. Resistance to empowering others with decision-making power frequently stems from the misconceptions and fear of leaders appearing to be weak, responsibility for the mistakes of others, and/or losing their perceived control (Lovely, 2005). Wiseman and McKeown (2010) suggested that if a leader makes his or her mistakes known to the team publically, then over time, this practice could be powerful in liberating the intelligence within the team. If a leader resists the opportunity to distribute power through empowering others to make decisions and contribute ideas, then the organization is limited to the success of the leader's tasks and abilities alone. Donna shared a final thought on the impact of distributing power by commenting that being a Tsar-like dictator leader would be exhausting and impossible for running a campus. Vividly I remember her comment: "It is simply impossible to do the work of running a campus with just your own ideas. The work, the decisions, the power must be shared or you will fail miserably as a leader."

Shared leadership as a concept can be represented as a web that distributes control and authority across the organization in a nonhierarchical structure where decisions are shared by every member. To create this structure within a school, a

leader must understand that leadership is both learned and shared, and not a birthright or affiliated with a position (Lovely, 2005).

When discussing the study and findings from the study with educators in the field, I realized that the terms *teaching* and *learning* are frequently associated with the meta-narrative view of learning that the teacher distributes information through teaching the student. Wenger (1998) described this assumption of learning as an individual process whereby classrooms are designed so that students can pay attention to the teacher or practice drills to obtain knowledge and the learning is assessed individually free of collaboration. Educators operating from this epistemology frequently misunderstood my terminology of *leaders who lead by teaching* as proposed in the research proposal to mean leaders who lead by directly teaching their organization. Senge (1990) said, “Leader as teacher” is not about “teaching” people how to achieve their vision. It is about fostering learning, for everyone” (p. 356). Instead, the data gathered in this study indicate that the leaders led by learning by following three common practices: they developed a creed of collaboration; they shared ownership of the learning and problem solving; and they committed to building capacity within the organization rather than a dependency on outside expertise. The following sections share data and analysis to support these three findings.

### **Creed of Collaboration**

Results from an Arizona study of elementary and middle schools successful at beating the student achievement odds facing low-income Latino students identified a contributing factor of collaborative initiative rather than individual initiative of the staff and suggested systems that reward teams rather than individuals (Waits, 2006). In an

urban district study of four historically low-performing campuses in New York, Orr, Berg, Shore, and Meier (2008) identify six elements, including rewarding collaboration, present when turning around the culture and achievement of the schools. Orr, Berg, Shore, and Meier (2008) state that collaborative work where teachers are able to share expertise is essential to educational reform. In contrast to collaborative rewards, a criticism of individual merit pay based on student performance has been that school culture and climate are harmed by teacher competition resulting in hurt feelings and reduction in teacher cooperation (Gratz, 2011). Consistent for the three participants in this study, developing relationships and fostering collaboration were recognized as desirable actions which contribute to a learning culture within organizations. The leaders in this study purposefully communicated expectations of a collaborative culture and set up systems conducive to fostering collaborative work. Ellen reflected on her work with teams rather than individual teachers:

We try to work with grade-level teams rather than just individual teachers. I can come in and show a teaching strategy to one teacher. Then, when I leave, if the entire team doesn't know the strategy, they're not going to be able to talk about it and help each other. [The strategy] may look different with the teachers because they don't all teach the same way, but that is okay, that is how they learn from one another. (Interview, March 11, 2009)

In collaborative school cultures educators share expertise by contributing their individual talents to the collective practice of their team. The leader's role is creating structures and expectations and the fluidity for the members of the organization to have

opportunities to contribute, and by doing so, create a creed of collaboration. The choice for the term, creed, refers to a set of fundamental beliefs and guiding principals, and is borrowed from my fourth participant who instructed an advisory team of educators with the charge of working together “in a creed of collaboration” (personal communication, June 4, 2010). The advisory team consisted of central office administrators, veteran principals, curriculum specialists, service center personnel, and professional development facilitators. The purpose of the advisory team was to design a professional development plan for leaders based on identified needs. He asked the members to adopt the norm to set aside any positional titles that might be bound to hierachal protocols. To implement this norm, he reassured the team members to speak openly and free from political consequence so that we might develop a rigorous plan for the upcoming year.

I noticed during the meeting that although he occasionally responded to team member comments by asking clarifying questions, he offered very few suggestions during the meeting. After the meeting, I asked him to explain his rational for questioning but not recommending or offering suggestions. He explained that the purpose of this initial planning meeting was to establish a collaborative culture amongst the stakeholders and to hear their ideas, and in order to do that, it was critical that their ideas be heard and respected. He said, “I did contribute, I listened” (personal communication, June 4, 2010). Leaders who utilize moral authority consciously (a) promote collegiality as internally-felt and morally-driven interdependence, (b) rely on the ability of community members to respond to duties and obligations, and (c) rely on the community’s informal norm system to enforce professional and community values (Sergiovanni & Starratt, 2002, p. 39).

Garmston (2009) compiled work from the Cognitive Coaching model, and from

Senge (1990), and Costa and Liebmann (1997) to build a tool, Seven Norms of Collaboration, for groups to work together collaboratively by improving their communication practices. The seven norms in 2009 changed to the norms which are currently available at the website for the Center for Adaptive Schools. The table below illustrates the changes made in the norms:

Table 6

*Changes in the Seven Norms of Collaboration*

2009 version	2012 revised norms
1. Pausing	1. Pausing
2. Paraphrasing	2. Paraphrasing
3. Putting inquiry at the center	3. Posing questions
4. Probing for specificity	4. Providing data
5. Placing ideas on the table	5. Putting ideas on the table
6. Paying attention to self and others	6. Paying attention to self and others
7. Presuming positive intentions	7. Presuming positive intentions

The changes in the Seven Norms of Collaboration represent an explicit expectation to question and provide data (Garmston, 2012).

In my work with campus leaders and teachers, we have encouraged implementation of the Seven Norms as a framework for collaboration within the professional learning communities and campus activities. The norms were built to enhance the work of a team around three guiding principals (a) to support thoughtful problem solving and development, (b) to bring attention to one another for deeper understanding of one another's messages, and (c) to improve the linguistic skills of the group (Garmston, 2009). Non-linear chaotic systems, such as schools, have flourished where there is a framework, such as the Seven Norms, that fosters diversity of perspectives. I asked

Donna to share her perspective on conflict when those with diverse perspectives at the table are unable to come to a consensus and she offered a strategy:

I don't really refer to it as conflict. It's just intellectual bartering. Helpful, you know. "Hey, what if we did it this way?" or "Why don't we think about this?" You just foster [diverse perspectives] by always valuing what people say. And even if you know clearly, for whatever reason you can't go that direction, you're going! Let's say there's a reason that you know that you can't go that direction. Then listen very intently, and maybe even work towards helping them discover why we can't go that direction.

(Interview, April 1, 2009)

In the collaborative relationships that I developed through this study with Donna, I had the opportunity to share the Seven Norms of Collaboration. Where she did appreciate the sharing effort on my part, Donna cautioned that norms are a fundamental part of a culture of a school and should be developed from the faculty rather than imposed from a well-intended list provided to them from an outsider (personal conversation, September 8, 2011).

To create a collaborative culture, leaders purposefully increase actions that are collaborative and decrease actions that foster competition amongst members of the organization. From a campus perspective I recently telephoned Donna to ask her to share what actions she takes when a teacher is resistant to implement an innovation on the campus. She first commented jokingly, "That's a but-duh question, really? It's a simple answer" (personal communication, February 16. 2012). She explained that a teacher's resistance to implement comes from a possible lack of understanding of how the

innovation aligns to the purpose of the work. In addition, she shared that teacher resistance occurs when the teachers have been left out of the planning dialogue. Donna reminded me of the conversation in our initial interview and asked me to remember the role that teacher voice plays in teacher empowerment. She said something to the effect that naive leaders sometimes assume that to avoid conflict, it is easier to just deliver a directive. On the contrary, if teachers are involved in the implementation plan, then the level of conflict is drastically reduced because the plan belongs to them, it's their ideas and they have a better grasp on the purpose behind implementing the desired action (personal communication, February 16, 2012).

### **Shared Ownership through Self-Organization**

Leaders who lead by learning seem to understand that the people, concepts, and relationships in a complex system are connected in nonlinear ways. Believing that the world is broken into parts and fragments that exist separately does not agree with the science of physics (Bohm, 1980). Biologist Rupert Sheldrake's theory of 'morphic fields' focuses on the innate ability for living systems to evolve (Senge, 2005). Sheldrake discovered in his research on the differentiation of flowers with similar genetics that a morphic field gives a self-organizing system, a whole made up of parts, characteristic properties that in turn make the whole of the system greater than its parts (Senge, 2005).

Ann shared her intentional practice of shared ownership of decisions with the principals in her district:

We can sit down in that learning community instead of me standing up and preaching on and on. And I continue every time we have a principal's meeting, every time we meet together, we bring back that

information and we as a community of learners discuss it. Do I think I know the answers? I think I do, but I learn something every time I sit down and have conversations with them [principals] about how to better implement this change, or how to better have a conversation, or how to better look at some of the curricular decisions we've made. At this point, it's really not about me telling them what to do; it's about us deciding together as a district. I tease them sometimes about [how] sometimes they spit that word district. You know, and I know, you know, *who* the district is. I take it very personally, but what we're beginning to understand and build their capacity to understand is, *they* are the district. You know, this is a district decision and you're part of it. (Interview, March 11, 2009)

From a campus leadership perspective, Donna reiterated:

Remember also the importance of "ownership." The level of commitment to our work/goals is much stronger if we "own" what we are doing. A collective ownership drives initiative, creativity, focus, and team strength. It is a source of self-renewing or perpetual energy. (personal communication, April 7, 2010).

Donna was articulating what happens when team members self-organize around the shared purpose that belongs to the group. The recognition of the power of teams to self-organize around a purpose has been extremely important because this recognition prevents the misconception that the brain can be controlled by simple, direct, cause-and-effect mechanisms and procedures (Caine

& Caine, 1997).

When I contacted Ellen to ask her if she would participate in my study regarding leaders who lead by teaching she commented to me that she didn't directly supervise anyone and did not consider herself a leader but she would be happy to help with the study (personal communication, February 23, 2009). In complex chaotic systems in the physical sciences—such as clouds and waterfalls—there are no leaders, as each agent within the system works collectively with shared leadership to self-organize around the strange attractor (Burns, 2002).

An example of self-organization found in nature involves the individual acts of the ant and the intellectual organization of the ant swarm. In order for ants to find food and survive, ants will individually move chaotically until the best food source is located. Although the organizational abilities of ants are very weak, ants deposit pheromone, visual landmarks, which communicate to their neighboring ants where food sources are located. The process of the ants organizes as the individual ants continually communicate to the neighboring ants and a clear path is established towards the food source (Li, 2005). In my study of school leaders, Ann shared the continual learning process she facilitates with the principals in her district. She said:

I don't know the answers, but I know that together we can think of some answers. And I try to help them understand that nothing we decide is, it's not the end. We're gonna plan as best as best we can with the information we have. We're gonna act on it, and then we're gonna study the results and

make a better plan. (Interview, March 11, 2009)

Through this quote, Ann communicated the behaviors of principals, similar to the individual chaotic to organized swarm behavior of ants, in so much as from their individual campuses, the principals collectively come together to dialogue and plan in a shared and continuous improvement process.

### **Commitment to Building Capacity in Self and Others**

The process of continual improvement through analysis, reflection, dialogue, and action provides the opportunity for continual learning. Leaders who lead by learning seek to build capacity in themselves and others by seeking opportunities to learn. Leaders who build capacity mine the culture to reveal what matters in a school by finding opportunities for employees to contribute their strengths with their weaknesses seen as being inconsequential (Lovely, 2005). Donna reflected on her role as principal and responsibility to model learning as a critical component in the school's culture. She said:

Number one, as a leader, you have to be willing to be a continuous learner.

And if you're not role modeling that for staff, they're not going to see it as something that's important to you. You need to role model the importance of continuous learning. (Interview, April 1, 2010)

In Chaos Theory, fractals are the components that represent the concept of self-similarity in so much as the irregular shapes and patterns within fractals are similar through infinitely small and infinitely large iterations of the patterns. In schools, these learning leaders modeled the cultural patterns of learning and inquiry in their own actions.

Similar to the thoughts on being a role model shared by Donna in the statement above, Ann shared a similar perspective from her district position supporting campuses through

a process that her district terms “school improvement visits” (Interview, March 11, 2009). Ann shared her observation:

I’ll give [the principals] 10 questions or so and we’ll go talk about them. I give it to them weeks in advance so that it’s not a gotcha visit. If they’re not doing anything, they have time to start doing something if they want to. Or, if they choose not to, they can say, “That’s not an area that we are finding concern, we’re not gonna do that,” but a professional conversation. What I found them doing is asking some of the same questions to their teachers. How do you know when a kid is doing well in class? (Interview, March 11, 2009)

First order change is incremental and identified by those next step actions that are obvious to support the immediate work. Second order change, a deep change that departs from the expected and that alters the system in fundamental ways, has occurs when there is a dramatic shift in direction and there are new ways of thinking (Morzano, 2005). Burns (2002) provided an example of first order change by describing a herd of buffalo running towards a cliff. Although the herd is skilled at interacting with one another to run artfully away from danger, when the lead group of buffalo approach and fall off of the cliff, the herd has no knowledge of how to assess and change their direction. Agents within a chaotic system organizing around the strange attractor will behave in a first order learning method of implementing the primary purpose of the task. In order for a chaotic system to experience second order change, it relies on a shadow system to introduce new schema to the behavior of the agents within the system and which initially causes turmoil

(Burns, 2002).

Ann framed the action of introducing new schema in her experience, as “a kick in the seat of the pants.” When asked how to balance the need for immediate results with the time that is needed for sustainable improvement, Ann shared the importance of understanding second order change in her district involved helping others understand, in order to implement a new curriculum framework. She said:

Part of it, I think, some of Marzano’s work in *School Leadership That Works* is second order change. Sometimes there has to be that kick in the seat of the pants. There’s got to be a decision made that it’s for the benefit of kids, so I think we kind of created that second order change by saying, “We’re going to do CSCOE. This is our curriculum and we’re going to do it.” Now then, the effect of how do we train teachers to implement, how do we train teachers to understand it, how do we train instructional leaders to lead that change? That’s where we’re gonna have to take our time.

(Interview, March 11, 2009)

Understanding that second order change requires initial instability, Ann recognized the need to support the agents within the organization as they made sense of the new schema through layers of support, including professional development and training leaders to lead the change.

When asked how experts are utilized for building capacity within the district, Ann shared this perspective:

Our coordinators don’t need to give our teachers the fish; you don’t need to do the lesson for them. Teach them to fish, teach

them to look at the student expectation, understand what it's asking the kid to do, and then help them plan for engaging and dynamic activities that cause the kid to do that activity. That's building capacity. Help them understand that they have to look. We have all kinds of resources for them to use. Show them where the resources are, give them the tools to help them understand what the level of cognition is required and where do we go from there.

(Interview, March 11, 2009)

Concerning the dichotomy of developing capacity within a learning culture and surviving the pressures from the ever-present accountability system, I asked leaders, "How do leaders balance the urgency for immediate results in an era of high stakes accountability while allowing the time needed for authentic growth of human capital?" (Interview, March 11, 2009) In response, Ann shared her frustration, as "this is the question that keeps me up at night" (Interview, March 11, 2009).

After Ann shared the idea about second-order change (Marzano, Waters, & McNulty, 2006), she then immediately mentioned Rick Stiggins' work around assessment for learning. Ann implicitly shared the connection between double-loop learning and second-order change:

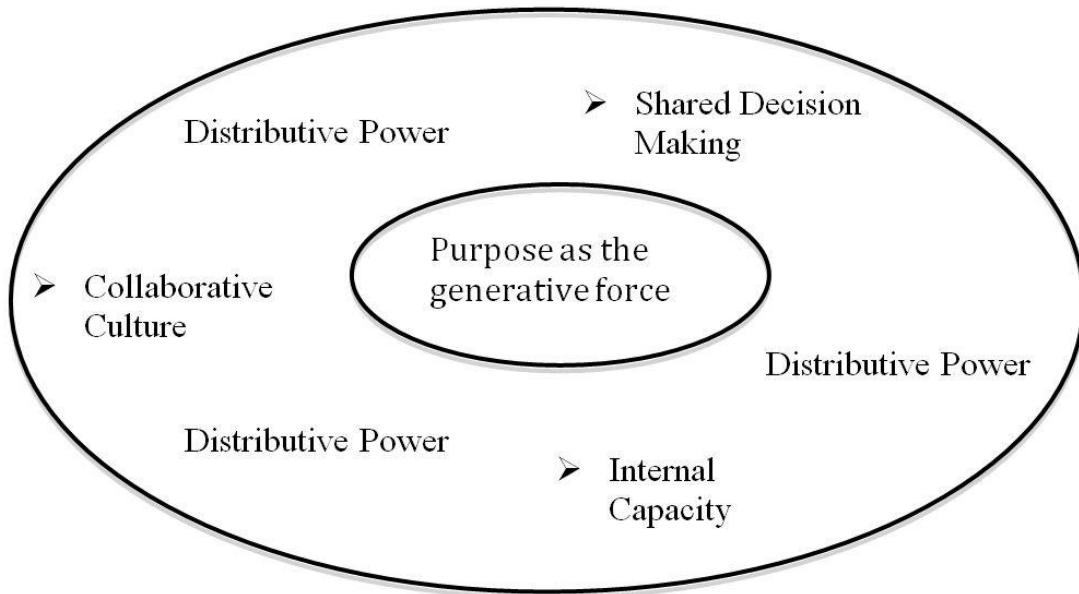
They want to learn. They want to build their own capacity. It's not me nudging me or pushing them, or telling them, "Go learn this." It's about them being reflective. It's about them being the owners of their own learning, and saying, "You know what, I

know some stuff but I want to know more about it.” Rick Stiggins is one of my favorites. (Interview, March 11, 2009)

### **Learning: Publically and Purposefully**

When I asked Ann how she kept the purpose of teaching and learning central to the work, she replied, “I think the first way is you say those words a lot. It’s about teaching and learning” (Interview, March 11, 2009). In other words, Ann purposefully kept the lifeworld of the work of her district public and the driving force of decision-making. Each of the three leaders expressed intentional learning for themselves as a critical component of the process. Donna said:

Number one, as a leader, you have to be willing to be a continuous learner. And if you're not role modeling that for staff, they're not going to see it as something that's important to you. You need to role model the importance of continuous learning. (Interview, April 1, 2010)



*Figure 2 Conceptual Framework of Findings*

Figure 2 represents the conceptual model of the findings in this study and illustrates the two broad themes and the three leadership actions that support a network power structure. My analysis of the data revealed that there seem to be three specific actions utilized by the leaders and represented in the outer circle in Figure 2. The inner circle of Figure 2 represents the overarching theme of the leaders' dedication to the purpose, articulating the purpose, consistently utilizing the purpose as the generative force of decision-making, actions, and the establishment of any systems to support the purpose. Because purpose plays the central role in the work, purpose is represented in the center of the conceptual model in Figure 2. A leader's use of focus on the purpose of the organization is central to all actions within the organization. The educational purpose of dynamic teaching and learning influences all of the decisions being made by the members of the school organization. Because the focus on teaching and learning is central to a

school's work, the circle representing the leaders' use of focus is located in the center of the conceptual model. The leaders' use of distributed power interacts between the three actions, or leadership moves. The two overarching themes, the leaders' explicit focus on the purpose of teaching and learning and the leaders' use of distributed power as the organization shares the purpose, and the three actions of establishing a creed of collaboration, ensuring authentic ownership of the work, and developing internal expertise, address the questions proposed in this study as to *how* leaders support a learning organization. In conclusion, this chapter detailed the data analysis and collection that contributed to the theory of leaders who lead by learning both publicly and purposefully.

## CHAPTER V

### INTERPRETATIONS AND IMPLICATIONS

In this chapter, I present my interpretations of the findings of my study of leaders who lead by learning publically and purposefully. In the first section, I discuss the possibilities for change in both curriculum and instruction where leadership and decision-making are shared through networked structures. In the second section, I discuss additional concepts of interest that have evolved through the conduct of this research study. The third section in this chapter presents my ideas for future studies that support the collective work of leaders who work very purposefully to learn and create learning cultures in their schools, departments, and organizations. I conclude this chapter with practitioner ideas for actions that foster a collaborative learning culture.

#### **Leadership for the 21<sup>st</sup> Century**

Revisiting Dewey (1938) and concepts of the end-view and either ors, raises at least two questions for leadership of public schools a decade into the 21<sup>st</sup> Century. First, do public schools need to revisit their purpose for clarity in defining the lifeworld or end-view? Second, what are the knowledge and skills needed by today's students for tomorrow's world?

Papa and English (2011) offered two views of school performativity including aspects of public education as to the nature of education, the purpose of schools, the nature of leadership, accountability, the nature of management, and social justice. The

first lens draws from neo-liberal view that the purpose of schools is to “to prepare workers to be skilled to keep the nation competitive in the international business marketplace” (Papa & English, 2006, p. 6). The second view, the perspective of social justice and schools for democracy, views the purpose of schools being to “prepare citizens to function in a democracy that works to progressively expand the benefits of a free society to everyone, especially the ones most marginalized” (p. 6). The grand either or compromise in 1938 might have been between traditional and progressive education (Dewey, 1938), today the applied compromise of the purpose of schools exists as a combination of those purposes by the neo-liberal “right-wing think tanks” (p. 5) and the social justice camp. English (2012) suggests that effective leaders seem to understand that there is a balance that occurs between the two lenses. Sizer (2004) defines the purpose of schools as dichotomous: “If education is defined as the expressed intelligence of the people, one gets to a different place than if education is defined as what government provides to deliver ideas, skills, and attitudes to the people. The difference is not trivial” (p. 5). Leadership for 21<sup>st</sup> Century schools requires leaders to understand school districts define education in respect to the differences that Sizer described. How a district defines or perceives the purpose of education has an impact on the place and direction of the leadership.

Thrilling and Fadel (2009), as the Co-chairs of the Standards, Assessment and Professional Development Committee of the Partnership for 21<sup>st</sup> Century Skills, share the characteristics of today’s learners, gathered from a response study of over eleven thousand individuals as to what they expected from education. Their responses were:

- Freedom to choose what's right for them and to express their personal views and individual identity;
- Customization and personalization, the ability to change things to better suit their own needs;
- Behind-the-scenes analysis so that they can find out what the real story is;
- Integrity and openness in their interactions with others and from organizations like businesses, government, and educational institutions;
- Entertainment and play to be integrated into their work, learning, and social life;
- Collaboration and relationships to be a vital part of all they do;
- Speed in communications, getting information, and getting responses to questions and messages; and
- Innovation in products, services, employers, and schools, and in their own lives. (pp. 29-30)

The characteristics of learners detailed in this list confirms the description of a productive learner (Sarason, 2004), in that students would be empowered with a stronger voice in their learning and want to learn more. During my undergraduate studies, I remember having to select a philosophical position during a philosophy of education class. My choices of philosophy were limited to selecting and defending my choice between traditional, progressive, or neo-progressive philosophy. In pursuing a choice, I stumbled onto the work of English educator, A.S. Neill, and his school, Summerhill and I was

hooked. The premise of the Summerhill School is self-government for both the pupils and the adults (Neill & Lamb, 1996). Self-government at the Summerhill School means students have a deciding voice in what they choose to learn, how they choose to think, and what they choose to believe, a learning structure I have found fascinating throughout my career in education. Although difficult to implement in the U.S. public schools, I borrowed the concept of student empowerment wherever possible. Translating these concepts to leadership would require shared leadership, shared problem solving, and shared decision-making, wherever possible.

According to the Partnership for 21<sup>st</sup> Century Learning Skills (2011), the essential skills of the twenty-first century are described as the 4 Cs: critical thinking, collaboration, communication, and creativity. With content knowledge accessible through globe-spanning technologies, problem solving and creating with core content is more important for our students today than the work of committing core content to memory. Instead, students are learning to question information and its sources, create new ways to solve problems, and work collaboratively in diverse contexts and through conflict are transferable learning skills integrated with core academics.

One year following the publication of Dewey's (1938) *Experience and Education*, Peddiwell (1939), in *The Saber-Tooth Curriculum*, shared an historic classical satire that illustrated both the development of curriculum and the resistance to change. With the purpose of educating the children of the Paleolithic village, in order to improve upon each generation, the visionary leader, New Fist, developed a curriculum to develop skills in scaring tigers, grabbing fish from the river, and clubbing woolly horses. At that time

improving the skills of horse clubbing, tiger scaring, and fish grabbing improved the quality of life in the village. Over time, because of the advanced skills of the villagers, however, aspects of the environment changed: the fish swam too deep to be grabbed and the tigers and horses migrated to a different area and were no longer a threat. Because acquiring the skills had become a sacred-cow within the village community, the school responded to the change in the environment by creating simulated experiences for the students to continue learning the skills and completely ignored the fact that the skills were no longer needed.

Although a satire, it represents an education system that has lost sight of its original purpose, which was to provide transferable skills with immediate authentic application to one's world. The satire also tells the story of how a community built confidence and value around curriculum structures that produced success. Value, as Habermas (1987) shares, establishes the lifeworld of a community. Just as the knowledge that was valued in the satire of the Paleolithic village, today's schools appear to value a core of knowledge that is taught to content mastery regardless of the changes in today's technologically-connected society. Where critical and creative thinking are clearly the new skills needed for our global community, educational leaders bound to high stakes accountability and traditional hierarchical school structures, may want to lead change, but lack the opportunity: "Fear of failure keeps organizations from creativity" (Burns, 2002, p. 47). Wheatley (2000) described complex dynamical systems theory as the new science for leadership. Will a new structure for shared leadership help leaders find ways to implement the change we collectively know is needed?

Burke (2012) described knowledge acquisition as a four-stage process that involves collection, analysis, dissemination, and action. What impact has the smart phone technology had on these four stages? Access to information has changed with the ubiquity of smart phone technology, essentially a hand-held computer. Mathiesen (2012) presented a compelling argument detailing the inevitability of critically needed structural changes in the near future of our schools. She noted how we live in a world where mass customization is a reality and no longer an ideal. Mathiesen offered the argument that because we live in a world where mass customization is the norm; students come to expect it in schools. Much deeper than the collective understanding of differentiated instruction through customizing lessons within the allotted class time, Mathiesen suggested that not all students need 180 days of a 45-minute Algebra class in order to understand the fundamental Algebra concepts. In addition, during the presentation, the participants witnessed a traditional textbook-type lesson transformed into an interactive technology-based experience through Google Maps. Mathiesen's plea to her audience was a simple and clear one, "Please, if you have one take away today, do not spend another dime on textbooks" (Mathiesen, 2012).

There are digital learners now teaching in our schools who support her campaign and who have the vision and ideas to transform classrooms. On campuses where the leaders have purposefully attended to creating a learning culture where there is collaboration, shared decision-making, and a commitment to build capacity, the digital teachers flourish and lead others in the integration of new ways of teaching.

The National Commission on Teaching and America's Future (2007) estimated that approximately one third of new teachers leave the profession during their first three years of teaching. Considering the digital talents of the teacher pool entering our schools as first year teachers today, what impact might shared leadership, efficacy for curriculum design, and instructional liberties have on retention? What new instructional strategies involving technology, collaboration, creativity, and efficient communication can administrators learn from the Net-gener- a term coined to describe the generation that grew up with Internet access, who are now teachers?

### **Additional Concepts of Interest: The Self-Similarity of Fractals**

In my leadership work, I participate in campus visits where the team of campus administrators, and sometimes teachers, partner with central office staff to observe classroom instruction in a process borrowed from *Instructional Rounds* (City, 2009) and transformed for a different purpose. Always curious about purposeful learning, when the opportunity arises, I ask students, "What are you learning?" in order to determine if the intended learning, posted on the front board, is known and understood by the student. We have determined that learning is evident when the student is purposeful about the answer and can connect the learning occurring in the classroom with broader concepts outside of the classroom, not just strategies for a standardized test. In the best cases, the students in the class have a similar core answer for the question because they are learning collaboratively in alignment with the posted intended learning but their answers will also vary depending on their own unique inquiry and understanding of the concept.

## **Leader's Role in Self-Similarity of Fractals**

I continue to think about fractals, a self-similarity concept from Chaos Theory, which teaches the self-similarity of patterns within a system, or, for the purpose of my study, schools. Curious as to leaders' participation in the learning culture fractal, during the past couple of months, as preliminary work for a future study, I have asked various leaders to share their current learning interests. Framing the question of one similar to that which we ask the students on the campus during our instructional rounds, "What are you learning about or what would you like to learn about?" If educational leaders encourage students to engage in active learning communities, and teachers to participate in professional learning communities, then our leaders of learners, in order to develop a district or campus learning fractal, must also be intentionally learning,

I have observed that the answers to this question can be sorted within three categories, which are: something unique and specific to the leader; a general answer about being a life-long learner without a specific topic of interest; or no answer but instead a puzzled look or shoulder shrug. To clarify my question, I share my most recent learning passion, which involves understanding the redefining of instructional content and processes needed for students in the 21<sup>st</sup> Century. Does the Common Core include all the knowledge and skills that our students need for the 21<sup>st</sup> Century? If not, what content and processes are missing from the Common Core and what is included in the Common Core that may not be a skill utilized in our current society, such as the process of learning long division (Wolfram, 2010). Additional concepts that I am extremely interested in learning more about are detailed in Table 7 below and represent dichotomies

which interrelate along a spectrum between linear relationships and non-linear relationships.

In Table 7, I have organized the dichotomies surrounding my current understanding about leadership in our schools. Later, I have shared my current understanding of how each of these dichotomous concepts are related to the findings of my study and offer opportunity for continued study. At this point in my understanding, I am observing patterns through a novice lens of the phenomenon prompted by my study of leaders who lead by learning. My interest is in the how instructional leaders in complex spaces of 21<sup>st</sup> Century schools navigate these “either-or’s” through a blended compromise or if that is even possible.

Table 7

*Conceptual Framework of Researcher’s Either-Ors*

Concept	Linear	Non-linear
1.Learning	Single-loop	Double-loop
2.Decision-making	Intuitive Model I	Deductive Model II
3.Change	First order	Second order
4.Culture	Competitive	Collaborative
5.Supporting Structures	Hierarchal	Network
6.Leadership	Managerial	Learning-focused
7.Power	Assigned to rank	Shared

Concept 1: Learning as Single-loop and Double-loop: In working with school administrators in a state that embraces high-stakes testing, where districts seek to become recognized for producing data which indicate high student achievement as determined by standardized testing- clearly a competitive environment, double-loop learning that

transforms belief systems appear to be neither valued nor supported. I am interested in the compromised practicality of integrating double-loop learning opportunities within the focus of single-loop learning strategies that target improving current systems but not changing values. Cartwright (2002) shared a warning to facilitators of adult learning who work with managers:

Managers who have worked their entire careers in organizations such as this have likely been institutionalized into an analytical, linear, and somewhat “nonlearning” mindset. They may be open to learning new methods or techniques that support their present management practices (i.e., single-loop learning), but they are likely to become defensive if questioned about the assumptions that lie beneath their current practices (double-loop learning). (p. 68)

If leaders want to avoid falling on the extreme polar ends of the dichotomy of single-loop and double-loop learning, then leaders might seek out opportunities to facilitate both the single-loop learning concurrently. For example, in the case of the excessive discretionary removal of students from the classroom for discipline infractions, the perceived urgent need of the systemsworld of finding space to relieve our crowded rooms for long-term in-school-suspension (ISS) and at the same time provide for campus double-loop learning—changing belief systems or lifeworld—through transforming campus culture for higher functionality of a diverse student population to eventually remove or lower the need for ISS classrooms.

Concept 2: Decision-making as intuitive System I and deductive System II: I am specifically interested in learning more about how knowing about these modes of thinking (Kahneman, 2011) impact classroom pedagogy. For example, Meyer (2010) referred to the two categories of instruction required in mathematical instruction as computation and math reasoning. Meyer argued that success with either category is dependent upon the students' ability to reason. In his Algebra I classroom, Meyer used authentic non-routine problems to engage students as they develop both the computation needed to support System I Intuitive problem solving and the System II reasoning needed to tackle rigorous problems.

Concept 3: Change – First Order and Second Order: How tightly related are first-order and second-order change to single-loop and double-loop learning?

Concepts 4: Culture – Competitive or Collaborative; 5: Supporting Structures – Hierarchical or Network; and 6: Leadership – Managerial or Learning-Focused: The relationship between these concepts is implicitly illustrated in Table 8, Actions for Developing a Collaborative Culture. Recognizing that organizational structure affects organizational culture might serve as a first step for a leader who desires second-order change within his/her organization.

Concept 7: Power - Entitled by Position or Shared: A common framework for understanding power which is shared by numerous managers throughout business, government, and education is the notion that power is authority. Contrary to this conception of power, the physical sciences refer to power as energy. How leaders define

power intrigues me as it appears to impact the leaders' willingness to share decision-making power with others.

### **Practitioner Strategies for 21st Century Learning Leaders**

Creating a shared sense of commitment: A consensus-building strategy known as the Fist of Five (Fletcher, 2002) is used by meeting facilitators as a quick technique to determine support for an idea when building consensus. In addition, this facilitation strategy provides the opportunity for members of the team to articulate their individual commitment level to the decision. By raising one finger, the team member indicates a low amount of support for the idea, three fingers indicates neutrality, and five fingers indicate full support, commitment, and willingness to take the lead on the idea. This act of commitment has provided the opportunity for any individual to lead idea implementation.

### **Leadership Actions that Impact Culture**

Educators in positions of legitimate power have the opportunity to purposefully develop a learning culture by implementing actions that foster collaboration and decrease competition. The collaborative actions in the first column of Table 8 were modeled by the leaders in my study. The actions in the middle column are the counter action that might inhibit collaboration by encouraging competition. The third column, on the right, provides the space for the related essential questions that guide my thinking as I continue to make sense of the phenomenon of leaders who lead by learning. These actions are illustrated in the Table 8.

Table 8 *Actions for Developing a Collaborative Learning Culture*

Increased Leadership actions	Decreased Leadership actions	Essential Questions
Model actions that encourage collaboration.	Model actions that foster competition amongst members.	How does competition impact trust and affect the development of a collaborative culture?
Establish systems that allow for shared decision-making with the purpose as the generative force of actions, decisions, and creation or adjustment to systems. Systems are fluid and change to support the lifeworld.	Assume that data evidenced demonstrated success of a system in one context indicates that the system can be implemented in a completely different context.	How are systems evaluated to determine if the system serves the purpose of the work?
Support a non-hierarchical network structure where the learning culture extends beyond the classroom to include teachers, administrators, district, parents, and community.	Limit actions to those proven effective in past situations ignoring contributions from external stakeholders within the community.	What structures foster or inhibit opportunities for members to share and experiment with new ideas?
Implement an organizational structure that allows members to contribute their diverse talents, skills, and perspectives to the shared decision-making, task accomplishment, and problem-solving processes equitably through free discourse in the public sphere.	Promote a mantra of divide and conquer by assigning tasks to individuals based on their perceived strength or competence.	How does diversity strengthen a team? Which established protocols encourage diversity? What systems empower voice?
Recognition of progress towards a team's goals.	Personal recognition for individual accomplishment.	What intended and unintended messages are sent through achievement recognition?

Table 8 *Actions for Developing a Collaborative Learning Culture* (continued)

Increased Leadership actions	Decreased Leadership actions	Essential Questions
Protocols that allow for authentic ownership by members of the team for shared power and decision-making.	Enforcement of protocols that reinforce hierachal power and reserve decision-making for those who hold exclusive power through entitlement.	Where is the decision-making power? How can an established decision-making process clarify roles?
Establish work transparency with information accessible to all members of the team regardless of perceived need.	Enforcement of protocols that limit communication of information such as limiting information to those who “need-to-know.”	How can technology help so that information can be shared in real time with and by everyone on the team? How can we simplify and clarify communication paths? How is access to information related to access to power?
Monitoring systems to determine whether the system supports or inhibits the performance of the team.	Monitor people to rate the performance of individuals and manage the actions of the individuals.	What systems support the purpose of the work, the lifeworld, and which systems exist for their own purpose, no longer serving the purpose of the work?
Establish norms that encourage collaboration.	Establish norms that manage behavior.	How do norms communicate our values and roles as leaders?
Public articulation of learning goals both individually and as a team with frequent articulation of the shared purpose based on common values and commitment of learning.	Assignment of learning to address specific deficits.	How does learning, publicly and purposefully, impact the learning culture?

Kahneman (2011) explains that a master chess player sees the chessboard differently than others because the chess player is able to see patterns on the chess board. The master chess player does not apply the same procedures to each chess game, but rather understands how the moves impact the outcome. This study aims to bring to light the purposeful but intuitive moves made by leaders who lead by learning, which focuses on improving schools. These leaders, through experience of implementing strategies that nurture a learning culture in their districts and schools see the proverbial chessboard of school leadership differently than many other leaders. Because of the complex and seemingly infinite influencing variables influencing schools, applying a specific series of strategies or steps to any given campus or district problem cannot guarantee the same results. Consider the lesson from the Chaos Theory regarding the small difference in the atmosphere caused from the flap of a butterfly wing and imagine a similar magnitude of variables within school districts. Consider the seemingly infinite series of moves and the sequence of those moves on a chessboard and all the games ever played on a chessboard. The master chess player does not implement the moves in a procedural process but instead reads the board in an experienced manner of understanding the outcomes of specific moves.

If the actions and decisions made in schools impact the culture, then purposeful attention to collective learning as an action to solve shared problems offers a style of leadership utilized to impact the learning culture of a campus. The findings in this study offer this learning perspective to leadership – to understand leadership as a collective action which impacts the school as a system for learning.

Butterflies symbolically represent the complexity of our connectivity. Borrowing from the butterfly representation used to determine the complexity of predicting weather outcomes Lorenz (1969) to conclude this paper, I am extending the butterfly representation to create a learning culture in schools. This paper concludes with this parallel analogy supported with literature and additional data from my role as a participant observer in this study. In the following analogy I share strategies that I have implemented from co-learning with the leaders in this study. The strategies are supported with professional literature, data from this study, and my own experiences as a leader and participant observer.

### **Creating a Learning Culture is like a Creating a Butterfly Garden:**

*Tailor the garden to the meet the needs of butterflies common to the region.*

Tailoring the instructional leadership suggests that leaders conduct an assessment of the school or district to identify and understand the complexities of the strengths and challenges. Sizer (2005) offers a suggestion for using student work samples to provide an authentic activity for teachers to collectively determine the criteria of quality student work. In our conversation he suggested that I ask teachers to bring samples of a struggling student and a successful student. This activity provides a context for teachers to share their criteria they individually apply to assess student progress and mastery. The conversation will offer the opportunity for the teachers to learn from one another. In addition the professional learning conversation generated from analyzing quality student work encourages development of a shared vision based on the faculty's shared values and

purpose. When using data analysis for decision making in schools, Bernhardt (2004) offers the following questions to guide data collection and analysis in schools:

The most important question is: *What is the purpose of the school?* The answer to this question guides all other questions and answers.

What do you expect students to know and be able to do by the time they leave the school? (*Standards*)

What do you expect students to know and be able to do by the end of each semester? (*Benchmarks*)

How well will students be able to do what they want to do with the knowledge and skills they acquire by the time they leave the school?  
(*Performance*)

Why are you getting the results you are getting? Why are you not getting the results you want? (*School Processes*)

What would your school and educational processes look like if your school were achieving its purpose, goals, and expectations for student learning?  
(*Vision*)

How will you use the data you gather? (*Implementation*) (p. 15).

Leaders who foster learning cultures ask these questions in a collaborative process with their leadership teams and members of their organization to foster the double-loop learning critically needed to find solutions for challenging problems specific to their school.

*Butterfly gardens need plenty of sunshine and protection from wind.* Learning cultures exist on campuses where leaders have purposefully attended to ensure that the adults get plenty of growth opportunities in professional learning and the resources needed to take risks, implement new ideas, and share practices of promise. In education damaging winds might be policy changes within the accountability system, limited funding sources, adversity from the media, and various pressures from the local community. Kohn (2001) suggests a strategy for leaders wishing to buffer the winds of high-stakes standardized tests:

Finally, whatever your position on the food chain of American education, one of your primary obligations is to *be a buffer* - to absorb as much pressure as possible from those above you without passing it on to those below. If you are a superintendent or assistant superintendent facing school board members who want to see higher test scores, the most constructive thing you can do is protect principals from these ill-conceived demands to the best of your ability (without losing your job in the process). If you are a building administrator, on the receiving end of test-related missives from the central office, your challenge is to shield teachers from this pressure - and, indeed, to help them pursue meaningful learning in their classrooms. If you are a teacher unlucky enough to work for an administrator who hasn't read this paragraph, your job is to minimize the impact on students. Try to educate those above you

whenever it seems possible to do so, but cushion those below you every day. Otherwise you become part of the problem.

*Disperse flat rocks throughout the garden area to provide a landing site for butterflies to warm their wings.* In this analogy flat rocks for butterflies to warm their wings parallels with the dialogue spaces needed for educators to learn with one another around their shared purposes. Leaders who are purposeful in creating learning cultures understand that educators need designated spaces for collaboration. The urban district central office where I work has many offices which are comprised of individual cubicles. One of the first innovations that our new executive director implemented was to create common spaces for her team to dialogue. Our director observed that if we are encouraged to collaborate then we would need to have the space to do so. What spaces are available in schools for legitimate dialogue? Wheatley (2010) shares that a key principle in creating a healthy learning community means providing legitimate places for conversations to happen.

*Select plants that will attract butterflies.* In this analogy I consider the plants to be the shared curriculum of a school. Teachers participate on professional learning communities where instructional strategies are tailored to provide authentic learning experiences for students in order for the students to transfer the learning to application in their own worlds. When professionals are encouraged to select prescribed lesson activities which are intended to prepare students for high-stakes testing, the collaborative planning of the lesson lacks the opportunity to attract creative ideas from teachers.

*Select plants that also attract caterpillars.* Educational leaders who lead by learning intentionally work to build capacity in themselves and in the faculty. The findings discussed in this paper encourage strong educational leadership and support the instructional leadership literature from the past three decades (1990 – 2013). The limited number of nominations offered by the 25 educators asked to nominate leaders based on the nomination criteria indicates that there are a disproportional amount of leaders in schools who have not embraced the commitment to collectively learn to solve problems, share decision-making and problem-solving. In order to attract future educators, instructional leadership shared across the school with opportunities for team members to take the lead on implementing authentic creative strategies is ideal.

In conclusion, as a practitioner observer with a leadership role in an urban district, I share the butterfly garden analogy as a metaphorical representation of how I see collective leadership in schools by (a) tailoring actions specific to the shared vision, lifeworld, or purpose, (b) provide opportunities for professional learning for myself and others by protecting against outside forces suggesting otherwise, (c) provide network spaces for legitimate professional dialogue, (d) encourage transferrable 21<sup>st</sup> century curriculum which engages adults and students, and (e) provide opportunities for learning at every level, the community, the administration, the teachers, and the students.

### **Conclusion: Leaders Who Lead by Learning**

A few years ago when I first proposed this study to the committee members who I selected to guide me in this work, I could not have predicted that the learning I would embark upon would transform my understanding of both leadership and learning. There

was a time in my career when I considered leaders to be experts with expertise to share. At that time my own perspective of power, leadership, knowledge, and relationships was connected to a framework built around dominant hierachal structure of schools. Throughout the process of gathering and analyzing the data collected while learning about the complexity and beautiful connectivity of the non-linear chaos theory and the powerful lessons about system duality between Habermas' lifeworld and systemsworld, the data in my study found meaning in my own leadership work with schools.

## **APPENDIX A**

January 26, 2009

Dear Colleague;

I am currently at the research data collection stage of my pursuit of a doctorate and would like your help in this step. **I am hoping you will serve as one of the 25 educators who will nominate an educational leader who fits the criteria as a participant for my study.** Please know that I consider you a person who fits the criteria and I am asking you to nominate because I believe in this leadership situation “it takes one to know one.” That said, I did not want to interview, observe, and study participants who I already know and learn from. Instead, I am asking for nominations so that I might select educational leaders who I have not had the opportunity to observe and learn from in my journey so far.

From the 25 leaders nominated, I will only select a few for my study. Respect will be given to maintain confidentiality for all leaders who participate. **Your identity will remain confidential throughout the entire study. Please nominate someone who you do not have to contact for permission to nominate.** Please do not nominate someone who currently leads in Austin ISD because I work with Austin ISD and feel that it would be a conflict of interest. The person who you nominate may hold a leadership position in a variety of educational organizations including campuses, service centers, central office,

state agencies, professional development organizations, and many other educational organizations not limited to public school campuses.

I am attaching my proposal summary submitted to the Texas State University San Marcos International Review Board (IRB) and approved on November 20, 2008. It is not necessary that you read the proposal in order to nominate, but I am including it in case you want more details about the study.

**Please return the attached nomination form prior to February 9, 2009** so that I can begin the next step of this process. Earlier than Feb. 9<sup>th</sup> is okay too! Please call or email if you have any questions or would prefer not to nominate someone at this time.

Thank you for your help and respect for confidentiality.

Respectfully,

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## Appendix A Cont.

### Nomination Criteria

The below text details the criteria for inclusion and exclusion for the participants I am searching for through requesting nominations.

**Criteria for Inclusion:** Educational leaders, diverse in gender, ethnicity, and above 21 years of age, and all in good health based on current employment which would indicate that they are healthy and able to work, will be asked to participate in this study and identified through a referral process described in Section 2 of this synopsis. Subjects selected, as participants for this study will be identified as leaders who have:

- Stayed current on research and best practice findings
- Developed and articulated a strong vision shared with members of the organization
- Valued human capital (professional growth of individuals) evident by supporting both formal and informal professional development activities
- Have had access to financial resources to support development of human capital
- Utilized expertise within the organization by establishing structures for members to contribute knowledge and skills in collaborative efforts
- Resisted dependency on outside expertise by requiring external forms of expertise to build capacity within the organization
- Utilized data from multiple sources for shared decision making
- Provided structures for distributed decision making amongst members of the organization

**Criteria for exclusion:** To minimize bias, only individuals who are not personally acquainted with the researcher will be interviewed in this study.

## **APPENDIX B**

### **Nomination Form – Please Return by Feb 9, 2009**

*A Grounded Theory Study of Leaders Who Lead by Teaching*, which is being conducted by Pam Johnson, The College of Education, Texas State University, San Marcos.

#### **Your information:**

Name: \_\_\_\_\_  
Your educational organization: \_\_\_\_\_  
Your position or title: \_\_\_\_\_

#### **Participate Nominee information:**

Educational Leader being nominated: \_\_\_\_\_  
Educational Organization \_\_\_\_\_  
Position of Nominee \_\_\_\_\_

#### **Participant Nominee Contact information:** (address, phone, email, etc.)

Details about the leader prompting your nomination as a possible participant for the study:

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## VITA

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