THE PRINCIPAL'S ROLES IN BUILDING CAPACITY FOR CHANGE

by

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DEDICATION

For my Parents

Marian Kennedy Griffiths

And

Paul James Griffiths

For valuing education

and

Always loving me.

I am trying to follow your examples and

Leave the world a better

Place than I found it.

I miss you and wish you could have been here for this ….

And for all Educators

Who selfishly give of themselves each day —

This is the noblest of professions; you have

My awe and admiration.

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TABLE OF CONTENTS

Page

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This qualitative dissertation explores how the principal's leadership roles build capacity for change and how chaos theory contributes to this understanding. The roles studied include distributive leadership, moral leadership, social justice leadership, democratic leadership, and instructional leadership. The tenets of chaos theory examined include change as nonlinear, feedback loops and fractals, turbulence, complexity, strange attractors, and the butterfly effect. The research participants include three urban Texas high school principals. Each principal had a tenure of three or more years, at a campus with a population of at least 50% children of color, and had structures in place on campus to implement change. Grounded theory was used to code data, including principal interviews, observations, and artifacts. Findings show that capacity building is foundational to school improvement, principal roles are key to a change process's success, and chaos theory can contribute to and highlight our understandings of a campus change process. These findings can better inform principals, principal preparation programs, and districts on meeting the needs of all children.

I. INTRODUCTION

"I alone cannot change the world, but I can cast a stone across the waters to create many ripples."
—Mother Teresa

In 2005 a large school district was awarded a federal grant to create small learning communities, improve student academic achievement, and integrate personalization strategies. To receive the grant, each of the 13 high schools had to implement these three Smaller Learning Communities (SLC) criteria. Despite support from the district and various consultants, the initial mandate to restructure into small learning communities was a failure. For the teachers at my high school, it was a debacle. Not only had both the initial SLC grant and the district tried to implement through top-down management, they had also operated under the assumptions that one-size-fits all and schools are linear and predictable. After two years of focus groups, teacher meetings, and community forums the school year ended with resentments, low morale, and a caustic school culture.

At the beginning of the next school year the district announced that each high school could have the autonomy to determine their school structure and that a portion of the SLC funds would go to a campus-based School Improvement Facilitator (SIF) to oversee the change process and implement the other criteria of improving student academic achievement and integrating personalization strategies. In 2007 I was asked to be the SIF for the SLC grant. We had ample funds and teachers who were enthusiastic to implement changes based on campus needs. Though not all of the grant initiatives were greeted with open arms, the school community was grateful for the opportunity to create our own school-based structures, and campus morale improved. Additionally, 9th grade retention rates declined, passing state graduation scores increased, and structures for

personalization were implemented. Many of our initiatives were successful, but there was more that could have happened and did not—our efforts were often stalled by the campus leadership. Our principal did not share the same vision as the teachers involved with the school improvement initiatives. Out of my frustration grew the realization of how crucial the principal's leadership roles are to a change process. Without a principal's shared vision and palpable support the changes we were interested in were not going to happen.

Extant research has found that principals are second only to teachers in impacting student academic achievement (Cherian & Daniel, 2008; Fullan, 2014; Marzano & Waters, 2009; Youngs & King, 2002) and therefore their role as a change agent is key (Sebastian & Allensworth, 2012). Simkin, Charner, and Suss (2010) reported on a survey conducted by The Wallace Foundation of school and district administrators, policy advisors, and other education experts that concluded principal leadership was second only to teacher quality when asked to rank influences for addressing 21 education issues, including school violence, dropout rates, special education and English language learners. Newmann, King, and Youngs (2000) note that responsibility for schools "resides primarily with the principal and since research has shown the principal to be so influential in the life of the school, we recognize the principal's leadership as a critical force in the school's capacity to educate students" (p. 264).

Statement of the Problem

Despite the growing research supporting principal leadership roles as second only to teachers for fostering student achievement, there are gaps in the research on principal leadership (Fullan, 2001 & 2014; Leithwood & Jantzi, 2006; Marzano, Waters, &

McNulty, 2005). Sebastian and Allensworth (2012) reported on the substantial gap in our knowledge of how principal leaders are most effective. They found that previous studies have been unable to examine the myriad mechanisms through which principals may affect classroom instruction and student achievement. Most research on leadership that connects school leadership to student learning is based in elementary and junior high schools, with research on high schools limited because they are harder to study.

> High schools are typically larger, more departmentalized, and more
> organizationally complex. Principals may find it difficult to work directly with
> teachers in high schools, given the size of the school, their own subject matter
> expertise, and differentiation among staff roles. (p. 627)

Davis, Darling-Hammond, LaPointe, and Meyerson (2005) note that while there is research demonstrating how principals influence school effectiveness, there is a gap in the research that informs how such capacity is developed and how principal leadership influences teacher practice and what students learn.

Another reason for the research gap in principal leadership roles and capacity building has its roots in recent federal legislation. In 1983 the National Commission on Excellence in Education published *A Nation at Risk* as a letter to the American people that stated the "educational foundations of our society are presently being eroded by a rising tide of mediocrity that threatens our future as a Nation and a people" (Gardner, 1983, p. 6). The effect was a series of legislation that culminated in the passing of the 2002 No Child Left Behind (NCLB) Act. At the 2001 National Conference of State Legislatures to Congress participants warned that NCLB was an "egregious example of a top-down, one-size-fits all federal reform" (p. 31). NCLB's primary focus is to use

quantitative test data to measure student academic achievement and to grade school performance with the long-term goal to close the achievement gap. However, as Darling-Hammond et al., (2007) ironically notes, the "noble agenda of NCLB—focusing attention on race and class inequality—has been nearly lost in the law's problematic details" (p. 13). The achievement gap has not closed because NCLB's "measure and punish" (Ravitch, 2010) approach does not work; it is punitive rather than instructive and supportive.

Deschenes, Cuban, and Tyack (2001) have noted that NCLB inadvertently supports and perpetuates the structures that keep schools serving low-income and minority children from closing the achievement gap. Unfortunately, national standards have not changed much; the former Obama administration, and then Secretary of Education Arne Duncan, adopted the worst features of the policies of NCLB and renamed it Race to the Top. The Race to the Top focus continued to be on peripheral issues rather than investments that have characterized major improvements in education systems (Darling-Hammond, 2010; Noguera, 2010). Darling-Hammond (2010) notes, "No nation has become high-achieving by sanctioning schools based on test-score targets and closing those that serve the neediest students without providing adequate resources and quality teaching" (p.12). Noguera (2010) laments that adopting Race to the Top is just another punitive shell game; Ravitch (2011) adds that the focus on "accountability, narrowly focused as it is, dumbs down education" (p. 97).

Cochran-Smith and Lytle (2006) researched the implications of NCLB on teacher's educational improvement. They reported that NCLB oversimplifies teacher learning and practice and "undermines the broader democratic mission of education,

4

narrows curriculum, and exercises both technical and moralistic control over teachers and learning" (p. 1). While teachers have the greatest impact on student achievement, Title II of NCLB, devoted to the professional development of our teachers and administrators, is a mere seventy-eight words long. The rhetoric of NCLB's Title II (Improving Teacher Quality) emphasizes the need to improve teachers' academic subject-matter knowledge over the "barriers" and "cumbersome requirements" of pedagogy and teaching. In specific mention of principals, Section 2113 specifies that state funds received through NCLB be expanded so that principals have the instructional leadership skills to help teachers teach and students learn (Cochran-Smith & Lytle, 2014). While Title II of NCLB is the primary source of federal funds to improve principal quality, the U.S. Department of Education has found that only 4 percent is actually spent for principal professional development. The reality is that principal professional learning and growth competes with teacher development, class-size reduction, and other priorities once federal funds arrive at the school district (NASSP, 2015). Fullan states (2001) that, given the climate of accountability and testing, "the principal's role has become decidedly more daunting, more complex, and more meaningful for those who learn to lead change, and are supported in that role" (p. 18). Ironically, principals changing roles now include countering the detrimental effects of NCLB (Cochran-Smith & Lytle, 2014; Darling-Hammond, 2010; Fullan, 2001).

Purpose of the Study

The purpose of my study is to add to the research on principal leadership roles within the context of school capacity building and student achievement. By contributing to this knowledge base, principals can learn how to effectively create campus-wide

communities of learning and build school cultures adaptive to the needs of student

achievement. The principal leadership roles I focus on are distributive leadership, moral

leadership, democratic leadership, social justice leadership, and instructional leadership.

Another purpose of the study is to better inform and educate principals on how to

meet the challenge of educating all children. Walker (2006) argued that the significance

of the changing demographics in the United States and the NCLB legislation on schools

cannot be overstated (Gerhart, Harris, and Mixon, 2011). This is particularly important

in Texas where "the state's population is faster growing, younger, and more diverse than

the nation's" (Petersen & Assanie, 2005). The Census Bureau map below shows that 228

of Texas' 254 counties, or 90%, saw a Hispanic growth rate from 2000 to 2010.

Counties Classified by Population Change in the Hispanic Population, 2000-2010

■ ◄ 100 Persons (4 counties)
▨ Decline (22 counties)
▦ Growth (228 counties)   Source: U.S. Census 2010, PL 94-171
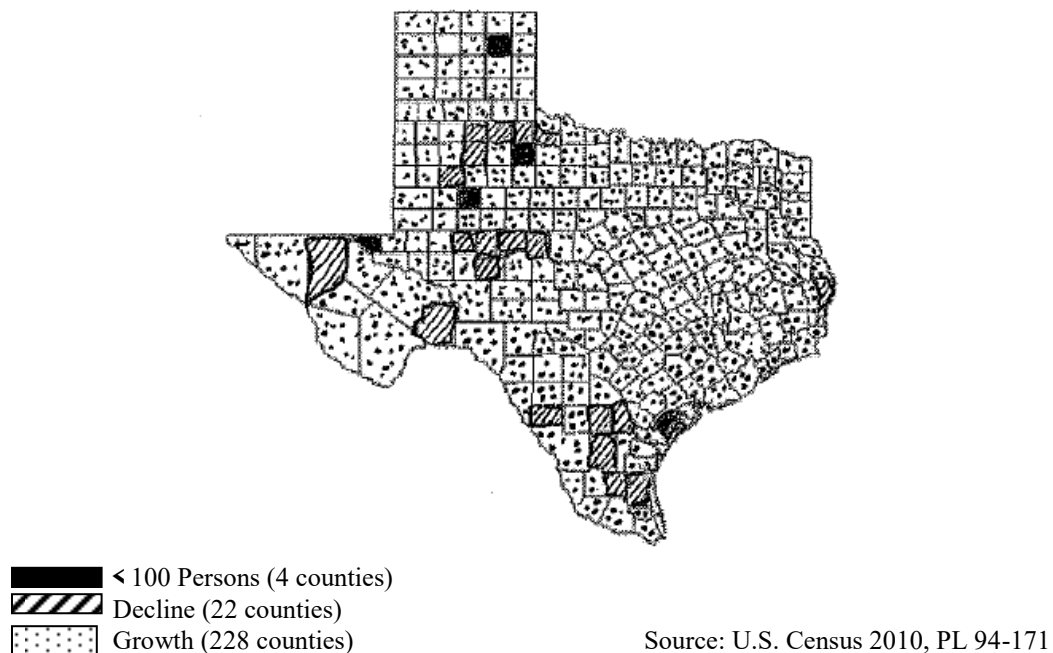
Figure 1: Hispanic Population Change by County, 2000-2010 (Graham, 2014)

- By the year 2020 two-thirds of Texas students will be children of color, one of every two will have federal free or reduced lunch, and one of every seven will have limited English proficiency (Scheurich & Skrla, 2003).

- According to the U.S. Census Bureau, about 979,000 children were added to the state's under-18 population from 2000 to 2010 and 931,000 were Hispanic (Smith, 2012).

- Economically disadvantaged children in Texas classrooms make up 60 percent of all public school students, up from less than half in 2000. Children with limited English skills now make up 16 percent of students (Smith, 2012).

- Among economically disadvantaged students and those with limited English proficiency, the gap continues to widen. Thirty-eight percent of students who came from low-income households did well enough on their Texas Assessment of Knowledge and Skills (TAKS) or college entrance exams to qualify as "college ready." Only 5 percent of those with limited English language skills did so (Smith, 2012).

- Forty percent of Texas Hispanics older than 25 lack a high school diploma or GED (Graham, 2014). Of the Hispanic students who do graduate, a minority are prepared for college. In 2010, 42 percent met college-readiness benchmarks in both English and math, compared with 66 percent of white students (Smith, 2012).

- By 2050, the number of Texas public school students is expected to grow from our present number of five million to nine million, and nearly two-thirds of these students will be Hispanic (Murdock, 2014).

- Thirty-seven percent of all African American and Hispanic children live in poverty and by the year 2020, 26% of all children will live in poverty (Gerhart, et al., 2011, p. 267).

Steve Murdock, Texas' first state demographer and former director of the U.S. Census, ties the future of Texas, indeed the future of the United States, to educating minority populations. Murdock believes that education is the single best predictor of socioeconomic progress and forecasts severe implications if our rising population of Hispanics are not educated (Murdock, et al., 2014). A 2011 study of eight successful high schools with Hispanic populations of at least 30 percent, focused on the practices of principals because they are "the key factor in a school's ability to make the necessary changes" (Gerhart, et al., 2014, p. 266).

A third purpose of the study is to add to the growing literature about education through the lens of chaos theory. Chaos theory has traditionally been applied to the sciences but is now recognized as an organizational theory applicable to education (Glickman, Gordon, Ross-Gordon, 2012; Hargreaves, 2005; Wheatley, 2006). This is a paradigm shift from the linear mechanistic view of the world first posited by Sir Isaac Newton over 300 years ago. Wheatley (2006) describes how scientists have applied this ubiquitous paradigm to nonlinear phenomena to find a predictable whole, "To avoid messiness and pursue the dream of determinism, nonlinear equations were 'linearized.' Once warped in this way, they could be handled by simple mathematics. But this process of linearizing nature's nonlinear character blinded scientists to life's processes" (p. 120).

Chaos theory is an unfortunate name because it implies that there are no structures to a random and chaotic world. Instead, chaos theory looks for the emergence of patterns

and the processes of change. This is of particular interest for my research on principal

leadership and their roles as change agents. For example, a key characteristic of chaos

theory is the butterfly effect, which will be discussed in-depth in Chapter 2, and its basic

premise that small seemingly inconsequential events can have critical impacts. Sungaila

(1990) colorfully explains:

> Changing education by changing educational administration is like changing the
>
> course of the Mississippi by spitting into the Allegheny. But the butterfly effect
>
> suggests differently. If educational systems are dissipative structures, than a little
>
> bit of 'spit' in the administrative Allegheny, could just change the course of the
>
> educational Mississippi. (p. 10)

Other connections to chaos theory and educational change, and particularly the leadership

roles of principals, are interwoven throughout my research.

Research Questions

This study will have two research questions. The primary research question is,

How do principal's leadership roles build capacity for change? The secondary research

question asks, How does chaos theory contribute to our understanding of principals' roles

in building capacity?

Significance of the Study

The significance of my study is its possible contributions to principal preparation

programs and to school district support for principals. Current literature addresses the

need for development of leadership preparation programs (Cambron-McCabe &

McCarthy, 2005; Capper, Theoharis & Sebastian, 2006; Gordon & Boone, 2014;

McKenzie et al, 2008; Reed & Llanes, 2010; Theoharis, 2010). Principals need relevant

and appropriate training on how to define and implement their changing roles. It is a logical step to assume that if principals can learn how to lead (Copland, 2003; Darling-Hammond, 2003; Fullan, 2001; Gordon & Boone, 2012; Lambert, 1998), then the best place to learn is in their principal preparation programs. However, there is currently not a national protocol outlining principal leadership preparation programs (Cambron-McCabe & McCarthy, 2005). At the national level, the most uniform establishment of standardized expectations for campus leadership is provided by the Interstate School Leaders Licensure Consortium (ISLLC). These standards are recommended, but not required or enforced (National Policy Board for Educational Administration, n.d.).

Ongoing district-level support and professional development for campus leadership is an integral part of the systemic process of school improvement (Childress, Elmore, Grossman, and Johnson, 2007; Fullan, 2014; Hargreaves & Shirley, 2009; McLaughlin and Talbert, 2002). Scheurich and Skrla (2003) claim, "if a school or district is to continually improve its success with all its children, all of the leadership—not just some, but all—must be on an increasing curve of improvement" (p.108). District level professional development for campus leadership is crucial because if there is no accountability for making the cultural and structural changes necessary, then any systemic changes a district implements will inevitably fail or stagnate. Districts, and the campuses they serve, should be nonlinear, and therefore change processes should happen on a campus-to-campus basis versus a one-size-fits all dogma. Principals must receive the support and preparation needed to be a part of a systemic district-level vision and the bridge to campus-level change (Childress, et al., 2007; Erickson, 1987; McLaughlin and Talbert, 2002; Schechter, 2011; Scheurlich & Skrla, 2003; Wells, Maxfield, Klocko, &

Feun, 2010). Principals who take on the responsibility of school change and are not supported with a systemic lens for change by the district report personal, emotional, and physical tolls (Theoharis, 2004).

Conceptual Framework

The conceptual framework for my research is based on chaos theory and how it applies to education as an organizational change process. Chaos theory recognizes systems as both complex and dynamic; it reconciles unpredictability with emergences of distinctive patterns. A primary contribution of chaos theory to education is the recognition that education is nonlinear. Linear systems have a clear cause and effect and are modeled on the antiquated image of schools as factories of learning run by top-down leadership (Evan, 1996; Fullan, 2007; Levy, 1994; Lorenzen, 2008; Wheatley, 2006). Nonlinear systems both recognize and capitalize on the unpredictable nature of systems. In an educational setting, this can be seen in a classroom where a teacher has planned a lesson and has clear ideas of how students will react (cause and effect). However, the lesson does not work and students are not engaged because of factors the teacher has no control over—the dog died the night before, two of the students had an argument on the bus, or a student arrived to school hungry and unable to focus. The same can be applied to individual school settings and districts. Chaos theory does not embrace chaos but acknowledges that there is no control over all factors and therefore change cannot be linear.

Chaos theory is about the processes of change rather than planned outcomes. My research focuses on the change processes supported by and embedded in principal leadership roles. How chaos theory is directly applied to educational change processes is

discussed in detail in Chapter Two. Chaos theory as a conceptual framework specific to my qualitative research methodology is detailed in Chapter Three. As Wheatley (2006), notes, "In a fractal world, if we ignore qualitative factors and focus on quantitative measures, we doom ourselves only to frustration. Instead of gaining clarity, our search for quantification leads us into infinite fogginess" (125). A diagram of how chaos theory permeates and guides as a conceptual framework is illustrated below in Figure 2.
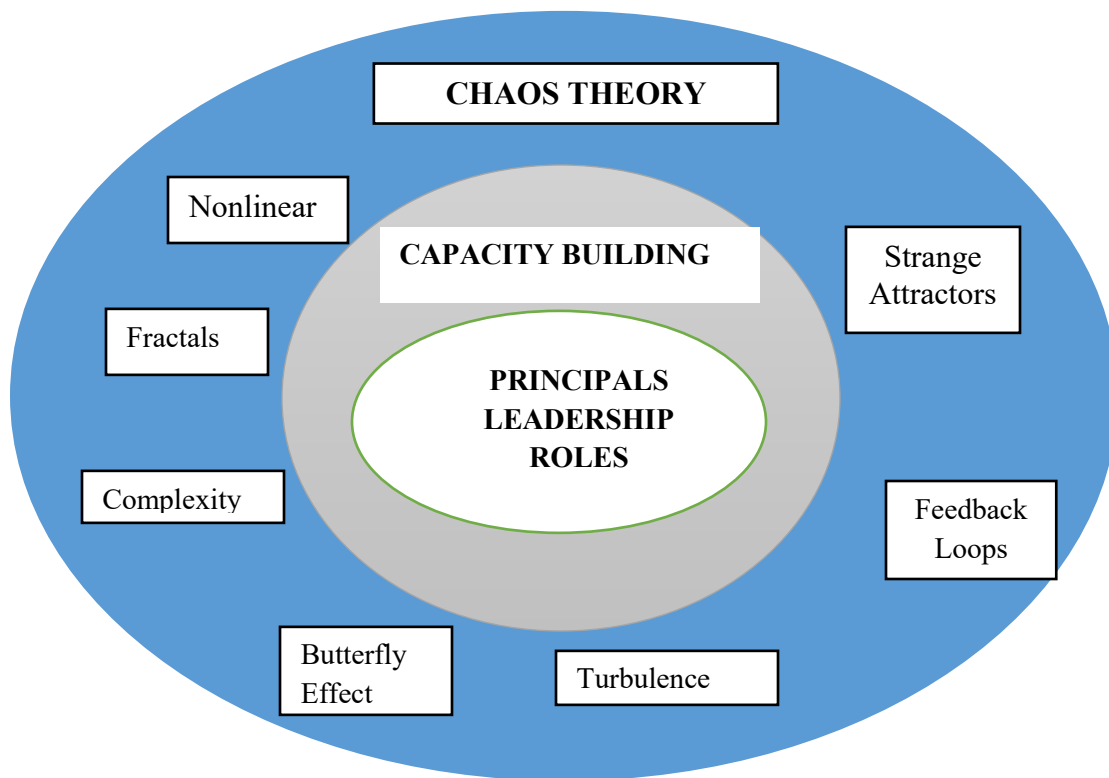
Figure 2. Conceptual Framework

Overview of Methodology

One of the basic tenets to qualitative research is a focus on understanding; constructionism as an epistemology seeks to understand knowledge within a socially constructed context. Therefore, my methodology uses constructionism as the

epistemology and interpretivism, because of the focus on meaning-making, as the theoretical perspective. Grounded theory uses data to find patterns, as does chaos theory, and therefore will be the basis for my methodology and data analysis. My primary research method will be interviews. Although interviews are the primary research tool, as a way to add validity and reliability, the patterns and information garnered were triangulated with artifacts and observations.

Three high school principals each participated in two interviews. Principal selections are based on those who have been with a school for at least three years, have student populations where at least 50% are children of color, and intentional structures are in place to build capacity and address academic achievement. The first interview is specific to my primary research question about principal leadership roles and capacity building. After the initial interviews were coded and patterns begin to emerge a second interview, specific to my second research question, addressed ways principal leadership roles relate to chaos theory.

Limitations of the Study

A personal limitation to my research is that I have never been a high school principal. However, as a School Improvement Facilitator (SIF) my primary job was to be a campus change agent and create a positive collaborative campus culture. I worked closely with 9th and 10th grade teams to create and evaluate cross-curricular lessons, had reflective dialogues about our work together, developed PD based on campus needs, and implemented campus-wide best practices. To counter this limitation, I have asked a high school principal whose practices mirror the principal leadership roles to be researched to provide feedback about my research. In order to gather rich, deep descriptions of the

explored principal roles, I studied only three principals but do not present the voice of a woman principal. Although the findings of the study will not be generalizable to a larger population, the cases of the three principals can be presented to other researchers and practitioners with an invitation to compare the findings to research and practice within their own contexts. A third limitation is the absence of studying the community as a strength in the vitality of a school. It has long been acknowledged that community engagement plays a role in the success or failure of our schools (Comer, 2009; Comer & Gordon, 2006; Goodlad, 2009; Guajardo & Guajardo, 2010; Horton & Freire, 1990; Orr & Rogers, 2011; Sergiovanni, 2000). Yet because of the targeted and explicit lens of how principal leadership roles contribute to campus capacity building, community could not be included.

Definition of Terms

Terms that are specific to my research, such as capacity building, school improvement, and chaos theory terms—butterfly effect, strange attractors, feedback loops, fractals, and turbulence—are defined and discussed in-depth in Chapter Two. Other terms found throughout my research are identified and defined below.

- **Facilitator**: A facilitator is a "neutral servant of the people" who should "guide without direction" and take "action without disruption" (Kayser, 2010, p. 13). The primary goal therefore becomes the facilitation and not the content. Kayser believes that schools should be the main decision makers and that change requires ownership.

- **Leadership**: MacGregor-Burns (1978) states,

     Leadership, unlike naked power-wielding, is thus inseparable from

followers' needs and goals. The essence of the leader-follower

relationship is the interaction of persons with different levels of motivation

and of power potential, including skill, in pursuit of a common or at least

joint purpose. (p. 133)

Scheurlich and Skrla (2003) view leadership as valuing teachers, the work

they do, and providing the supports needed to continually improve. Bolman

and Deal (2008) add, "Effective leaders help articulate a vision, set standards

for performance, and create focus and direction" (p. 345).

- **Roles:** "Roles are sets of expectations people hold for themselves and for

  others in a given context" (Beebe & Masterson, 2008, p. 49).

- **School Culture:** Sergiovanni (1984) provides the following description of

  school culture:

  Cultural life in schools is constructed reality, and leaders play a key role in

  building this reality. School culture includes values, symbols, beliefs, and

  shared meanings of parents, students, teachers, and others conceived as a

  group or community. Culture governs what is of worth for this group and

  how members should think, feel, and behave. The 'stuff' of culture

  includes a school's customs and traditions; historical accounts; stated and

  unstated understandings; habits, norms, and expectations; common

  meanings and shared assumptions. (p. 9)

II. LITERATURE REVIEW

She who wants to have right without wrong,
Order without disorder,
Does not understand the principles
Of heaven and earth.
She does not know how
Things hang together.

— Chuang Tzu, fourth century B.C.

The purpose of this chapter is to present a review of the extant literature related to the role of principals to build capacity for change. The principal plays a pivotal role in improving the quality of instructional practice to enhance student achievement and close educational and performance gaps (Goldring, Porter, Murphy, Elliott & Cravens, 2007). We know that principal leadership has a direct impact on teacher practice and indirectly affects student learning outcomes (Leithwood & Jantzi, 2006; Marzano, Waters, & McNulty, 2005; Youngs & King, 2002). Because more than two decades of research has established the importance of school leadership as a factor in improving academic achievement (Darling-Hammond & Orphanos, 2006; Elmore, 2000), it is crucial that we consider the pivotal role of the principal as a change agent. The focus of this study is to add to the knowledge base on the principal's role in supporting cultures of change for improving teacher practices and student learning.

For this review, I focus on three topics that move from a general to specific lens. The first topic is a macro-analysis of change—educational change in general and chaos theory in particular. The second topic is a meso-analysis of capacity building and school improvement. The third topic looks specifically, as the micro-analysis, at the roles of principal's within the context of the previous topics of change, school improvement, and capacity building.

Change

Change is a natural process, but in the present day we seem to experience changes in technology, the sciences, economics, and culture at a much faster rate. Education needs to meet the challenges of a changing environment if we want a democratic society where all can equally participate (Glickman, Gordon, & Ross-Gordon, 2012; Goodlad, Mantle-Bronlely, & Goodlad, 2004; Waite, 2010). An educational system can be egalitarian and liberating only when it prepares students for fully democratic participation in social life and an equal claim to the fruits of economic activity. Education in the U.S. is as contradictory and complex as the larger society; no simplistic or mechanical theory can help us understand it (Bowles-Gintis,1976). It is also chaotic and full of uncertainty and it can be difficult to predict exactly what is going to happen at any given time be it the present or the future (Lorenzen, 2008). Chaos theory, developed by scientists and mathematicians to explain this phenomenon, is highly relevant to both change as a general concept and educational change (Glickman, et al., 2012; Hargreaves, 2005; Lorenzen, 2008; Wheatley, 2006).

Chaos Theory

Chaos theory is a study of whole dynamic systems, rather than individual parts, and includes a three-dimensional focus on process. The name "chaos theory" comes from the fact that the systems described are apparently disordered, but it goes further by finding the underlying order in apparently random scenarios (Kayuni, 2010). A history of the first experiment in chaos theory begins with MIT mathematician and meteorologist Edward Lorenz. Lorenz, along with Mary McCarthy, was an early pioneer of chaos theory who introduced the concept of strange attractors and coined the seminal concept of

the "butterfly effect" in *The Essence of Chaos Theory* (1993). While working on the problem of weather prediction in 1960, Lorenz discovered that the data produced by his computer, despite its seemingly chaotic nature, showed some patterns that could meaningfully explain certain developments. Through analysis of this data, it was revealed that a small change in the weather (which could initially be regarded as negligible) in one city can have exponential and devastating effects in another far away city (Kershaw & Safford, 1998). This is popularly known as the "butterfly effect" or "sensitive dependence on initial conditions." In this case, a small change in the initial conditions can drastically change the long-term behavior of the system. Therefore, "chaos is a system theory that attempts to understand the behavior of nonlinear, unpredictable systems" (Bechtold, 1997, p. 193).

Originally, the concept was successfully applied in the natural sciences such as chemistry, biology and physics so as to enhance understanding of certain emerging trends in those fields. Over the years it was also noted that most social science disciplines tend to be confronted with characteristics of non-linear and unpredictable phenomenon (Beabout, 2008; Glickman, et al., 2012; Hargreaves, 2005; Lorenzen, 2008). Consequently, "this recognition has led to a surge of interest in applying chaos theory to a number of fields" (Levy, 1994, p.168), including international relations, economics, management, education and policy analysis.

Chaos Theory's Relevance to Educational Change

There are several tenets of chaos theory that can be applied to education as an organizational system and to educational change. Most important is recognizing education as nonlinear and complex. Additional chaos theory elements that apply to

educational change are the butterfly effect, strange attractors, feedback loops, fractals, and turbulence. Each is an important element in understanding the complexity of the change process: "Complexity means change, but specifically it means rapidly occurring, unpredictable, nonlinear change" (Fullan, 2007, p. 1).

Educational change as non-linear and complex. Applying chaos theory to educational change rests on the assertion that schools are nonlinear dynamical complex systems in which changes to one part of the system often lead to unintended and unpredictable changes on other parts of the system (Glickman et al., 2012; Jenlink, Reigeluth, Carr & Nelson, 1998; Kayumi, 2010; Wheatley, 2006). Glickman, Gordon, and Ross-Gordon (2014) add, "The complexity of schools means that improvement needs and the level of success of improvement efforts cannot be precisely measured solely by external research on effective schools, legislated standards, or the results of standardized achievement tests" (p. 347). In contrast to an emphasis on sequential, reduction, control and predictability, complexity acknowledges emerging patterns that are nonlinear, interconnected and unpredictable (VanderVen, 1997).

Historically, school reform was a linear, cause and effect, step-by-step endeavor with clean analysis, prediction and control. Evans (1996) claims that this traditional rational-structural model is the reason most educational change efforts fail, and his ideas are mirrored in Sarason's discussion of the "intractability of schools to educational reform" (1990, p. 147). There are too many variables that are part of a change system to be able, with any certainty, to predict an outcome.

Hargreaves (2005) concludes, "Some of the most recent writing in educational and organizational change theory urges readers not only to accept the existence of chaos,

complexity and paradox in their organizational worlds, but embrace and capitalize on it" (p. 4). Because dynamic complexity is a normal state of contemporary organizations (Bolman & Deal, 2008; Senge, 1990), chaos theory can be used to help explain the uncertain and unpredictable, or nonlinear, nature of education as an organizational system. Nonlinear means that there is no relation between the strength of the cause and the consequence of the effect, thus even infinitesimal differences can be far from inconsequential (Wheatley, 2006). This does not mean that there are no consequences, but there is no way to accurately predict what they will be; this particular behavior is at the core of the 'butterfly effect'.

The butterfly effect. The butterfly effect shows how a small change in input can make a major change in output for an entire system. When Edward Lorenz was graphing his meteorological atmospheric anomalies on the computer he noticed that the anomalies were not happening in chaos but there was some order in their randomness. When plotted, the distribution graphic of the order looked like a butterfly—hence the name. As Wheatley (2006) notes, "In a nonlinear world, very slight variances, things so small as to be indiscernible, can amplify into completely unexpected results" (p. 120). How does this relate to education? Educational organizations, as nonlinear systems, will experience effects of small seemingly inconsequential events from one part of the system to another: "It is not the law of large numbers or critical mass that creates change but the presence of a small disturbance that gets into the system and is then amplified through the network" (p. 87). This means that "planning in a chaotic system like a school should be medium range (one to two years) rather than long range (five to ten years). It should emphasize general goals, broad guidelines, and built-in flexibility (Glickman, et al., 2012, p. 411).

Strange attractors. Strange attractors involve experiences or forces that attract energy and commitment (Lorenz, 1993). They are strange because they are not predictable in a specific sense, but as outcomes are inevitable (Fullan, 2007). Wheatley (1994) states, "Strange attractors' draw attention and lead the disrupted system into a new visible shape" (p. 122). At first, the pattern may not become visible and seems random, but "if we look at such a system long enough and with the perspective of time, it always demonstrates its inherent orderliness" (p. 21). So chaos and order become strange attractors to one another. Fullan (1993) writes that "chaos in a scientific sense is not disorder, but a process in which contradictions and complexities play themselves out; strange attractors do not guide the process, they capitalize on it" (p. 18).

Wheatley (2006) further notes that a "total system achieves stability by change within itself. Small, local disturbances are not suppressed…. It is by supporting them that the global system preserves its overall stability and integrity" (p. 87). She states that "the two forces that we have placed in opposition to one another [strange attractors]— freedom and order—turn out to be partners in generating healthy, well-ordered systems." Fullan (1999) suggests schools will need to address the powerful and competing forces of stability and change. He argues that success lies in sustaining an organization in the borders between stability and instability.

> Think of a strange attractor as a series of experiences that will galvanize (attract) the deep energies and commitment of organization members to make desirable things happen. Visions, for example, can act as attractors, but only when they are shared at all levels of the organization, and only when they emerge through experience, thereby generating commitment. By contrast, lofty visions crafted in

the boardroom or on a retreat meet the 'strange' criterion in the eyes of

employees, but not the 'attractor' one. (Fullan, 2007, p.115)

It is in recognizing strange attractors in an educational change process that helps

move schools forward. Each school, because one size does not fit all, must find the

balance of the strange attractor of change and sustainable success (Copland, 2003;

Glickman, et al., 2012; Harris, 2002; King & Bouchard, 2011; Newmann, King, &

Youngs, 2000). Sergiovanni (2005) adds, "Stability and change, it appears, co-exist

because of the tendency of stability to absorb changes without altering underlying forms

and assumptions" (p. 298). According to chaos theory, one way to approach and nurture

this balance is through feedback loops.

Feedback loops and fractals. Chaos theory departs from traditional system

views by looking for a new category of patterns that are seemingly random, yet contain

an underlying order (Keaten, 1995). Every chaotic system has unique boundaries that

give the system structure and order; these boundaries are created through feedback loops

and are most evident in fractals. "Fractals are created by repeating a simple process over

and over in an ongoing feedback loop. Driven by recursion, fractals are images of

dynamic systems—the pictures of Chaos" (fractalfoundation, n.d., n. p.). Fractals, as

reoccurring geometric shapes that appear at different scales, are present in education

systems. School districts and superintendents with a systemic lens of change and support

can both filter and nourish schools, principals, teachers and students (Childress, et al.

2007; Fullan, 2007 & 2011; Marzano & Waters, 2009; McLaughlin & Talbert, 2002).

"The boundary *lives within the system* [italics from original], becoming visible as it

explores its space of possibilities" (Wheatley, 2006, p. 118).

The dance between outputs feeding into inputs and then looping through again is a process that is constantly changing, evolving, and providing growth to a system. These chaotic fractal patterns become descriptive when enough data and events are fed into the system (Wheatley, 2006). "These loops [feedback] use information differently, not to regulate, but to notice something new and amplify it into messages that signal a need to change" (p. 78). That is the connection for educational reform and schools as they move through a change process. The school is still working with their own boundaries and vision but can then discuss whether or not the vision and goals are being met: Is what we are doing working? What do we need to change? How do we access our work? All of these questions and answers can then feedback into a schools' change process. As Glickman, Gordon and Ross-Gordon (2012) note:

> Feedback mechanisms need to be created and maintained. Feedback can take the form of student performance data, survey results, quality circles, third-party reviews, and so forth. The important thing is that meaningful data on the results of change efforts be made available to teachers and they be given opportunities to reflect on the data and redirect their change efforts accordingly. (p. 412)

Turbulence. It is normal for there to be disorder, or instability, in a change process. Changes in patterns, such as feedback loops, fractals, and the butterfly effect, will naturally cause turbulence. Wheatley (2006) notes that it is through the strange attractor of turbulence that stability is found; "Paradoxically, it is the system's need to maintain itself that may lead it to become something new and different. A living system changes in order to preserve itself" (p. 85). Glickman, et al. (2012) maintain, "All complex systems experience turbulence, but efforts at change tend to increase its

23

frequency and intensity. Turbulence is not always negative, however. Without some disturbance, the system would remain in a steady state and improvement would not be possible" (p. 348). One of the National College for School Leadership's capacity building criteria is for schools to turn the disturbances of a change process into the school's advantage. Both Fullan (2001) and Gordon (2008) note natural "implementation dips" that can happen in a change process when turbulence inevitably happens. The key is to acknowledge, as chaos theory does, turbulence as part of a natural and fluid part of a change process. "Turbulence will not cause the organization to dissolve into incoherence" (Wheatley, 2006, p. 131).

Cultures of Change

Several lessons can be learned from applying chaos theory to school change. One is that change is an inevitable, organic and natural process. This is part of the paradigm shift from schools as top-down linear endeavors to nonlinear, collaborative, meaning-making communities. This too becomes a shift in the power and political dynamics of how schools operate (Bourdieu, 1974; Copland, 2003; Darling-Hammond, 2010; Fullan, 2001; Glickman, et al., 2012; Hall & Hord, 2006; Hargreaves, 2005, Ingersoll, 2003; McLaughlin & Talbert, 2002; Waite, 2002). Goodlad (2004) concludes, "It is difficult to think of a reform initiative of significance that can proceed successfully without understanding and attention to the culture of individual schools" (p. 20). Goodlad further addresses the culture of schooling and the problems of change. He makes a clear distinction between school reform and school renewal:

> *Reform* [original in italics] is a companion of the mechanistic, Industrial Age, command-and-control model of organizational behavior that has been challenged

again and again by thoughtful analysts for its dehumanization…. *Renewal*

[original in italics] is a radical departure from that model, fitting more with

systems, complexity, and perhaps chaos theories, which have been discouragingly

slow to enter the schooling enterprise. (2009, p. 100)

Cultures of change become the norm with the understanding that one size does

not fit all. Individual schools, through collaborative community development, can find

stability by supporting change within themselves (Sergiovanni, 1998; Wheatley, 2006).

This idea corresponds with the strange attractors of *stability* and *change* as well as the

dialogue and structures needed for feedback loops. Bolman and Deal (2000) recognize

how "Culture and core values will be increasingly recognized as the vital social glue that

infuses an organization with passion and purpose. Workers will increasingly demand

more than a paycheck. They'll want to know the higher calling of their work" (p. 185).

If school-level change does not result from externally imposed procedures, what

is the role of school districts? Over the last several years, a great deal of research and

thought has gone into the consequences and relevance of systemic change to schools and

districts (Childress, Elmore, Grossman, & Johnson, 2007; Fullan, 2007; Marzano &

Waters, 2009; McLaughlin & Talbert, 2002). Studies have shown that the leadership of

superintendents committed to support for high-quality teaching and learning has a direct

correlation to enhancing school performance (Darling-Hammond, et al. 2007; Marzano &

Waters, 2009; McLaughlin & Talbert, 2002). The superintendent's changing role needs

to focus on instructional matters that influence the behavior of principals and teachers,

thus positively affecting student performance (Schechter, 2011). The key descriptive

word for the changing role of districts as part of systemic change is *support.* This means

support for each campus and its own unique culture of change (Childress, et al. 2007). A fundamental role of the principal, within this systemic change process, is to be the bridge between campus driven needs and district support. "Our most critical role at the central office is to support learning about learning, especially among principals—who will then do the same among teachers at the schools" (Negroni, 2000, p. 17).

A paradigm shift naturally changes the role of the principal, and requires improved leadership preparation (Cambron-McCabe & McCarthy, 2005; Capper, Theoharis & Sebastian, 2006; McKenzie, Christman, Hernandez, Fierro, Capper, Dantley, Gonzalez, Cambron-McCabe, & Scheurich, 2008; Reed & Llanes, 2010; Theoharis, 2010). In particular, principals need relevant training on how to create campus-level cultures of change. However, Cambron-McCabe and McCarthy (2005) argue that "GRAVE CONCERNS EXIST [emphasis from original] about leadership preparation programs' lack of relevance in preparing school leaders to address the crisis conditions facing many children and schools in this country" (p. 201). Brown (2004) and Reed and Llanes (2010) reiterate that there is very little in the way of preparation of principals as facilitators of cultural change. Brown (2004) states, "Given new roles, changing school demographics, and heightened expectations, principals need emotional muscle for interpersonal dynamics and preparation programs need to foster it" (p. 88).

School Improvement and Capacity Building

This section presents a meso-analysis of school improvement and capacity building in relation to the change process. I begin with the historical context for school improvement. Then I give an analysis of the role of capacity building in school improvement and provide findings from relevant research. My goal is not just to show the

interconnectedness of school improvement and capacity building but also to offer support

for the proposition that school improvement is dependent on capacity building as a

critical aspect of the change process.

School Improvement

The school improvement knowledge base largely resulted from reflection on

failed change efforts in the 1960s and 1970s, when a wide variety of changes were

adopted by schools with little lasting effect (Copland, 2003; Fink & Stoll, 2005; Fullan,

1991). In a revisit to the Rand Change Agent Study of the 1970s, McLaughlin (1990)

concluded that "the net return to the general investment was the adoption of many

innovations, the successful implementation of a few, and the long-run continuation of still

fewer" (p. 12). The failure of 'top-down' approaches to educational change led to

'bottom-up' approaches that involved practitioner rather than external knowledge, and

the emphasis shifted from educational management as the focus for change to changes in

educational process; however, this process-oriented approach did not often lead to

improvement in students' performance (Reynold, Hopkins, & Stoll, 1993). Fullan (1991)

states that restructuring or reorganizing rarely impacts student achievement and learning.

Fink and Stoll (2005) note that by the 1990s, "scholars were suggesting that change

occurred best with a 'top-down, bottom-up' approach in which the larger system

provided direction and support and the actual change process was left to schools through

school-based decision making and development planning" (p. 25).

Unfortunately, the course of school improvement efforts would be thwarted by

the data-driven assessments mandated by the 2002 federal legislation No Child Left

Behind (NCLB); "Recent analyses have found that rapid gains in education outcomes

stimulated by reforms in the 1990s have stalled under NCLB" (Darling-Hammond, Noguera, Cobb, & Meier, 2007, p. 13). A focus on performance and scientific evidence is embodied in NCLB, which has expanded the federal role in education and substantially altered the purpose of education, when and how it should be measured, and what type of evidence should be used to indicate improvement (Schneider & Keesler, 2007). Fullan (2005) states:

> There is a natural political tendency to focus on accountability because it is easy
> to legislate change in this area. Capacity-building, on the other hand, is more
> difficult and requires time and cultivation. Accountability without capacity-
> building amounts to little or no gain. (p. 214)

Waite (2002) laments that too many "school leaders, policy wonks, and legislators see only rising test scores as the valid indicator of school improvement. This is myopic and when taken to obsessive lengths, may actually work to the detriment of children, teachers, and their schools" (p. 161). As Fullan notes (2008), data does have its place, but it should not be the sole indicator for school improvement; "When data are precise, presented in a nonjudgmental way, considered by peers, and used for improvement as well as for external accountability, they serve to balance pressure and support" (p. 98). So if NCLB's narrow accountability is not a valid indicator of school improvement, then what is? Over the last decades education theorists and researchers have focused their work on answering this question. Fink and Stoll (2005) provide what they consider to be the school improvement literature's more significant contributions including:

- a focus on process. If school effectiveness focused on what to change to make
  schools more effective, then school improvement has offered guidance on how

to effect change. We now have a very clear understanding of the process of initiating, implementing and institutionalizing change.

- an orientation towards action and on-going development. Schools do not stand still and wait to be measured by researchers. They are dynamic institutions subject to frequent change. Only by studying this process of change and its impact can we really understand schools (Stoll & Fink, 1996).

- an emphasis on school-selected priorities for development. Moreover, school improvement emphasizes the importance of teacher involvement in change efforts, and ownership of the process. This is a fundamental principle of the school development process (Caldwell & Spinks, 1988; Hopkins 1996).

- a view that the school is the center of change (van Velzen, Miles, Eckholm, Hameyer, & Robin, 1985). School improvement not only views schools as the focus of change but also the center of change because it cannot be separated from the context around it. At the same time, schools need to be part of a wider system, networking with other schools as well as the school district, community, higher education, and business.

- an understanding of the importance of culture. There has been increased acknowledgment within the school improvement literature of the power of school culture and the importance of teacher collegiality to promote or obstruct change (Rosenholtz, 1989; Fullan & Hargreaves, 1991; Hargreaves, 1994; Hopkins, Ainscow, & West, 1994; Stoll & Fink, 1996).

Harris further notes that, "without a focus upon building the capacity for change, the chances of sustained innovation and improvement are substantially lessened. More

importantly, the possibility of raising student performance and achievement becomes even more remote" (2002, p. 56). Capacity building for change is the foundation to school improvement when the focus is on what happens in the classroom (Copland, 2003; Fullan, 2008; Glickman, et al., 2012; Harris, 2002, 2011; King & Bouchard, 2011; Newmann, King, & Youngs, 2000).

Capacity Building: An In-depth Review

Hopkins (2001) suggests that real school improvement is best regarded as a strategy for educational change that focuses on student achievement by modifying classroom practice and adapting the management arrangements within the school to support teaching and learning. For Harris (2002) this means building the capacity for change and development within the school as an organization. Capacity building is concerned with creating the conditions, opportunities and experiences for development and mutual learning. Building the capacity for school improvement necessitates paying careful attention to how collaborative processes in schools are fostered and developed; "building capacity among teachers and focusing that capacity on students and their learning is the crucial factor" (Sergiovanni, 2000).

Defining capacity building has been described as 'difficult' or 'complicated' because of the time and context specific nature of capacity building (Gordon & Boone, 2012; Hargreaves, 2011; Harris 2011; Stoll, 2009; Stringer, 2009). Again, one size does not fit all and the specific needs of each school, such as "individual teachers within a school; the school's social and structural learning context; and the external context" mean that "no two schools or districts are identical and capacity building has to take this into account" (Stoll, 2009, p. 117). Research specific to capacity building is emerging

and provides some of the following definitions:

- "Capacity-building from a relatively simple perspective is creating the experiences and opportunities for people to learn how to do things together" (Harris, 2002, p. 51);

- "The collective power of an entire faculty to strengthen student performance throughout their school can be summarized as school organizational capacity" (Youngs & King, 2002, p. 645);

- "Capacity-building is the development and use of policies, strategies, and actions that increase the collective power or efficacy of whole groups, organizations or systems to engage in continuous improvement for ongoing student learning" (Fullan, 2005, p. 210); and

- Hopkins et al. (1998) define capacity building as enabling conditions that allow process to affect product. Enabling conditions include staff development, enquiry and reflection on progress, involvement of students in the teaching and learning process, distributed leadership, collaborative planning and coordinated school-wide activity that establishes coherence.

In *Developing Capacity for School Improvement Through a School-University Partnership* authors Stiegelbauer, Gordon, and McGhee (2005) align their research findings to a "conceptual model for building capacity" developed by The National College For School Leadership in the United Kingdom (NCSL). The NCSL defines capacity as "the degree to which a school can manage the processes of change, handle, generate and learn from change and thereby create the context for sustained renewal" (NCSL, as cited in Steigelbauer, et al., 2005, p. 31) and proposes the following themes:

1. A stress on process and relationships … a more inclusive model where power and responsibility for school leadership is shared across the organization (processes and relationships rather than status and structures);

2. A view of leadership that is systemic, dispersed throughout the system and reliant on genuine collaboration;

3. Recognition of the need to reconstruct the role of the school leader as a problem solving facilitator rather than a solutions person;

4. Recognition of the need for leaders to expand the organization by enabling knowledge to be created and shared within communities of practice … knowledge creation and transfer is dependent on a social process, where the development of the school as a professional learning community becomes fundamental; and

5. Acknowledgement that change creates disturbance which school leaders can work with and turn to the school's advantage. Schools are living entities and the process of leading and managing change is conducted on a more organic basis.

   If capacity building for change and school improvement needs to focus on the classroom, then teachers must be part of the process. Sustainable school improvement efforts happen when cultures of change are the norm, and school improvement efforts focus on what happens in the classroom and, therefore, involve teachers in the process (Harris, 2002). Leithwood and associates conclude that "There is a relatively clear consensus that the factor with the most immediate and powerful influence on student learning is the quality of instruction that teachers provide" (2004, p. 654) and

improvement efforts must focus on the instruction core (Elmore, 2000). The central element in any successful change process is described as capacity building with a focus on student achievement. Professional learning communities (PLC's) provide the structure needed for teachers to focus on student learning, the instructional core, and student achievement.

Capacity building and professional learning communities. A review of the literature on PLC's by Stoll, Bolman, McMahon, Wallace, and Thomas (2006) concludes that educational reform's progress is dependent on teachers' individual and collective capacity which, in turn, contribute to school-wide capacity for promoting pupils' learning. Building capacity is therefore critical.

Capacity is a complex blend of motivation, skill, positive learning, organizational conditions and culture, and infrastructure of support. Put together, it gives individuals, groups, whole school communities and school systems the power to get involved in and sustain learning over time. Developing PLCs appears to hold considerable promise for capacity building for sustainable improvement. (p. 221)

PLC's, though, are only a structure—it is what teachers focus on that matters and that defines them as PLCs. "Commitment to all students recasts the problem of poor student outcomes from one situated in students' attitudes and abilities to one based in teachers' instructional practices and compromises a necessary condition for productive school reform" (McLaughlin & Talbers, 2002, p. 176). Without a clear focus on learner needs there is a danger that PLC's will be little more than loosely coupled (Hargreaves, 2011; Weick, 1976) or configured groups that are unable to secure meaningful change or improvement (Harris, 2011). Levin (2008) notes it is easy for the learning community to

pay attention to everything but the real work of looking at and improving everyone's instructional practice. Real improvement through PLC's means focusing on the needs of the learner first and working relentlessly to improve pedagogy so those needs are effectively met (Harris & Jones, 2010). As Fullan (2005) has cautioned, "terms travel easily … but the meaning of the underlying concepts does not" (p. 67).

DuFour too has expressed concern that the term PLC has "been used so ubiquitously that it is in danger of losing all meaning" (2004, p. 6). DuFour expands on this admonition:

> It should surprise no one that there are faculties throughout North America that refer to themselves as professional learning communities (PLCs) yet do none of the things that PLCs do. Conversely, there are faculties that could serve as model PLCs that may never reference the term. A school does not become a PLC by enrolling in a program, renaming existing practices, taking the PLC pledge, or learning the secret PLC handshake. A school becomes a professional learning community only when the educators within it align their practices with PLC concepts. (2007, p. 4)

DuFour (2004) believes that true PLC's need structure their practices on the following four broad questions: (a) What do we expect our students to learn?; (b) How will we know they are learning?; (c) How will we respond when they don't learn?; and (d) How will we respond if they already know it? DuFour (2007) also provides a more detailed set of questions:

1. Are we clear on the knowledge, skills, and dispositions each student is to acquire as a result of this course, grade level, and unit we are about to teach?

2. Have we agreed on the criteria we will use in assessing the quality of student work, and can we apply the criteria consistently?

3. Have we developed common formative assessments to monitor each student's learning on a timely basis?

4. Do we use the formative assessments to identify students who are having difficulty in their learning so that we can provide those students with timely, systematic interventions that guarantee them additional time and support for learning until they have become proficient?

5. Do we use data to assess our individual and collective effectiveness? Do assessment results help us learn from one another in ways that positively affect our classroom practice?

6. Does our team work interdependently to achieve SMART goals that are Strategic (linked to school goals), Measurable, Attainable, Results-oriented (focused on evidence of student learning rather than teacher strategies), and Time-bound?

7. Are continuous improvement processes built into our routine work practice?

8. Do we make decisions by building shared knowledge regarding best practices rather than simply pooling opinions?

9. Do we demonstrate, through our collective efforts, our determination to help all students learn at high levels?

10. Do we use our collaborative team time to focus on these critical issues? (p. 4)

In a 2009/2010 study Harris (2011) examined capacity building through PLC's in 106 Welsh schools. The critical issue of implementation led directly into the important

consideration of capacity building because, "it is no longer sufficient to have the right change agenda or the best ideas for innovation or transformation—it is imperative that there is a compelling and effective means of implementing them" (p. 625). The PLC model in Wales focused on reinforcing purposeful collaboration as a lever for changing what happens in the classroom. Harris explains the key principles:

> First, that system wide change is only possible through collective capacity building generated through professional collaboration and networking. Second, there is a central focus on improving learner outcomes through pedagogical improvement. Third, that action enquiry is a driver for change and development in classroom practice. (p. 630)

> **Capacity building and action research.** Action research is defined by Calhoun (2002) as a:

> Continual disciplined inquiry conducted to inform and improve our practice as educators. Action research asks educators to study their practice and its context, explore the research base for ideas, compare what they find to their current practice, participate in training to support needed changes, and study the effects on themselves and their students and colleagues. (p. 18)

Action research is a vehicle for professional development and professional learning communities that embrace the best of a school culture such as teacher leadership, collegiality, collaboration, an atmosphere of support and trust, parent and student involvement, instructional leadership, and agreed upon school goals—all tenets of capacity building (Glickman, et al., 2012; Hall & Hord, 2006; Hargreaves & Shirley, 2009; Stoll, 2009). Lewin (1946) sees action research as a way to:

Transform a multitude of unrelated individuals frequently opposed in their

outlook and their interests, into cooperative teams, not on the basis of sweetness

but on the basis of readiness to face difficulties realistically, to apply honest fact-

finding, and to work together to overcome them. (p. 221)

Glanz (1998) notes seven benefits of action research:

- creating a system-wide school improvement mind-set,

- enhancing decision-making,

- promoting reflection,

- committing to continuous improvement,

- creating a positive school climate,

- impacting directly on practice,

- and empowering teachers and schools. (as summarized in Gordon,

  Stiegelbauer, & Diehl, 2008, p. 79)

"Although action research is not a quick fix for all school problems, it represents a

process that can focus the brain-power of the entire instructional staff on maximizing

learning" (Sullivan & Glanz, 2009, p. 156).

Gilles, Wilson, and Elias (2010) studied the impact of action research on teachers

and professional learning communities. They purposefully chose action research because

it asks faculty to "systematically develop a question, gather data, and then analyze that

data to improve their practice" (p. 92). Three main themes emerged from this study: "(1)

interactions fostered through classroom research deepened the school's professional

community; (2) classroom research was valued, thus prompting internal accountability;

and (3) classroom research became a renewable professional growth cycle" (p. 96). On a

deeper level than the three themes was the professional and individual growth of the teachers and the overall increased successes for students. Teachers came to value dialogue and reflection. One teacher said, "because I was doing action research, I had to be reflective about my teaching … and study myself as a teacher and a learner" (p. 98).

Another action research study looked specifically at the characteristics that made the action research successful. Researchers from a university-based School Improvement Network worked together with nine central Texas schools to provide support, professional development, and on-site consultants (Gordon, Stiegelbauer, & Diehl, 2008). After two years, case studies were used to do a cross-case comparison of the schools' action research process and effects; from these results researchers classified schools' as either high performance schools, coasters, or wheel spinners.

What differentiated a high performance school from coasters or wheel spinners was the level of commitment and expansion during the second year of the action research program. Researchers' reflections on predictors of success included democratic school leadership, a commitment from a large portion of the school community, the presence of a collective school vision, and an infrastructure that provided "time and opportunities for teachers to engage in data gathering, data analysis, planning, improvement activities, and most importantly, dialogue about the action research" (p. 92). In high performance schools "the action research increased collaboration and collegiality, led to more risk-taking and experimentation, and improved teaching and learning. After two years of action research, reflective inquiry had become part of the organizational culture at these schools" (p. 85). Another significant finding was the crucial role of the principals' leadership in determining a school's level of success. These findings and particular

attributes of successful principal leadership will be explored further in "The Principals

Role" later in this section.

The PLC model, which includes action research, also draws heavily on the theory

of change implicit in Wenger's (2000) notion of communities of practice. Within such

communities, practice is developed and refined through the collaboration of groups of

people who share a concern, a set of problems, or a passion about a topic, and who

deepen their knowledge and expertise by interacting on an ongoing basis (Harris, 2011).

Change Process

Capacity building for school improvement is concerned with change and the

management of change. "All change has a tendency to disestablish equilibrium and

increase uncertainty as new ways of doing things are required" (Stringer, 2009, p. 167).

Change processes can stall in what is described as natural 'implementation dips' (Fullan,

2001; Gordon, 2008), which can be deeper if teachers are not part of the change process.

This supports the NCSL capacity building theme of "turning disturbance created by

change to the school's advantage" and chaos theory's recognition of both turbulence and

strange attractors. Teachers must be managers of the change process and its rippling, or

what chaos theory calls 'butterfly,' effect. Wheatley (2006) sees teacher collaboration

and the relationships fostered in the change process as part of an organic system and a

necessary aspect of capacity building:

"Ownership" is a term used to describe not only literal owners, but more

importantly, the emotional investment of employees in their work. We

know that the best way to create ownership is to have those responsible for

implementation develop the plan for themselves…. Reality is co-created by

our process of observation from decisions we the observers make about what we choose to notice. It does not exist independent of those activities. Therefore, we cannot talk people into our version of reality because truly nothing is real for them if they haven't created it. (p. 68)

Pil and Leana (2009), who studied 1,013 teachers at 199 public elementary schools, found that positive social capital improved school-level indicators of performance and student learning. Their research is part of the growing evidence that teachers' collaboration and mutual trust (social capital) have as great an effect on student achievement as teacher human capital. Bryk and Schneider (2003) examined reform efforts in the Chicago school district and found that the level of trust among teachers was the distinguishing factor in comparisons of schools that thrived under reform and schools that did not. They argue, "by far, the strongest facilitator of professional community is social trust among faculty members. When teachers trust and respect each other, a powerful social resource is available for supporting the collaboration, reflective dialogue, and deprivatization characteristics of a professional community" (p. 43).

Trust is a key element in building capacity for a change process (Cosner, 2009; Gordon & Boone, 2012; Hargreaves, 2011). Harris (2002) describes trust as "the social glue that links a learning community and allows teachers to work collaboratively" (p. 13). Allen and Glickman (2005) refer to trust as "the grease that keeps the machinery of shared governance and action research running" (p. 233). Stringer's 2009 research on capacity building for school improvement in New Zealand found that vision, school culture, stakeholders as change agents,

professional development and practice are dependent on establishing trust.

Hargreaves and Shirley (2009) discuss several principles necessary for the "fourth way". One principle is a call for "professional cultures of trust, cooperation, and responsibility," (p. 69). Cosner's research on organization capacity through trust (2009) found that, "Collective action, such as problem solving and decision making, that requires contribution of all group members is more productively addressed when trust exists between members of the collective " (p. 252). A critical collective action for capacity building that requires both trust and communication is creating a school-wide vision. Stringer (2009) concluded in her study of school capacity that vision was the core category enhancing capacity building for school improvement and it was through the professional dialogues around implementing vision that built the capacity of the schools.

The importance of purposeful professional dialogue has long been a recognized tenet of a change process as it builds trust and establishes collaborative relationships (Bain, Walker, & Chan, 2011; Cosner, 2009; Fullan, 2008; Glickman, et al., 2012; Senge, 1990; Slater, 2008; Wheatley, 2006). Gordon (2005) adds:

It is important that supervisors and teachers understand the purpose of dialogue is not to debate issues, engage in traditional rationale problem solving, or resolve conflict. Rather, the aims of dialogue are exploration of ideas, critical reflection, consideration of alternative perspectives, and collective learning" (p. 164).

Stoll (2009) notes that, "as the school community interacts, engages in serious dialogue and deliberates about all the information it has and data it collects, they interpret it communally distributing it among themselves" (p. 120).

The Principal's Roles in Relation to Change

This section addresses the principal's role in supporting cultures of change for improving teacher practices and student learning. The critical role of the principal in creating the conditions for school improvement has continued to be found in research for the past 30 years (Gordon et al., 2008; Marzano, Waters & McNulty, 2005; McGhee & Lew, 2007; Sebastian & Allensworth, 2012; Youngs & King, 2002). Research has also revealed the importance of school leadership in improving academic achievement (Darling-Hammond & Orphanos, 2006; Elmore, 2000; Gordon & Boone, 2012). The previous section of this literature review focused on the structures used for change processes such as PLCs and action research; the research presented also links the success of such processes to the principal's leadership (Gilles, Wilson, & Elias, 2010; Gordon et al., 2008; Harris, 2011; Pil & Leana, 2009). McLaughlin and Talbert (2006) state, "Principals are in a key strategic position to promote or inhibit the development of a teacher learning community in their school. School administrators set the stage and conditions for starting and sustaining the community development process" (p. 56).

Day, Harris, and Hadfield (2001), found that little attention had been given to the role of principals in "promoting teacher motivation, commitment and self-esteem, school learning cultures and parental participation" (p. 39-40). However, the authors add that the research that has been done in this area indicates that successful schools were led by principals who were catalysts for both teacher and student growth. The success of these schools was not simply based on test scores. The authors found that effective principals supported a vision and values shared by all stakeholders, empowered staff by developing climates of collaboration, and held themselves and others within the school community to

high standards. Additionally, these principals never lost their focus on "the betterment of the young people and staff who worked in the schools. They remained also, against all the odds, enthusiastic and committed to learning" (p. 55).

Cherian and Daniel (2008) found that a positive culture fostered by successful principals both increased new teacher retention rates and positively impacted student achievement. The successful principals were "indirect and used effective strategies to address different aspects of their organization, such as structures, purpose, politics, and symbolic awareness" (p. 2). Leithwood, Seashore Louis, Anderson, and Wahlstrom (2004) reviewed both quantitative and qualitative research on school leadership and concluded that principal leadership is second only to classroom instruction among school-related factors in influencing student learning. Research also suggests that these effects are largely indirect, operating through school organizational features and instructional quality (Cherian & Daniel, 2008; Marzano & McNulty, 2003; Sebastian & Allensworth, 2012; Youngs & King, 2002). Figure 3 provides the percentages assigned by Marzano, Waters, and McNulty (2003) to the impacts for student learning by teachers, principals and other school factors.
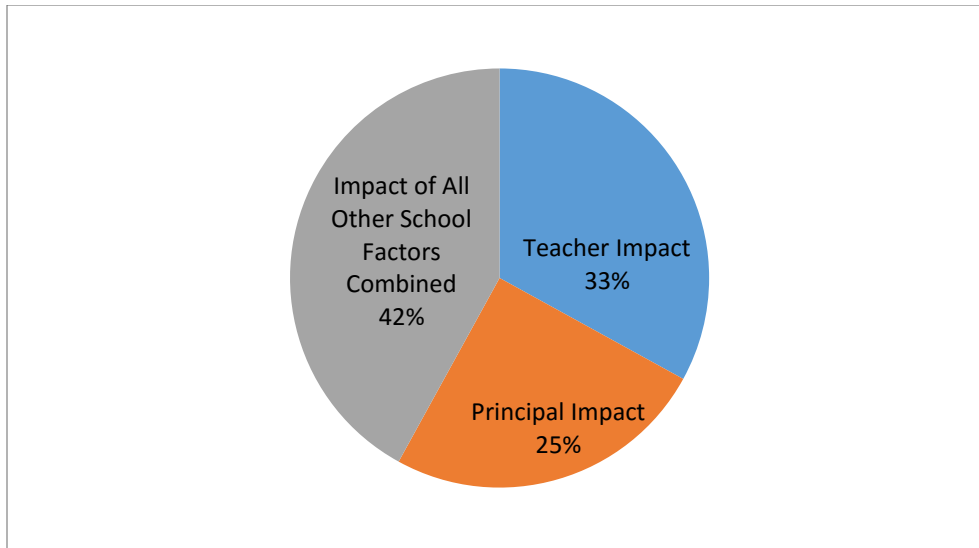
Figure 3: School impact on student learning (Marzano, Waters & McNulty, 2003*)*

Changing Role of the Principal

Experts acknowledge the changing role of the principal from top-down management to facilitation (Darling-Hammond, et al. 2007; Fullan, 2001; Harris, 2001; Sebastian & Allensworth, 2012; Youngs & King, 2002). One ripple effect of the changing role of principals is that teacher roles change as well. Schmoker (1997) notes that for the first time school personnel are being asked to be thinkers and group problem-solvers. "This is something new…[to be] brought together—regularly—to be asked for their suggestions, to develop real solutions to the most pressing concerns students face" (p. 143). Starratt (1991) states that principals face a "continuing paradox in their institutional position" because

> They must acknowledge the tendency built into management processes to inhibit
> freedom, creativity, and autonomy, and to structure unequal power relationships
> to insure institutional uniformity, predictability, and order. On the other hand,
> they must acknowledge their responsibility to continually overcome that tendency

to promote that kind of freedom, creativity, and autonomy *without which* the

school simply cannot fulfill its mission. (p. 191)

Some authors argue that the work of developing teacher leader capacity requires the principal to lead from the bottom up and from the top down. This provides a leadership that Evans (1996) termed "binary" because principals cannot abandon the traditional authority inherent in management but must use it judiciously by involving stakeholders in both informal and formal ways. However, he counsels, this must be done in a way that avoids "the pitfalls that can turn empowerment and collaboration into quagmires," so that principals can "help school communities deepen the commitment on which improvement depends" (p. 244).

Sarason (1971) believes it is a myth to think that schools will not be resistant to "introducing, sustaining, and assessing an educational change" because it is a political process that will change existing power relationships; "few myths have been as resistant to change as that which assumes that the culture of the school is a non-political one, and few myths have contributed as much to the failure of the change efforts" (p. 71). Stoll (2007) too addresses the political power shift of adopting a collaborative leadership style because it means giving up "some of the power of position while it invites others to become empowered" (p. 60). Navigating the political process of changing roles for both principals and teachers is not accomplished through charismatic leadership but rather through teaching and learning about these new roles (Copland, 2003; Darling-Hammond, 2003; Fullan, 2001; Gordon & Boone, 2012; Lambert, 1998). Specific principal roles that have the greatest impact for capacity building and student achievement include distributive leader, moral leader, democratic leader, social justice leader, and instructional

leader (Copland, 2003; Fullan, 2001; Glickman, 1998; Gordon & Boone, 2012; McGhee & Jansen, 2005; Sergiovanni, 2000; Starratt, 1991; Theoharis, 2010).

Multiple Roles of the Principal

Louis, Toole and Hargreaves (1999) likened the concept of organizational frames articulated by Bolman and Deal (structural, political, human resources, and symbolic awareness) to "a mobile, it is hard to touch one frame without setting off a reaction in all the others" (p. 259). The mobile image is one I embrace in discussing the principal roles of distributive leader, moral leader, democratic leader, social justice leader, and instructional leader. Although presented independently, the roles are interrelated. For example, Comer (2009) supports a commitment to social justice that is implemented through democratic practices. It could also be argued that a moral and ethical commitment to students is found in both social justice and democratic practices. Each role is part of the interrelated mobile.

In response to the restructuring era of the 1990s new forms of leadership such as transformational leadership and distributed leadership began to emerge (Hallinger, 2003). This development of new leadership is a deliberate move away from transmission and transactional leadership. Transmission, a vehicle for social reproduction (Bourdieu, 1974; Erickson, 1987), looks at how "existing social structures are exactly copied from generation to generation, regardless of external forces" (Bennett & LeCompte, 1990, p. 5). Transactional leadership happens when "a leadership act took place but it was not one that binds leader and follower together in a mutual and continuing pursuit of a higher purpose" (Burns, 1978, p. 133). Harris (2004) notes the "movement away from the notion of leadership as a series of *transactions* [emphasis from original] within a given context

towards a view of leadership as *transformational* [emphasis from original], having the potential to alter the cultural context in which people work" (p. 67). Burns (1978) states that transformational leadership happens when leaders and followers engage in such a way as to "raise one another to higher levels of motivation and morality," and this "raises the level of human conduct and ethical aspiration of both leaders and led, and thus it has a transforming effect on both" (p. 134). In an indepth study of 36 principals Day et al. (2001) found that managerial tasks fell under the category of transactional while culture building leadership was transformational.

Another leadership style that is often adopted for its ethical and caring lens is servant leadership. Servant leaders adhere to a philosophy in which the focus is on service to others rather than increasing one's own power. Though the phrase was first coined in Robert Greenleaf's 1970 essay *The Servant as Leader*, the idea of leadership by serving others has its root in both Judeo-Christian and Asian teachings. Behaviors central to servant leadership include listening, empathy, healing, awareness, stewardship, and commitment to the growth of people (Kolzow, 2014, pp. 47-50). Boone, Fite, and Reardon (2010) included humility and honesty to their research of teacher's perceptions of spirituality and leadership. Though the behaviors of servant leadership are highly valued, the focus for this study is distributive leadership because of its structural properties for shared governance.

Role of distributive leadership. Distributed leadership is a form of leadership in which tasks are distributed among stakeholders as need occurs and are distributed to those who have the knowledge and capacity to solve or address the problem (Spillane, Halverson, & Diamond, 2004; Harris, 2004). Distributed leadership, done correctly, is an

embedded process; this means renegotiating the roles of all stakeholders in terms of authority and control. Within the culture of schools we have been socialized to respect position rather than person and to defer to the positional authority and power associated with status (Stoll, 2009). Distributed leadership challenges the conventional belief that leadership is associated with specific positions and focuses instead on specific activities that constitute leadership. An example of the need for distributed leadership is when a charismatic principal retires or is transferred to another school, and the school returns to the prior condition before the principal's tenure (Graczewski, Knudson, & Holtzman, 2009; Lambert, 1998). The staff experiences a deep disappointment, increased cynicism, and deep wounding. Subsequently, improvement in that school becomes more difficult to achieve (Daley, 2002). School improvement will fail if the change process is dependent on one person or "outside directions and forces. Schools, and the people in them, have a tendency to depend too much on a strong principal or other authority for direction and guidance" (Lambert, 1998, p. 3).

Barth (1999), after conducting an exhaustive analysis of more than 250 major school reform studies, concluded that the most prevalent recommendation made for improving America's schools was for teachers to take on more of the leadership. Slater (2008) reports from a study of principals, parents, and teachers that communication techniques used to encourage shared leadership built both human and organizational capacity. Their findings coincide with the theory of distributed leadership as described by Lakomski (2005): "Leadership disappears when tasks are well-structured, because the knowledge that progresses the task has been structured into the technologies, and routines that are involved in its completion" (p. 14). Murphy, Elliott, Goldring and Porter (2006)

add that spreading leadership among multiple stakeholders can help lift the organization to heights that simply cannot be achieved by a single leader. Waite (2002) argues, "Alone, the principal can make little difference [and] principals who lead schools of excellence usually find ways to empower their faculty" (p. 164).

Copland (2003) reports on a longitudinal study of distributive leadership in the Bay Area School Reform Collaborative (BASRC) including 16 schools where the principal's roles were shifting toward distributive leadership. Copland's findings support the role of distributive leadership as a change in the school culture that builds capacity for change. Distributive leadership is a move from the singular visionary leadership to one that includes all members of the school community to create and sustain "distributed leadership systems, processes, and capacities. The work of distributive leadership is best thought of as an ongoing effort to build greater *capacity* [emphasis from original] with regard to instructional practices that improve learning among those who work in the school community" (p. 376).

Role of moral leader. Leaders help to shape the culture of the school through the beliefs they hold, the words they speak, and the actions they take (Hall & Hord, 1997). Fullan (2001) writes, "leaders who combine a commitment to moral purpose with a healthy respect for the complexities of the change process not only will be more successful but also will unearth deeper moral purpose" (p. 5). Starratt (1991) believes that during a period of school restructuring, educational administrators need to consider their responsibility to promote an ethical environment in their schools. He develops three foundational ethical themes—critique, justice, and caring—as the pillars on which to build a school culture. The ethic of critique specifically addresses the role of moral

leadership. For Starratt, educational administrators have both a social responsibility and a moral obligation to meet the challenges of restructuring schools. This moral obligation includes the school, community, and society as a whole for the purpose of making sure that "the institution of the school serves society the way it was intended ... In other words, schools were established to serve a high moral purpose, to prepare the young to take their responsible place in and for the community" (p. 191).

Research that specifically sets out to examine the role of the principal as a moral leader is difficult to find. However, researchers whose lens may have been specific to other topics found and wrote of moral leadership within their studies. Cherian and Daniel (2008), in their research on the role of principals in teacher induction programs, found both moral and ethical practices. These principals not only worked with novice teachers on teaching as curriculum but also as an "engagement in inquiry, critique, caring, and social justice." Furthermore, they note that principals in showing "an authentic sense of caring among teachers" found that the teachers, in turn, extended the same professional care to their students (p. 2).

Day, Harris, and Hadfield (2001) explored principals' contributions in promoting teacher impetus, commitment and self-esteem, as well as school learning cultures by interviewing principals, teachers, parents and students. They reported that principals' leadership decisions about staff and students were primarily moral rather than for economic or custodial reasons. Additionally, they found that a number of core personal values underpinned the vision and practices of these principals. These personal values included modeling respect for individuals, providing fairness and equality, and caring for the well-being of students and staff with integrity and honesty.

These core values were often part of strong religious or humanitarian ethics which made it impossible to separate the personal from the professional and which provide empirical support for those who write of the essential moral purposes of those involved in teaching. (p. 43)

Role of democratic leader. Labaree (1997) argues that one could characterize the colonial educational period up through the 1930s as a time when changes to the organizational structure of education and its content were chiefly concerned with developing a democratic citizenry. Thus, the U.S. schooling system was shaped by a strong ideological tradition that viewed schools as an expression of democratic political ideals and as a mechanism for preparing children to assume responsible roles in a democratic society (Schneider & Keesler, 2007). Glickman (1998) proposes that today's schools that operate on "the basis of hierarchy, control, and power" (p. 17) *revolutionize*, meaning to return to the original intent of democratic schools. "Studies involving thousands of subjects and hundreds of schools during the past 50 years show that students in pro-democratic elementary, middle, and high schools outperform other comparable students on virtually all achievement measures, including traditional standardized tests" (p. 18).

Goodlad (2009), a leader and proponent of democratic schools, learned from his students that "It [school] was much more their school than mine," and "Students know best about what is good and bad in their schools, yet their views are rarely sought" (p. 85). For Goodlad, this was a first glimpse into what would become a life-long commitment to "schools having a public purpose such as developing citizens who are responsible for the care of our democracy" (p. 107). Goodlad (2009) describes his central

work as advancing the umbrella agency "Agenda for Education in a Democracy". Its mission centers on leaders providing all students with the opportunity to fully participate in a democratic society, implementing a "caring pedagogy" to which all teachers will adhere as morally committed educators, and demonstrating "moral stewardship" within the school (p. 20). For Goodlad (2009), the relationship between education and democracy is nonnegotiable. "More and more I came to realize that democracy is, as yet, the best way of life for humankind. Hence, its care through the education of a democratic public is a nonnegotiable agenda" (p. 113).

Gordon and Boone (2012) reason that a democratic school community "prepares students for democratic citizenship, promotes ongoing school improvement, fosters teacher growth, and results in improved student learning" (p. 38). They make a distinction between weak and strong democracy. "A weak democracy functions at a surface level and is concerned primarily with individual privacy and majority rule. Strong democracy, by contrast, is based on social morality, open inquiry, and interdependence" (p. 38). Furman and Starratt (2002) provide a definition for a truly democratic community:

> Democratic community is processual and moral. It is the enactment of participatory processes of open inquiry in working for the common good in regard to both local and global concerns; it is guided by a social morality that recognizes the worth of individuals and the social value of community (however temporal and provision), celebrates differences, and understands the ultimate and pragmatic interdependence of all. (p. 116)

Gordon et al. (2008) found that a predictor of success for schools engaged in

action research was democratic school leadership; they advise principals who are highly directive and wish to initiate schoolwide action research to first change their leadership style. The democratic leadership style in the schools studied by Gordon et al. included "two-way dialogue, shared decision-making, collegiality, and collaboration" (p. 91).

Mullen and Jones (2008) used a case study approach to assess the principal's role in creating a culture for democratically accountable teacher leaders and the subsequent effects on three schools. They found that the role of the principal as a democratic leader was a prominent feature in the success of the school and in building teacher leadership capacity. Teachers who respect and admire their principals and feel supported by them were much more willing to take on more leadership responsibilities. "Hence, the value of building collegial relationships among teachers, and between teachers and administrators, is extremely powerful [and] democratic leaders at the ground level focus their efforts in such directions" (p. 337). These principals and administrative teams were successful at empowering staff members with two key actions. First, they shared their power and decision-making authority both formally and informally. Second, they built the capacity for teacher leadership through ongoing and targeted professional development. These two actions are examples of inclusion, representation, and equity—all democratic values needed to give teachers and administrators more authority and power.

To summarize, democratic community predicts teachers' trust of school leaders and colleagues, which in turn predicts teachers' continuous team learning (Kensler, Caskie, Barber, & White, 2010), which leads to an increase in student achievement (Glickman, 1998; Goodlad, 2004; McGhee & Lew, 2007; Mullen & Jones, 2008).

Role of social justice leader. Theoharis, who has researched social justice principals extensively (2004, 2007, 2008, 2010), states, "I define social justice leadership to mean that these principals make issues of race, class, gender, disability, sexual orientation, and other historically and currently marginalized conditions in the United States central to their advocacy, leadership practice, and vision" (2007, p. 223). Charmaz (2011) believes that social justice leadership addresses "inequalities and equality, barriers and access, poverty and privilege, individual rights and the collective good, and their implications for suffering" (p. 359).

Research on teacher expectations has focused on individual interactions between teachers and students, paying less attention to the role of school context in conditioning teachers' beliefs and actions (Diamond, et al., 2004). Teachers' low expectations reduce students' academic self-image, cause students to exert less effort in school, and lead teachers to give certain students less challenging coursework. Teachers and administrators need to be cognizant of how their beliefs and practices are influenced by perceptions of student ability tied to race and social class, and work to interrupt the reproductive tendencies these perceptions entail (Deschenes, Cuban, & Tyack, 2001; Diamond, et al., 2004; Scheurich & Skrla, 2003; Valenzuela, 1999).

Deficit and subtractive views must be replaced with professional development that focuses on building understanding and expertise in culturally responsive teaching (Erickson, 1987; Gonzalez, 2010; Scheurich & Skrla, 2003). Scheurich and Skrla (2003) believe that the only way to develop a culturally respectful classroom for "children who have not been well served in the past" is to make teachers aware of "their own, most often hidden and unexamined, beliefs" about their students (p. 49). Fullan (2008) argues,

"The objective is not to identify whom to blame for a problem, it is to find out where the system failed. Without this philosophy people have a tendency to hide problems and consequently no one learns" (p. 88).

Theoharis documented the resistance and frustrations principals who identify social justice as a calling face when adopting social justice leadership (2008, 2010). However, Theoharis also found that such principals can promote change by "Blending headstrong commitment to their vision with a strong belief in empowering and trusting teachers and simultaneously … building staff leadership creates a dynamic school atmosphere and environment" (2008, p. 19). Theoharis notes there is a clear distinction between schools with successful social justice leaders and schools where the principal is "autocratic and imposes decisions in a top-down manner" or where the principal invites the staff to discuss the direction and priorities of the school but "the needy kids are not at the center" (p. 19). Like Theoharis, other researchers have found a close link between distributive leadership and building an organizational culture for social justice (Braxton, 2009; Brooks, Normore, & Hodgins, 2007). At the same time, leadership preparation programs are grappling with designing and implementing frameworks and curriculum that bring some meaning to how educational leaders, specifically principals, enact a socially just culture (Brown, 2004; Cambron-McCabe & McCarthy, 2005; Capper, Theoharis, & Sebastian, 2006; Gordon & Boone, 2012). Gordon and Boone (2012) contend that social justice is too important an issue to be solely encamped with critical theorists. They advocate for a balanced approach to social justice that integrate multiple theoretical perspectives.

Role of instructional leader.   When the word *principal* was first used it was an adjective for *teacher*. The *principal teacher* was an instructor who assumed some administrative tasks as schools began to grow beyond the one-room buildings of yore. The original principal was like the other teachers in the school—concerned with instruction above all (Mendels, 2012). Fullan (2006) believes that unless attention is drawn to deep changes in instructional practice, change will remain ephemeral. The principal plays a pivotal role in improving the quality of instructional practice to enhance student achievement and close educational and performance gaps (Copland, 2003; Fullan 2001, 2007; Glickman, et al., 2012; Goldring, Porter, Murphy, Elliott & Cravens, 2007; Harris, 2002, 2011; King & Bouchard, 2011; Newmann, King, & Youngs, 2000; Sebastian & Allensworth, 2012; Wallace Foundation, 2012).

Practicing instructional leadership means being knowledgeable about and supportive of instructionally sound methods; it means empowering others to lead as part of the educational team. Moreover, it means organizing the school so that faculty, staff, and students can do their best work (McGhee & Jansen, 2005). To improve instruction, effective principals foster a collaborative culture in their schools and adjust the school schedule to create the time and endorsements for this kind of work to occur, as well as professional development activities such as lab sites, peer observations, grade-level meetings, and professional development sessions (Mendels, 2012).

Stein and Nelson (2003) researched the influences and roles of instructional leadership. Principals as instructional leaders must know something about subject matter, and more importantly, know something about teachers as learners and about effective ways of teaching teachers. Stein and Nelson believe that a role of an instructional leader

is to, "know strong instruction when they see it, to encourage it when they don't, and to set the conditions for continuous academic learning among their professional staffs" (p. 424). One of the greatest strengths instructional leaders add to their role is the accountability they bring to the reform process as evaluators.

> Professional development for teachers is not sufficient to change instructional practice, especially across an entire system. Teachers must believe that serious engagement in their own learning is part and parcel of what it means to be professional and they must expect to be held accountable for continuously improving instructional practice. Similarly, principals must not only be capable of providing professional development for their teachers, but also have the knowledge, skills, and strength of character to hold teachers accountable for integrating what they have learned in professional development into their ongoing practice. (p. 425)

In their study of 99 schools in urban Chicago, researchers Sebastian and Allensworth (2012) examined ways leadership in high schools impacts instruction and learning. Their findings suggest that high school principal leadership has the most influence when leaders develop school capacity for student achievement in four areas: "professional capacity of staff, the learning climate of the school, family and community involvement, and ambitious instruction" (p. 628). They add that the best leadership role for meeting the four areas is distributive leadership. Their results suggest that the strongest connection between principal instructional leadership and student achievement is the principal's fostering of a strong school learning climate. High schools with strong leaders tended to be both safer and orderly and have a college-going culture. "These

differences in school climate yield classes that have better student behavior and greater academic demands. In turn, students gain more on tests and have higher grades" (p. 644).

Summary

Understanding the specific nature of capacity building as both time and context specific fits into chaos theory's broader organizational view of education as nonlinear. Other aspects of chaos theory that add understanding to the complexity of an educational change process include the butterfly effect, strange attractors, feedback loops, fractals, and turbulence. Within this broader context, the principal plays an intricate and pivotal role in improving the quality of instructional practice to enhance student achievement.

The changing role of the principal relates to the conceptual model of capacity building developed by The National College for School Leadership (NCSL). The model recognizes and values leadership based on processes and relationships rather than status and structures; systemic collaboration; principal as problem-solving facilitator rather than solutions person; schools as communities of practice that create and share knowledge; and turning the disturbances created by change to the school's advantage. I reviewed other structures, such as professional learning communities and action research, as vehicles for building capacity for student success and creating cultures where teachers are valued for their expertise and intimate knowledge of student learning. It is the principal's responsibility to create the conditions, opportunities, and experiences for these structural processes and mutual learning.

The extant literature supports the principal as the key to building capacity for student academic improvement. By acting on the 'mobile' roles of distributive leader, moral leader, democratic leader, social justice leader, and instructional leader, principals

can build the trust and deepen the conversations for the mediated pathways needed to

facilitate cultures of change.

III. RESEARCH DESIGN

What of a truth that is bounded by these mountains and is falsehood to the world that lives beyond?
Michel Eyquem de Montaigne, *Essays*

The goal of my research was to understand how different principal's roles affect school capacity building and change; the overarching word for my research methodology is *understand.* Through deeper understanding, principals can learn how to effectively create campus-wide communities of learning and build school cultures adaptive to the needs of student achievement. In turn the knowledge garnered can add to the growing research on principals as change agents. Another purpose of my research is to contribute to principal preparedness programs so that principals are better informed on how to educate all children**.**

The questions that guide my research asks, "How do principals' leadership roles build capacity for change?"; and "How does chaos theory contribute to our understanding of principals' roles in building capacity?" Chaos theory as a theoretical framework applies to my research goals because of its focus on the processes of change rather than planned outcomes. VanderVen (1997), who couples chaos theory with complexity, recognizes the dynamics of chaos theory as nonlinear, interconnected and unpredictable. She further states that open complex systems are "constantly taking in information and changing", and "are also concerned with pattern—the nature of the complex connections among systems that actually give them coherence and order; and with change: how a system may suddenly transform itself into a higher order of complexity" (p. 43). The most basic descriptor of chaos theory is that it is nonlinear. Table 1 provides the differences between the former static linear view of organizations and chaos theory as a

theoretical framework.

Table 1

Linear View vs. Chaos Theoretical Framework (VanderVen, 1997, p. 44)

Linear	Chaos and Complexity
Seeks to predict	Recognizes that many occurrences are sudden and unpredictable
Amount of input is proportional to expected output	Small input may have much greater output
Values stability and equilibrium	Values turbulence and far from equilibrium conditions
Views effect as result of singular cause	Views effect as outcome of multiple causes
Does not take context and connections among entities into consideration	Recognizes influence of context and interconnectedness of multiple variables
Seeks to solve problems by control	Recognizes that control efforts may lead to intensification of the problem
Seeks simple, rational solutions	Addresses complex problems without simple solutions

Chaos theory as a theoretical framework is congruent to my research perspectives (see Table 2) because both seek to find patterns for understanding. Tenets of chaos theory such as feedback loops, fractals, the butterfly effect, and turbulence are guided by reflective practices that both inform and guide the necessary changes of a school as an organizational system. These similar and intersecting practices might include reflection, dialogue, resilience, and cognitive dissonance. Throughout this chapter I will connect chaos theory as a theoretical framework to my research methodologies.

Research Perspectives

Merriam (2009) provides several tenets to qualitative research. The tenets include: (a) a focus on meaning, understanding, process; (b) a purposeful sample; (c) data collection via interviews, observations, or document; (d) data analysis that is inductive and comparative; and (e) findings that are richly descriptive and presented as themes/categories. Qualitative research is the most informative way to understand the leadership roles of the three interviewed principals. Qualitative inquiry focuses on meaning in context and therefore "requires a data collection instrument that is sensitive to underlying meaning when gathering and interpreting data" (p. 2). Meaningful reality is socially constructed (Crotty, 1998; Glesne, 2011; Merriam, 2009; Patton; 2002), therefore for this study I have adopted a constructionist paradigm with a theoretical perspective of interpretivism. An epistemological lens of constructionism, with an interpretivist methodology and grounded theory methods, will provide me the tools to better achieve the goal of understanding principal roles for capacity building. Table 2 provides a tabled overview of my research perspectives based on the goal of understanding.

Table 2

Research Perspectives that Support Understanding

Epistemology ⟶ Constructionism

Theoretical Perspective ⟶ Interpretivism

Methodology ⟶ Grounded Theory

Method ⟶ Interviews

Epistemology: Constructionism

Crotty (1998) describes epistemology as a way of understanding and explaining how we know what we know. He further defines the epistemology of constructionism as "the view that *all knowledge, and therefore all meaningful reality as such, is contingent upon human practices, being constructed in and out of interactions between human beings and their world, and developed and transmitted within an essentially social context* [italics from original]" (p. 42). Because I too believe that meaning is socially constructed, I used constructionism as my epistemological lens.

A key component of a constructionist epistemology is that individuals construct their realities by interacting with their social worlds. In this way meaning is not discovered but is constructed (Crotty, 1998; Glesne, 2011; Merriam, 2009; Patton; 2002). Crotty (1998) states, "There is no objective truth waiting for us to discover it. Truth, or meaning, comes into existence in and out of our engagement with the realities in our world" (pg. 8). Another key, or truth, is that the meaning-making is not an individual experience but comes from a collective reality of meaning; "'truth' then, becomes a matter of consensus among informed and sophisticated constructors" (Patton, 2002, p. 96). For a researcher with a constructionist epistemology this means looking at how people interpret their experiences, construct their worlds, and then what meanings they attribute to their experiences (Merriam, 2009). Crotty (1998) states, "What constructionism drives home unambiguously is that there is no true or valid interpretations. [However], there are useful interpretations" (p. 47).

Theoretical Perspective: Interpretivism

Epistemology informs the theoretical perspective; it is a theory of knowledge embedded in the theoretical perspective and thereby in methodology (Glesne, 2011). Because my goal is to understand the principal's roles in building campus capacity, I have adopted an interpretivist theoretical perspective. A common thread found in the literature on interpretivism is that there are multiple realities, or interpretations, of a single event (Merriam, 2009; Patton, 2002). Glesne (2011) provides a definition of interpretivism (methodology) that directly connects interpretivism with constructionism:

> The ontological belief that tends to accompany interpretivist traditions portrays a world in which reality is socially constructed, complex, and ever changing. What is of importance to know, then, is how people interpret and make meaning of some object, event, action, perception, etc. These constructed realities are viewed as existing, however, not only in the mind of the individual, but also as social constructions in that individualistic perspectives interact with the language and thought of the wider society.
> (p. 8)

Patton (2002) posits that the following central questions guide an interpretivist theoretical framework, "How have the people in this setting constructed reality? What are their reported perceptions, 'truths', explanations, beliefs, and worldview? What are the consequences of their constructions for their behaviors and for those with whom they interact?" (p. 132).

Burrell and Morgan (2005) see the interpretivist paradigm as one "informed by a concern to understand the world as it is, to understand the fundamental nature of the

social world at the level of subjective experience… within the frame of reference of the participant as opposed to the observer of action" (p. 28). Crotty (1998) adds that an interpretivist approach "looks for culturally derived and historically situated interpretations of the social life-world" (p. 67). How this applies to a school setting is suggested by Bennett (1990), who sees interpretivism as a social transformative theory that "views actors within school settings as active, rather than passive, participants in the social construction of their own reality" (p. 21), and one where theorists "are transformative in that they view the participants in their studies as actively engaged in the process of constructing culture through their daily interactions" (pp. 22 – 23). Glesne (2011) adds that the goal of theorizing is to provide, "an understanding of direct lived experience instead of abstract generalizations. Interpretivists consider every human situation as novel, emergent, and filled with multiple, often conflicting, meanings and interpretations. Theoretical work thus becomes observing, eliciting, and describing these meanings and contradictions" (p. 35).

Patton (2002) links qualitative interpretivist research to chaos theory by noting that, "Much qualitative analysis attempts to bring order from chaos, identifying patterns in the noise of human complexity. Chaos theory suggests we need to learn to observe, describe, and value disorder and turbulence without forcing patterns onto genuine, meaningful chaos" (p. 126).

Methodology: Grounded Theory

Schwandt (2007) refers to methodology as "a theory of how inquiry should proceed. It involves analysis of the assumptions, principles, and procedures in a particular approach to inquiry" (p. 193). The methodology I used for my research is

grounded theory. Grounded theory's history begins with sociologist Barney Glaser and Anselm Straus in their 1967 book *The Discovery of Grounded Theory*. At the time of their writing, qualitative research was not taken seriously because it was viewed as "subjective, impressionistic, and anecdotal, rather than objective, systematic, and generalizable" (p. 56). Glaser and Straus developed grounded theory as a way to add validity to qualitative research by using some of the same analytical tools as quantitative research. Thus, grounded theory is not as such a theory but rather a methodology for developing theory "grounded" in data (Crotty, 1998; Glesne, 2011; Merriam, 2009, Patton, 2002). Denzin and Lincoln (2011) add, "Glaser and Straus provided the research community with an explicit understanding of the principles underlying theory development and practices through which it could be carried out on a broad scale" (p. 70).

Grounded theory is specific in the procedures for data collection, generally interviews or observations, and data analysis. Data analysis in grounded theory has its own set of standardized coding that provide rigor to the analytical process. Charmaz (2002) notes that the research purpose is to "demonstrate relations between conceptual categories and to specify the conditions under which theoretical relationships emerge, change, or are maintained" (pg. 675). For Charmaz (2011) "codes *arise from* the researcher's interaction with the data" (p. 165).

Of particular note is grounded theory's use of *constant comparative analysis* to find patterns between one set of data and another to find and identify categories. The specific connection with chaos theory is in the recognition of evolving patterns found, for example, in both the butterfly effect and fractals. Both involve a recursive process

whereby the outputs of a system feed back into the system, such as a school going through an organizational change process, with an impact that affects all parts and further shapes reoccurring outputs.

Primary Method: Interview

Interviews are "a procedure, tool, or technique used by the inquirer to generate and analyze data" (Schwandt, 2007, p. 191). For Charmaz (2014) interviews are the most common source for a grounded theorist to gather rich data—described as data that is detailed and full—by using open-ended questions. Rich interview questions cannot happen with yes-or-no questions or questions that involve several imbedded multi-tiered layers. Open-ended questions allow interviewees the space to be reflective about their responses. Examples of open-ended questions include: "Tell me about a time when …; Give me an example of …; Tell me more about that …; [or] What was it like for you when ..." (Merriam, 2009, pg. 99). The goal is not to lead interviewee responses but rather to provide a platform for rich discussions about their principal leadership roles.

Lincoln and Denzin (2008) describe interviewing as "collaborative storytelling" because:

> There is a process of continually revisiting the agenda and the sense-making processes of the research participants within the interview. In this way, meanings are negotiated and co-constructed between the research participants within the cultural frameworks of the discourses within which they are positioned. This process … indicates that the accumulation is always reflexive. This means that the discourse always returns to the original initiators, where control lies. (p. 166)

It is through reflective interviews and the use of discourse that patterns emerge. In

describing chaos theory's fractals as a way to uncover patterns, Wheatley (2006) notes

that in "patterns we step back from the problem and gain perspective. Shapes are not

discerned from close range. They require distance and time to show themselves. Pattern

recognition requires that we sit together reflectively" (pg. 126).

Interviews can also disclose what chaos theory describes as *turbulence.*

Turbulence is a necessary and often overlooked part of organizational change; chaos

theory recognizes turbulence as an integral part of a change process. Gleick (2008) states

that without disturbances within complex systems, organizations would remain in a fixed

state and there would be no improvement. Turbulence is also part of the reflective

process identified within chaos theory's butterfly effect.

Research Procedures

Participant Selection

Three Texas high school principals were selected to participate in the study.

Selection criteria included being the principal of a school where at least 50% of the

students are children of color, and where there are structures, such as PLCs, action

research, or advisories in place. Also, the principals must have at least three years of

experience.

Data Collection

The primary data collection for my research was through the method of

interviews. My epistemological lens of constructionism meant adhering to the belief that

knowledge is a social construction of reality. How individuals represent that reality

symbolically is through language (Lather, 1996); interviews provided the three principals

the space for discourse and for sharing their understanding of their roles in capacity

building. As Charmaz (2014) pointedly states, "Discourses accomplish things. People not only invoke them to claim, explain, and maintain, or constrain viewpoints and actions, but also to define and understand what is happening in their worlds" (p. 85).

Patton (2002) categorizes interviews into three general types: the informal conversational interview, the interview guide or topical approach, and the open-ended interview (pp. 341-347). The informal conversation interview type was not used because I needed to be deliberate in my efforts to understand the five roles (distributive, moral, democratic, social justice, and instructional) of principal leadership for capacity building. Nor could the open-ended interview type be used because open-ended questions are too broad to meet my research question goals. Therefore, I used the guided interview. Marshall and Rossman (2011) describe a guided interview as one where "the researcher explores a few general topics to help uncover the participant's views but otherwise respects the way the participant frames and structures the responses" (p. 144). By adopting this interpretation of a guided interview, "the participant's perspective on the phenomenon of interest should unfold as the participant views it, not as the researcher views it" (p. 144). The questions for the first interview are provided in Appendix A. So I could concentrate on the interview process and engage in listening to my principals, I used a recorder to accurately document what was said.

After the first interview I analyzed and coded the data. After coding and interpreting the data from the first interview, and before the second interview, I requested the principal's feedback on my interpretations of the first interview. Contacting the principals with my findings before the second interview was one way to add validity to the coded findings and to build trust into my interview methods. In keeping with my

overarching goal of understanding and specific research questions, the second interview reflected the theoretical framework of chaos theory. An example of this type of interview question is, "tell me about a time when your role as a moral leader turned a turbulence into a positive part of a change process." The questions for the second interview are provided in Appendix B. As with the first interview, after coding and interpreting the data from the second interview, I requested the principals feedback on my interpretations of the second interview.

Although my data collection primarily came from the two interviews, I triangulated my findings with separate observations of the principals meeting with teachers and the school's leadership team. Also, I asked the principals to provide me with one set of artifacts representing the principal's various leadership roles, and discuss those artifacts during the first interview; and a second set of artifacts representing the complexity of leadership for capacity building, and discuss those artifacts during the second interview. The three types of data—interview, artifacts, and observations—were gathered for the purpose of triangulation. Merriam (2009) notes that "triangulation remains a principal strategy to ensure for validity and reliability" (p. 216). Glesne (2008) adds that triangulation as a technique, "is not to negate the utility of, say, a study based solely on interviews, but rather to indicate that the more sources contributing, the richer the data and the more complex the findings" (p. 48). Triangulation therefore is a means to enhance the validity and trustworthiness of my data collection.

Data Analysis

Memo writing took place throughout data analysis. Glesne (2011) describes memo writing as a way to keep a reflective field log and develop thoughts to begin the

analysis process. For Charmaz (2014) memo writing is a way to construct analytic notes and fill out categories; "Memos give you a space and place for making comparisons between data and data, data and codes, codes of data and other codes, codes and category, and category and concept and for articulating conjectures about comparisons" (p. 163). Böhm (2004) adds that memo writing "requires researchers to distance themselves from the data, and also helps them to go beyond purely descriptive work" (p. 271). Böhm (2004) and Hernandez (2009) write of data collection, analysis and theoretical coding as closely interrelated processes, thereby making exact procedures for grounded theory difficult to delineate. Data analysis is interwoven with memo writing and constant comparison to help define categories and theoretical codes. Thus, while it will be described below as "steps", grounded theory is a fluid process and by nature nonlinear.

The first data analysis step in grounded theory is to code the interviews. Coding means "categorizing segments of data with a short name that simultaneously summarizes and accounts for each piece of data. Your codes show how you select, separate and sort data and begin an analytic accounting of them" (Charmaz, 2014, pg. 111). Initial word-for-word or line-by-line coding is referred to as "open coding" (Böhm, 2004; Marshall & Rossman, 2011; Merriam, 2009).

After open coding, grounded theorists look for ways to combine the initial coding into categories as a way to see where patterns may begin to emerge (Glesne, 2011). Grouping codes by conceptual categories is known as axial coding because the codes are "clustered around points of intersection, or axes" (Marshall & Rossman, 2011, p. 215). As part of grounded theory's constant comparative analysis, axial coding asks the researcher to relate categories and properties to each other. Böhm (2004) sees axial

coding as a way "to refine and differentiate concepts that are already available and lends them the status of categories" (p. 271). Memo writing takes place throughout this phase of data analysis.

The next major step to coding is focused coding. Focused codes are used to advance the theoretical direction of the data analysis and tend to be more conceptual than the initial word-by-word or line-by-line coding. Charmaz (2014) explains that focused coding is used to "synthesize, analyze, and conceptualize larger segments of data" (p. 138). She furthers that, "Focused coding means using the most significant and/or frequent earlier codes to sift through and analyze large amounts of data. Focused coding requires decisions about which initial codes make the most analytic sense to categorize your data incisively and completely" (p. 138).

Theoretical coding is the final step to data analysis. Patton (2004) notes that this final process moves the researcher from lower-level concepts to higher-level theorizing. Glaser (2000) describes how the data goes "to concepts, and concepts get transcended to a core variable, which is the underlying pattern … [which as a] theory can be countless as the research keeps comparing and trying to figure out what is going on and what the latent patterns are" (p. 4). Like axial and focus coding, theoretical coding emerges from and is grounded in the data; it is used to conceptualize how the category codes relate to each other and can be integrated into a theory. Hernandez (2009) likens theoretical coding to the verb, or action process, of finding theoretical codes through emergence and a theoretical code, as the noun, that designates relationships between core categories.

Ethical Considerations

There are two general ethical considerations regarding the study. One concerns the research participants. The participants were fully informed of the time commitment and any risks associated with the study [see Appendix C]. Any of the participants could drop out of the study at any time. I will not reveal school districts, schools, or principal names in my dissertation or any publications based on the study.

The second ethical consideration concerns the data analysis process. I had to acknowledge my own position and biases during the coding process. Charmaz (2014) notes that we are not removed from the data analysis process because we are the ones doing the coding. I was constantly aware that the goal is to be *grounded* in the data and not look for what I wanted or be influenced by any preconceived notions. Denzin and Lincoln (2008) acknowledge that the personal history of the researcher influences the researcher's view of reality: "The interpretive *bricoleur* understands that research is an interactive process shaped by his or her own personal history, biography, gender, social class, race, and ethnicity, and by those of the people in the setting" (p. 8). I had to keep Denzin and Lincoln's words in mind, always striving to let the data emerge on its own.

IV. RESULTS

We are what we repeatedly do.
Excellence, therefore, is not an act but
A habit.

—Aristotle

In this chapter I answer the study's two research questions based on data gathered through the interviews of three principals, an observation of each in leadership meetings, and the artifacts they shared. The first research question addresses the ways different principals' roles build capacity for change. The five leadership roles researched are distributive leadership, moral leadership, democratic leadership, social justice leadership, and instructional leadership. My second research question focuses on chaos theory as an educational change process and how the principals perceived their efforts to build capacity for change reflected in the tenets of chaos theory. In the first part of the chapter, I report the perceptions of each of the principals. In the second part of the chapter, I present themes that cut across the three principals' perceptions.

Individual Principals' Stories

Each of the three high school principals were emailed the specifics of the interview process, time commitments, observations and artifacts. This email is provided as Appendix C. Each principal was interviewed twice. The first interview lasted an average of 90 minutes and concentrated on the first research question. The second interview lasted an average of 75 minutes and concentrated on the second research question. Principals were provided a transcribed copy of both interviews; after each submission, I asked for their feedback and any reflections. If they had none, they were asked to simply email back with a verification that the transcripts accurately reflected

their perceptions. A copy of the email sent to principals is provided in Appendix D. The following results integrates data from interviews, observations and artifacts.

Principal 1—Paul

Principal 1, Paul, has been in education for thirty-five years and a principal for eight of those years. His campus of 2255 students is located in Central Texas and 76% of students are children of color. He explained that the biggest challenge the campus faces is the growing population of economically disadvantaged students and the challenges associated with poverty. In the last 12 years the population of students with a low socio-economic status has grown from 13% in 2003 to 46% in 2015. Despite the challenges, the most recent state accountability reports show an increase from three designated distinctions to seven.

Paul's roles. Paul's focus is on growing his administrative team and teacher leaders. He reads an average of ten books a year on leadership and often buys and shares books he thinks most relevant for his team. In the last year, two of the books he gave to his team are Michael Fullan's *The Principal: Three Keys to Maximizing Impact* (2014), and *The Hard Hat: 21 Ways to Be a Great Teammate* by Jon Gordon (2015).

Distributive leadership. Paul stated that distributive leadership was the strongest of his five leadership roles. However, this was a process for him that had not come easily. He has been in education for 35 years, and when he started, decisions were always top-down and you just said "yes sir." After becoming a principal he stayed at work until 8 p.m. every night and worked all weekend. By mid-year he was physically worn down; "I had to start giving some of the work away and began to delegate things. It made both my campus and me much healthier but it was a process I had to grow into and it did not come

naturally." Paul then showed me a basketball as his artifact; he has coached for most of his career. To demonstrate his point, he stated, "You distribute the ball just as a point guard distributes the ball. As a leader you have to distribute the ball to different people. One person cannot run a team, even [Michael] Jordan had to have somebody throw him the ball."

Paul was reflective about his leadership skills and recognized that he is a 'big picture' person who needed to use the skills of those who are detailed-oriented. His focus became how to help his leadership team and teacher leaders grow. He recognized too that in adopting a distributive leadership style the campus became more cohesive, the culture of the campus improved, and he too grew. Paul shared, "My number one guiding thing is the quality of the person I am giving the leadership over to—what kind of skills or talents do they have that are better than mine or enhance mine." In specifically discussing teacher leaders, he noted,

> They may not be a department chair but they may be someone within the
> department that people turn and listen to instead. I constantly observe and find
> out who those people are and then I give them things to do. You don't want to set
> yourself up for failure by not going and listening to these people that are informal
> leaders. I'll float things to them because if it's not going to work with that person
> then it's not going to work with the faculty.

Moral leadership. Paul began his discussion on moral leadership by bringing in his basketball, as his artifact, into the conversation. He noted that basketballs have seams that curve from top to bottom but through them is a center seam. He likened moral leadership to the center seam that touches all curved seams because it represents the

"things that you value and are always with you and don't change." Paul then discussed

two influences to his moral leadership. One was growing up in West Texas in the first

school district to be desegregated. He spoke of going to kindergarten and sitting next to

an African-American child who would become one of his life-long friends. The second

was the influence of his parents who would talk about "what was going on on TV during

the 1960s, and my parents telling us people were equal and we needed to treat people the

same … look beyond the color and dig into what type of person you're looking at."

As a campus leader Paul felt it very important to be transparent about his values

and where he stands on different issues. Paul stated, "if you are going to be a leader,

people have to know where the line is and your morals and your values." He specifically

valued and noted that students should never feel excluded because of their color or their

belief system.

Democratic leadership. Several years ago Paul went to a Response-to-

Intervention conference in San Antonio. He took three administrators and twelve

teachers. Part of their collective charge was to find a way to address the needs of the

growing low-SES population and how to make sure their plan was embedded into the

school day. Paul used the experience as an example of democratic leadership because

"the teachers came up with what we now call RIP time." Though there have been several

modifications throughout the years, the changes were initiated by and implemented by

the teachers.

However, the greatest example of democratic leadership came from my

observation of Paul in a meeting with his leadership team, administrators and teachers,

while discussing whether or not to have a third lunch. Several were quite impassioned

about adding a lunch because the population of the campus was too big to get students fed in time and adequately monitor so many students at once. He physically moved back into his chair and crossed his arms while listening to the discussion. As part of our interview I asked what he thought of their decision and, although he did not agree with it, he felt it was not his decision to make and left it to the team. He let the team decide because "they were the ones who would make it work or not and I told them 'this is on y'all'." However, there was no mention of students participating in any schoolwide decision-making processes or opportunities to add their voice.

Social justice leadership. Of the five leadership roles, social justice was the shortest discussion and did not include issues of equity or deficit thinking. The discussion followed two threads—growing his administrative team by trusting them to do their jobs and students' inclusive relationships with one another. So I asked if there were structures in place, specifically in the classrooms, that addressed the needs of the growing low-SES population or the English Second Language students. He then mentioned that the intervention classes for students who had not "met standard" for the Texas STAAR End-of-Course tests included push-ins from both Spanish teachers and special education teachers. Paul added that the counselors ran the program No Place for Hate, an LGBT club, and hosted an alternative "Rainbow Prom." Teachers also had stepped up to provide safe places for other "fringe groups such as the skateboarders and the Goth students." However, I did not hear or get the sense that social justice was a learned or considered part of his leadership values. For Paul the clear expectation, which he stated twice, is that "we just treat everybody the same."

Instructional leadership. Although Paul felt distributive leadership was his

'strongest' role, instructional leadership was his most impassioned. Paul was very involved with supporting and training teachers on the new state teacher-evaluation system, one that focuses on student-engagement, the evolution and culture of professional learning communities (PLCs), and master coach led professional development (PD). For Paul "becoming a more effective instructional leader and the way I look at the role of an instructional leader" has evolved—he took it seriously and understood the long-term ramifications.

Paul tells of a PLC he designed for new teachers. It evolved from a leadership class he taught as a teacher and what he learned as a mentor to new teachers. He saw a need for all new teachers to get more support and adapted his leadership class, mentor program, and state accountability initiatives into a PLC he led. Teachers reported feeling both supported and part of their new school community. Paul explained,

Everyone has come back and said at the end of the year that they have really enjoyed it and were thankful that they had it and it helped them make it through the first year. I also ask them what things I can do to improve the PLC in the future and they've given me some insight into that as well. I've implemented everything they've ever asked because I figure if they are out there on the front lines and they are saying this is not helping me or this was not beneficial and I need this instead, then that's what they probably need.

Connections. Paul's moral and instructional leadership overlapped. His tone and voice inflections were impassioned when talking about the PLCs for new teachers. He began the instructional leadership question by stating, "I want to give back to the teachers and I want to give back to the profession. We owe it as administrators and leaders of the

campus. We owe it to them, to all teachers." He was proud of the work he had done supporting teachers and providing safe places for them to have a voice.

Paul and chaos theory. Paul chose implementing PLCs as his change process discussion. His artifact was Richard and Rebecca DuFour's *Revisiting Professional Learning Communities at Work* (2008). Paul said that it is the 10th anniversary sequel and includes the authors' insights into what they have learned since the first edition. Paul added, "as you can see it's marked up. I've read and gone over and over and over some of these sections. I love this book. When I retire, I'm donating my books to the school but not this one."

Change was non-linear. Paul felt that PLCs were definitely nonlinear because "we had no idea where it was going to take us or how it was going to change over time." The beginnings of PLC's had happened five years earlier when a former assistant principal went to Paul and asked if he could begin a PLC with the Algebra 1 teachers. Paul stated, "I didn't know a lot about PLCs but I knew they were going to be the wave of the future and it might be a good idea to get our feet wet and sort of use it as a pilot." Paul explained that the original Algebra 1 PLC was just a place to talk about curriculum and divide up duties because no one really knew enough about PLCs to correctly implement the concept. Paul shared, "They did not use formative assessments on anything to try and determine if someone was doing something better than the others. And since I wasn't schooled in that, I didn't know they should have been looking into that."

The next year the district asked his campus to pilot a program through the National Institute for Excellence in Teaching (NIET) called the Teacher Advancement

Program (TAP). It began with just the 9th grade core and teachers voting on whether they wanted to participate. TAP had "cluster groups" that included embedded professional development, course-alike meetings, and grade-level meetings. While TAP was being implemented, the Algebra 1 PLC continued to meet.

A third year of TAP was not supported by the district and the decision was made to have all core subjects adopt PLCs. For the 9th grade teachers who had been a part of TAP this was an easy transition because many of the learned structures and supports used in TAP were integrated into their PLCs. After five years, PLCs are now used throughout Paul's campus for all course-alike subjects.

Difficult to measure using external standards. Paul states that "there is no way for someone else to measure what we've done here because it is ours." The district did give the campus a PLC booklet that each PLC is supposed to write in to help monitor the effectiveness of the program but, according to Paul, "no one uses it." Each PLC also has an administrator that goes to their meetings and is part of the discussions. As Paul notes, "we really haven't had any way to measure a PLC and what's going on, the quality of the PLC, [we] rarely touch on the data from those formative assessments." However, he was quick to add that the responsibility of assessing PLC quality really fell on the administrators, who need to get better at helping PLCs address the question of how to "inform their instructions further on up the road …. And I think that's a fault of ours, from an administrator's standpoint, to make sure that the teachers are doing it and all have been trained on how to do it."

Effect of small events. Paul felt this was the easiest question because the PLC process first began with the initial administrator and a group of Algebra 1 teachers who

decided to meet and see what they could accomplish together. Paul adds,

> The PLC process, the third year, when the district came in and said we are going
> to do this with all of our cores, it was a much easier sell because we used the folks
> who had either been in the math PLC or the TAP and we used them and it made
> the process a whole lot easier.

Revelation of self-similarity. Paul had a difficult time with the notion of self-similarity until I told him to think of it as the common thread for the PLC change process. Paul responded that a focus on data to inform instruction was the one 'thread' that he sees across all disciplines and grade levels. His teachers are still not comfortable using data as a tool to guide instruction and felt, "I still don't think we're where we need to be but at least it's out there and it's been doing better. Especially since our new district group is paying attention to data and doing some training." For Paul's campus, the mindset of data as a way to catch teachers not doing their work versus helping them to grow and learn from each other is the biggest challenge. According to Paul, "it really comes down to trust."

Turbulence. The school saw its share of turbulence with the PLC process and had what Paul called those "folks who are early adopters in any kind of a change process, the fence sitters and those that are against it no matter what." During the third year, when the district wanted PLCs for all course-alike subjects, the campus integrated the professional development for PLCs with the new teacher evaluation system from NIET (since then, the State of Texas has adapted NIET into the Texas Teacher Evaluation and Support System, or T-TESS). The professional development was embedded into the school day and attendance opportunities were open to teacher off-periods.

Paul and his administrative team would have to go to the embedded PDs presented by the master coaches to ensure that teachers "behaved" themselves. Paul lamented, "it was ridiculous", but as long as administrators were present teachers "would act the way they were supposed to and participate. But if we weren't there they wouldn't have acted that way and that really ticked me off. And you talk about some turbulence— there was some turbulence there." When I asked if turbulence helped move the process forward, he stated that the teachers who had been part of the initial Algebra 1 PLC and the TAP program continued to advocate for PLCs. Those teachers became the leaders on campus and their support continued the work. He also noted that the ones who were negative and "slowed our progress down" eventually went elsewhere or retired.

Feedback. Paul enjoyed this question because he is "big on feedback and reflection." He felt that the feedback, especially during the TAP year, was "essential— absolutely essential—there is no way around it. If we hadn't had the feedback we would not have been able to do the things we were able to do." The feedback came from a team of teacher leaders and administrators who would attend the cluster meetings, which evolved into the PLCs, and give feedback on the structure of the meetings and on how to use different strategies within the classrooms.

Paul knew the teachers grew from the experience but when TAP left and the focus became school-wide PLCs, "things did not move forward that year—as I reflect back on it—because we were trying to get everyone on board. Some PLCs did grow but the feedback piece slumped." The more recent feedback Paul had received centered on time and the need for more professional development. When the PLC process began the school was on a seven-period schedule, and later it moved to a four-period A-B block

schedule. Though Paul feels the block schedule is better for instruction, it has meant

giving up time, because teachers on a seven-period schedule had two off periods and thus

could devote a whole class period to meeting in course-alike common planning periods.

Emergent patterns. Paul feels the loss of an extra off-period for teachers has

thwarted the efforts of PLCs and the work around meaningful change for student

learning. He contends that the last two PLC questions introduced by DuFour (2004),

How will we respond when they don't learn?; and How will we respond if they already

know it?, are a constant frustration for his faculty and are his emergent pattern. Paul

elucidated:

> We've been told to do that [last two PLC questions] but we haven't been taught
>
> how to do that. You need to pick out those things they didn't get and you need to
>
> spiral it back—you need to find a place in the future that it would fit again and
>
> spiral it back in. But we haven't taught our teachers how to do that. It's one thing
>
> to say it, it's another to teach them how to do it.

Paul added that teaching teachers how to spiral through and reteach, or work with

the last two PLC questions, is really the work of the PLC and it keeps coming back to

giving them the time to figure it out—it must be a process the teachers own. Paul stated

that PLC meetings once a week for half an hour are not productive and are not giving his

faculty the time to have the richer and deeper conversations about student engagement

and sustainable improvement.

Principal 2—George

Principal 2, George, is the principal of a central Texas high school of 1925

students. He has been an educator for twenty years and eight of those as a principal. His

campus houses a Newcomers program for English as a Second Language (ESL) students who have been in the United States for two or less years. Ninety-one percent of the student population are students of color and over thirty languages are spoken. George's school was, before he came in, described as the "wild" high school; it was generally thought of as the school where there was little discipline and students "ran the school." His challenge was to create the structures that would "turn the school around" both academically and behaviorally and create an environment where everyone feels safe. George's artifacts were Google.doc forms from his team meetings.

George's roles. George's roles were influenced by an educational experience he shared from his childhood. George is an African-American male raised by a single mother in a city two hours north of Austin, Texas. He attended a predominantly white school, where they automatically, without any testing, placed him in the special education resource classes. In Middle School a teacher realized that he was actually very bright and capable and had him moved out of his special education classes. The same teacher followed his school career, making sure he was in PreAP and AP classes and gave him the support needed to be successful in those classes. This experience shaped much of his thinking as a principal and his commitment to be, as George puts it, a "champion for my students."

Distributive leadership. George began his discussion on distributive leadership by telling me that any time he is interviewed and someone asks about his leadership style he is quick to say "distributive leadership." He added that he never says someone "works for me" because he believes you "work alongside me." For George his first priority is the academic advancement of his students and his second priority is "the advancement of the

people that work alongside me. Because at that point I realize I'm truly impacting my profession."

When George first arrived at his high school it was clear to him that "two issues were keeping us from being great—behavior and instruction;" so he created two teams. The behavior team had administrators, a counselor, and teachers. The behavior the campus focused on was cell phones, dress code, and tardiness. The instruction team had administrators, a counselor, three instructional coaches, and teachers. George explains that the challenge was "how to organize and provide the structures we needed to get the job done." He was most concerned about how to find the time to meet, talk, and troubleshoot. His solution was to create Google.docs before each meeting. He would put his team meeting interests on a Google.doc and then send it out to the rest of the team. George explains,

> I have to give value to their thoughts and their opinions and their concerns and I
> have to seek their input in some of the big initiatives that we're having … I
> encouraged them to put things down on the agenda as well because I'm one
> person. I can't think about everything and so that is building capacity with my
> staff.

His teams then had follow-up agendas with any times and names assigned to their decisions. George adds, "it's not all about me but our team and it's about efficiency and it's about working together and making sure that everybody knows the entire plan of the campus." George was concerned with how disjointed the school felt when he arrived and wanted to "make the school smaller" so that he could maximize the talents of the people contributing to the decision-making. His focus was on working as a team and creating

the structures for their collaboration.

Moral leadership. George's commitment to the academic advancement of his students is also part of his moral leadership. He passionately explained that every "decision that you make you have to make with the students in mind. How does it impact and affect them? And at the level that I am, I have … to be their biggest advocate. If I'm not, who is?" This is further evidenced by Georges' four-time use of the phrase "champion of kids" throughout his interview.

George's strong belief that he must advocate for his students was influenced by his aforementioned placement into special education classes because he was an African-American male in a white school. George explained,

> My mom was so unassuming, so she didn't know what was going on because no
>
> one probably called her, and if they did explain it to her, she didn't know what
>
> they were doing and she just trusted that the school was doing the right thing.
>
> Looking back on that experience, it was completely wrong.

That experience, and the teacher who realized George's potential and advocated for him, will lay the foundation for his social justice leadership.

Democratic leadership. George's campus has approximately 200 staff members and as much as George wants to give everyone a voice, he said all had a voice through representation. He specifically mentioned using his department heads. All department heads and assistant principals meet every Wednesday morning for their Professional Development Learning Team (PDLT). George explains that at these meetings all would discuss, "things we want to do, directions we want to take, and then ask them to take this to their department meetings to brainstorm some ideas and bring them back to the

PDLT."

This worked especially well for a new intervention program called 'PAWS' time. PAWS is offered Monday through Thursday for half an hour. The administrative team needed input from the whole faculty including session interests. This was especially useful during the implementation stages because teachers, through their department heads, were able to use PDLT to voice their initial concerns and frustrations. Another concern the team learned from the teachers was that not all students were interested in the PAWS courses that were offered. George explained their next step as part of his democratic leadership and desire to give students a voice. The team created a survey for students because they needed to know, "what do the kids want to do?" Many of the student suggestions were adopted and are now being used during PAWS.

George's democratic leadership was evident at the meeting I observed. The meeting was about the Campus Improvement Plan (CIP) with 42 attendees, including assistant principals, counselors, department heads, teachers, students, and three community members. Each department shared how they were going to contribute to the CIP with their own department improvement plan. Departments had been charged with creating ways their departments could progress student performance in the areas of instruction, special education, ESL, AVID, and advanced academics. Each of the twelve departments had worked together to come up with their plans and present them to the group. George was present for the meeting but never spoke—his associate principal ran the meeting. George later explained, "this was not about me. This was about their hard work and their commitments to our students."

Social justice leadership. George takes his role of social justice leader as a personal calling and it is the leadership role he was most impassioned about. Influenced by his experience of being labeled a special education student because he was one of a few African-American males on campus, George feels he must in turn find students of color who are capable of PreAP and AP work and get them on a college pathway. George explained, "How impactful is it to take kids who are in regular classes and all of a sudden you elevate their status to PreAP classes … and then you've really made an impact because you've put them on the college track." I asked if students of color felt any peer pressure to avoid advanced academic classes. George's answer was a resounding "yes." He then described his experience as a young man not wanting to be in advanced classes because his friends made fun of him and he wanted to be in the "easier" classes where he could goof-off. His solution was to make sure parents were involved; George stated, "We don't leave the decision up to kids. We call in parents and explain the benefits and why we feel their kid should move. About 90% of the time we get the okay because parents understand the significance and importance."

The next step in moving students into PreAP classes is to make sure they get the support they need to be successful. George recognized that, "we have to have supports in place because they're not use to the elevated expectations. We have to accommodate them." He then shared several success stories of students moved into advanced academic classes that needed such support and where they are today. George felt that he also had to change the mindset of PreAP teachers about the support and interventions given for children of color. He explained,

Teachers [are] uncomfortable talking about color or race but our evaluation,

which is NCLB, sees color—so for that reason, you have to see color and they

just do. And so sometimes we have to make decisions based on color and so

when I talked about our interventions I gave 2 words. Our interventions are

currently *invitational* and they need to be *intentional* and there is a difference

between the two. If you just make your interventions invitational then what's

going to show up are the kid's you are not trying to target. It's usually going to

be the nonminority kids who have a B and are trying to get an A. So how much

did you really change that kid if they are already successful? So your

interventions have to be intentional. And what I mean by that is—you need to be

looking around and if you've got 10 kids that show up to tutorials—ask yourself

what color are they? Because you already know you've got some kids you've

taken chances on, some African American kids, maybe some Hispanic kids, by

adding them into your higher academic classes. Do you not think they're not

going to need any supports?   So your interventions had better have enough color

because those kids are the ones that are going to actually need the help.

  Instructional leadership. George relied on his instructional leadership team

(ILT) of administrators and instructional coaches to elevate the instructional practices on

his campus. Last year he was able to find the underserved students on his campus and

enroll them into PreAP/AP classes. To support his efforts, in a brilliant coup for his

school, he asked the district AVID/AP director to join his campus; she agreed and she is

now part of the ILD. George has the same agenda cycle with his ILD team as he does

with his other teams: he sends out a google.doc agenda, team members add to it, and

they meet and update the agenda with persons responsible and dates. George shared a

google.doc and stated, "There is nothing on here that is outside of instruction. Everything here talks about instruction. We don't touch anything else. My role here is to facilitate the conversations and that is my input."

The importance of having the instructional coaches present is their close working relationships with the teachers. They are the ones charged with finding out what topics the teachers want for professional development and that is how George makes sure he gets teacher input.

Connections. George's 'mobile' connection was his moral commitment to find the underserved students on his campus. This connects with his social justice leadership because of his experiences. George reflected on the teacher that turned his life around by saying, "She really ensured that I got a proper and high level education all by herself because she believed in me. So when you say 'moral leader' that's doing the right thing by kids and putting them in the right place."

George and chaos theory. George's district was moving administrators from one campus to another when he became principal of his current high school. Therefore, he knew of his position by that April and was able to do walk-throughs of the campus. George stated, "What I saw made me wonder—how do we even have a school that is allowed to be open? It was that bad what we allowed the kids to do." It was after the walk-through that George knew his focus would be on creating structures to address both behavior and academics. The process of creating and implementing those structures were the focus of his interview on chaos theory as a change process.

Change was non-linear. George's school began the change process for behavior before school began in August because he wanted their decisions in place by the first day.

91

He used the meetings and google.docs described in the section on distributive leadership to meet and plan with his behavior team. George knew he would have to honor their decisions because, as he explained, "teachers were skeptical and apprehensive. Their history had not been one of consistent follow-through."

George readily agreed that the process was non-linear because there was no way to gauge student, faculty, and community reactions. However, George understood that their steps would have to be "very intentional" if he wanted his teachers to see their "students as aspiring college students." George added, "I knew that if we would really change the mindset and the behavior of how these kids looked and presented themselves in class, and the attitude, then the teachers would actually feel a little more comfortable and develop more confidence." For George and his school, the structures were in place and it was just a matter of seeing if the other desired outcome of affecting academic performance would take hold.

Difficult to measure using external standards. The only possible external standards George could think of to measure whether or not students were having academic success by making the school a safer environment was STAAR and AP scores. George added that with more students in class he would expect higher scores. George elaborated, "I'd be hard pressed to think we are not a better school because we have a structure in place and we have kids in class. So we are going to do better than we did last year."

For George a strong way to measure improvement efforts came from three different sources—students, teachers, parents. The students who gave their opinions stated they appreciated the changes, were not as distracted by the behavior on the

campus, and felt they had an easier time focusing on their schoolwork. George said, "I didn't have as much of that because most kids aren't going to give you that but I did get that from several students. So I know there must be a whole lot more who feel that way." George shared that teachers too now feel as if they have "a tame environment and can actually teach. The platform for them to stand on to be good teachers is stronger now." Most parents too have thanked George for "taking back the school."

Though George did not make a direct connection to this topic during his discussion on measure, he did so later in the interview. During George's discussion for the question on self-similarity, he mentioned PAWS and the outside measurement system used by the state of Texas. He noted that a state accountability rating had student growth listed for STAAR End-of-Course (EOC) exams.

Effect of small events. Two events had an impact on the effect of the changes for George's school. The first centers on communication. Before school started George made sure all changes were on the campus website and he mailed out letters for every parent and their student. George also began the school year with assemblies for each grade level where he would explain the structures and let students ask questions. George felt these three venues mitigated most confusions and gave a 'heads up' for everyone.

His second example of a small event that impacted the change process took place within the first few weeks of the fall semester and had to do with his reactions to student pushback. A few weeks into the school year, twenty-two students who purposefully were not complying with the changes opted to either be homeschooled or attend the campuses night school program. George reflected,

They are out of the building during the critical part of the day and actually some

of those kids have really benefited from it and are no longer being disruptive.

They are not disruptive to our environment and [there was] a message to everyone

who was watching to see how I handled that one. It sent a message to the teachers

and it sent a message to the other students. So it was pretty good.

His actions, though seemingly small, validated and supported the behavior changes for

both teachers and students.

Revelation of self-similarity. For George the initial conditions that indicated a

need for change happened on the first walk-through he did in the Spring before taking

over as principal. George added, "It was pretty obvious to me. In order to be successful

we had to have order and structure." The order for George was the implementation and

support for the behavior initiatives. George noted that his perceptions regarding self-

similarity were also relevant to the phenomenon of 'initial reaction to the change effort,'

and he laughed when he recounted the pushback from students. George said the

pushback did not bother him too much because he knew staff, parents, the community,

and administration supported his efforts. George added, "It was going to be a fight with

the students and I didn't have them outnumbered but I had the right machinery behind

me." Few parents complained and if they did, George would let them know that

everything the campus was doing aligned with district board policy. If they were still

unhappy and said they would take it to the district offices, George would politely tell

them that was a great idea and here is the person to see and their phone number.

George also discussed the PAWS program as an initial condition that indicated a

need for change because of the state of Texas' new accountability system. This external

accountability system evaluates schools on several indicators and one in particular

measures student growth. PAWS had traditionally been a time for students who had not passed the state STAAR EOC to get help. George stated that the focus and time should not just be about growing students with the highest needs but also the AP students who want to move from a score of 3 to a 4 or 5. He added, "our middle class parents are wondering 'what are you doing for my kid'? That group of parents really don't respect what we do because we are so focused on getting kids up to the norm." George felt that focusing on just the kids who have not been successful is too narrow and his school needed to work on growing all students.

Turbulence. George was able to give an example of both a turbulence that helped the change effort move forward and an example of a turbulence that did not help the change effort. George knew that teachers who were initially skeptical of any behavior changes began to trust that his administrative team was going to follow-through on consequences. However, students continued to pushback until they finally realized that the changes were not going away. George explained, "Some of those roughest kids are now wearing their pants right and its sending a message to the rest of our kids – 'wow, if he got [student] to do it, then I guess I will too'." So for George and his campus the turbulence of student pushback further advanced the cause.

With PAWS the turbulence came from the teachers. George lamented that sometimes his teachers think of PAWS as a time when attendance does not matter, or they can let students out to see other teachers, or not interact with the students and then, "I have to tell them we don't do that. So that turbulence has actually hurt the change effort." However, George has a positive and tenacious way of approaching dissention and added, "We're going to be consistent and persistent and will continue to move this.

We'll get there at some point. We've got to keep that attitude. As long as we keep that attitude, we are going to be fine."

Feedback. George told me there has not been much feedback for the behavior change effort because, "what are they going to say? No, I don't want kids in class on time?" Therefore his discussion on feedback addressed the PAWS program. George believed teacher "feedback was pivotal" and both the ILT and PDLT listened to both teacher and student suggestions. George noted that if a teacher is telling the teams they have a passion for teaching something and they do not then offer that teacher's course suggestion, then the school has just missed out on engaged lessons. They also listened to and acted on the feedback of students and now offer mini-courses during PAWS that include Financial Intelligence, Chess, and Current Events. George stated, "Feedback advanced the change and was essential for us to succeed."

Emergent patterns. For George the patterns present in the change process that eventually provided a sense of order came from student pushback to the schools new tardy policies. Before George became principal, students did not have a consequence for being tardy to class until their 45th tardy. He said that on his initial walk-through students were walking around the halls ten to thirty minutes after the bell had rung. George stated, "How can you even write that down on paper that this is what happens with your 45th tardy? So we shortened that and went to two and became real prescriptive about what happens when that kid hits his third tardy." Students were assigned after-school detention because George and his teams did not want students in In-School Suspension (ISS); the idea was to get them into class and keep them in class.

However, the pattern that emerged was that students would not go to after-school

detention so George's assistant principals starting giving students ISS instead. They discovered students would rather be in ISS all day because it would get them out of class. George stopped that and told his team, "Essentially you just let students change the consequences to be what they want and not what we decided. That is not happening." So George told students they would go to ISS for not going to after-school detention and then stay in ISS after school to do the after-school detention they were supposed to do initially. George explained, "Students didn't like that but we had to close the loophole they created." Tardies have dropped substantially and students now understand there is no getting around their consequences.

Principal 3—John

Principal 3, John, also has a high school located in Central Texas. The school population had a population of 1821 and thirty-three percent are children of color. John has been in education for 17 years and has grown up around educators, as his father was a superintendent for many years. His campus has focused on two main initiatives: "designing and engaging the work and building relationships." In recent years, his campus has seen a change in demographics and his challenge was to provide engaging instruction to each classroom and not just the higher level PreAP and AP classes. John's artifact is a pocket knife that belonged to his father who recently passed. He keeps it with him always as a way to gauge the work he is doing and inspire him to "do good."

John's roles. About half-way through John's interview he stopped and said, "we are limited by old thinking." He has not only reevaluated how the school uses space and time but also how the campus interacts with one another. Throughout the meeting I observed John would ask questions like: "Have you talked to that teacher yet?"; "What

happened after you had a discussion?"; "Make sure you go and talk to the people involved with this [issue]." Conversation was a priority for John and when I asked him about it, he answered:

> Yes, I want my administrators to go and talk to people. Email is not communication. That's mass communication but go and sit down and talk to somebody. Let them have a conversation with you, block it off on your calendar, and go talk to them. Get away from your email. That's one of the things we are trying to grow on. It's awfully tough because it's not a quick get in and get out. Go and talk to people.

John's commitment to dialogue is consistent with the campus goal to build relationships.

It is important to note that throughout John's role discussions he would change some of the terminology used; i.e. professional development on his campus is called professional leadership. John explained, "Terminology for me is something I think we as educators shoot our own selves in the foot with."

Distributive leadership. John stated that his main focus with distributive leadership was to be "a multiplier by growing my assistant principals." For this reason, John made a deliberate decision to restructure the location of each assistant principal with a house model. When the school was part of a bond renovation, they put all of the assistant principals and counselors together at the front of the school; John laments, "I did not get to choose that—it had already been designated. The way the building is laid out now is outdated—all administrators up front and all counselors in a counseling suite, puts us away from the kids." Consequently, John intentionally repositioned the administrative team and his campus uses the front offices for other things. His school created "houses"

with a counselor, a secretary, an administrative assistant, and the house principal. Not only does the house concept create the physical proximity to students but anything students may need, such as a parking permit or exemption form, is found at their house.

John also uses the house concept to grow his assistant principals. He wants them to take ownership of any issues that may come up and let them be the decision-makers for their house. John explained,

> I want our house principals to have the authority to make any decisions that they want to and I want to teach them—I'll meet with parents—but I want them to be able to close the deal. Because it's my job here to not let them go to my boss. I've got to be able to close the deal here … and go talk to the teacher. You make the decision on it. Ask me questions and keep me in the loop but I'm putting it back on them.

In turn, John wants his administrators, who are over different departments, to grow department heads and teacher leaders. John stated, "His [assistant principals] job is to grow the department chair and so he gets an opportunity to grow and the department chair gets an opportunity to grow as a teacher leader. It's all about growth."

Moral leadership. John began his discussion on moral leadership by discussing the term *moral.* John believes that educators often "shoot ourselves in the foot" with terminology and for him 'moral' is the same as service. A term he was not fond of either because, as John explained, "service is really support" and if we stay with the term *service* then that turns into "what have you done for me lately instead of *support*." John felt that his teachers knew, because the administrative team say it often and intentionally model it, they are there to support the staff and all are equal parts in the organization. He

99

added, "We are all in this together and it's not a chain or hierarchy but working together and supporting each other. Having communication and keeping everybody in the loop so we can support you more on what you want to do." Communication and support pairs with John's commitment to transform his school into a learning community.

The next part of John's moral leadership discussion was his commitment to be "the leader of leaders and to work on the school culture." Being the leader of leaders was described in distributive leadership with his goal to 'grow' leaders. Working on the school culture meant instilling and modeling community and that all students belong to everyone. John said the transition has been, "a paradigm shift for teachers and parents but we have to get out of our old mindsets." He gave the example of parents being upset when they have an issue and want to see him and not the house principal. John explained that with approximately 1900 students he cannot know all situations and has had to stand firm on letting his administrator's make decisions.

Democratic leadership. John's descriptions of democratic leadership tie into the school's commitments for designing engaging work and building relationships. John was intentional in working with his faculty to define engaging and to apply their definition to what teachers are doing in their classrooms. At a professional learning before students returned to school in the fall, faculty met in their houses and were asked to individually provide three adjectives/descriptors for the term *engaged*. Faculty then shared their responses on a google.doc—there were 170 different answers. Everyone then met and collectively found a definition they all agreed on and adapted it for a teacher walk-through evaluation form. John elaborates,

If we [administrators] were to go in and evaluate you on engagement, because

every aspect of PDAS and T-TESS is about engagement, I'm evaluating you on these 170 things. So we came to a common definition so everybody knew and its because we were to focus on designing engaging work. And our walk-through form now —from working with our teachers because they designed it—does not have check boxes. They just wanted feedback.

The follow-up professional leadership meetings throughout the year would end with the administrative team asking for feedback. John said they would intentionally ask, "Were you engaged?; were you highly engaged?; a little bit engaged?; not engaged?; what could be better?" While John recognized the value in getting feedback from his staff, there also was an intentional goal of modeling an initiative his team wanted to present to the faculty in the spring—student feedback.

In the spring John and his team presented faculty with two initiatives. One was called 'Walk the Walk' and teachers could volunteer to showcase a lesson for other teachers, board members, other administrators, and central office staff, and get feedback. Only about 18 teachers participated but John hopes all will next year. Teachers were also invited to participate in a pilot program that invited students to give feedback to their teachers. John told teachers, "Hey, we administrators did this with all of you and took a risk. We want to see if there's anybody that wants to ask students … because I knew that I wanted to get back to student feedback at the end." Again, he did not have as many participants as he would have liked but hoped that all will participate next year.

Social justice leadership. John's observation was a conference with his administrative team. Most of the conference was about meeting the needs of a transgender student and making sure he had an assessable bathroom. It was obvious from

the discussion that John was most concerned that the student feel safe at school. When I asked him about it he quickly replied, "We need to support those that won't speak up. In our meeting we talked about that transgender young man. On LGBT we need to be proactive to … balance the [negative] political side of that. We need that mindset."

Another example of John's social justice leadership was his commitment to designing engaging classrooms for all students. As John explains,

One thing we get stuck on -- equity versus equality-- and not knowing the difference. Why do all the AP classes get all the fun experiments? They get to do the balloon drop or the egg drop. The teacher walks into the stadium and you get to stand on top and drop a balloon and count and try to hit the teacher on the head. That's the AP classes -- how come they, and by they I mean the regular kids, why don't they get the opportunity to do that?

So John's school created a Design Room where teachers can have the time to work together. An example was provided of a group of Physics teachers. John told them, "You're giving a test today? Work in the Design Room and I'll pay for your subs. Subs can give a test." The campuses associate principal had attended a district seminar on 'Coaching for Design' and spent the day with the Physics team. John was sure to point out that the team included both AP and Regular level teachers.

Instructional leadership. John extended his discussion of the Physics team into instructional leadership because the creative, innovative, and engaging lesson the team designed was for all students. John felt that classroom instruction was now moving towards equitable access for everybody. Not all course-alike classes have participated yet but John noticed that the more teachers saw others using the Design Room, and

102

getting positive results, the more teachers were interested in also signing up to use the room. As an aside, he laughed and told me he was in trouble with his secretary because they had gone way over budget for substitute teachers. John had to reallocate funds and find a way to get the substitutes because, "if the teachers are willing to go in there and do the work, then I will find the money."

John said that he is not the campus instructional leader but rather he is the "leader of instructors because if you are asking me to be the instructional leader of the campus, I can't do it. That's more the Design Room." He returned to the idea of being intentional in growing teachers and a department chair is someone the house principal will work with and grow his faculty.

Connections. John's democratic, social justice, and instructional leadership all have the common thread of designing engaging work. John's moral commitment to be "a leader of leaders" was evident throughout each of the other four leadership roles.

John and chaos theory. John chose the changes his campus made to their professional learning as his example for a change process. John clarified that professional learning used to be more about managerial "nuts and bolts"—i.e., the attendance clerk would talk about procedures for attendance, the office staff would review forms, and an assistant principal would discuss safety procedures. John explained how his team changed the structure and began "the process of transforming this campus into a learning organization that is pursuing a vision and a mission. What we felt like we needed to do was develop some core beliefs first and that was a whole August professional learning." The campus leadership team then applied their new professional learning structures to all of their campus meetings such as the ones described earlier to

define *engagement*. John clarified that professional learning was crucial to their change process because his team wanted to provide his teachers with "some adult learning and provide them with some more skills so there's no anxiety over the work we are asking them to do."

  Change was non-linear. John stated there was nothing predictable about the outcome of their professional learning; "No, it was not [predictable]. We didn't know what they were going to do." Faculty meetings were scaffold in a way to get the most conversation and thinking possible. First everyone would meet in what John called a "potluck" where teachers were purposefully not grouped by course-alike subjects or grade level. They would meet in approximately 18 groups of 5 or 6 and brainstorm and list answers to some questions. Results were shared with the entire campus. Teachers would next meet in grade-level groups to whittle the list down and then the last grouping was within their departments. John wanted them to end with departments because teachers may be more "comfortable having conversations there." What came out of that initial professional learning were core beliefs, such as tradition, adults as life-long learners and excellence, and a vision statement that all faculty helped create—"to be the home of the most inspired students served by the most empowered leaders."

  Difficult to measure using external standards. John readily stated there was no way to measure the work his campus was doing with external standards. As an example, John talked about another professional learning his campus did on the differences between being compliant and true engagement. He noted that once the new walk-through forms were created, it became easier for his administrative team to measure teachers' progress, especially since teachers had been part of the process. Now his team can walk-

through a classroom and give feedback that teachers know and understand; feedback can be "there was a lot of busy work" and therefore, students are being compliant and not engaged.

John also mentioned that by being positive (relationship building) and focusing on moving away from busy work, the feedback from parents has been strong. Parents have said to him, "my kids love it there;" or "they come home and they are excited;" or "they love their teacher." Another outside measure that the state of Texas applies to schools is the results of the STAAR EOCs. John never talks about STAAR results with his staff and what they need to do to bring subpopulation scores up or grow student scores. His feeling was that STAAR's testing of the Texas Essential Knowledge and Skills (TEKS) should be embedded and if students are getting instruction that is engaging then they will learn. He then added that the schools STAAR scores are improving.

Effect of small events. The initial small event that has had an impact on John's campus was the focus on being positive and building relationships; John stated, "Now we are having conversations and trying to inspire students." John mentioned several times that he hates email and intentionally models building relationships through discussion with his faculty so they in turn will do the same with both parents and students. He told one teacher,

> Pick up the phone, call mom, and let her hear the tone of your voice. Tell her what's going on. She may be mad at first but if she hears how sincere you are, you'll stop this thread of emails going on that is using all caps.

Most importantly though is the positive impact being positive and building relationships have had on students. Both his school and the district have made a

commitment to send all 150 of his teachers to Capturing Kids Hearts—a national

program aimed at building relationships between teachers and students. For John, the

commitment to relationship building has had an effect that continues to reverberate

through his campus.

    Revelation of self-similarity. The initial reaction to the change process from some

teachers was to just wait it out and see if it would go away. John noted that a focus on

inspiring students and being creative was much harder for some departments than for

others. By example, he shared that the English department has embraced the changes but

the math department had a more difficult time because "its hard to empower a kid to do a

math problem."

    However, the second part of this interview question asked for revelations of self-

similarity across the campus, and John noted that the change efforts have now "grown

like an upward curve on a graph." He felt it was because teachers are watching to see the

results and first one teacher tried the changes and saw success, then a whole department

would use the Design Room and see success, and now multiple departments. John added,

"The change is starting to inspire some teachers and they are getting excited again. It's

all about inspiring and empowering."

    Turbulence. John felt that the turbulence eventually helped the change effort

because he was willing to make himself so available to teachers. It was not unusual for

what he called the "negative nellies" to ask questions such as "why are we doing this?";

or "what direction is this going to take us?" After every professional learning, he would

set time aside to be available to teachers who wanted to come and talk further with him

about the change efforts. One teacher asked, "when are going to talk about the real

issues?" When John asked him to explain, the teacher said the issues were "not enough of a focus on academics, kids are doing too much extra-curricular things, and we need to be an academic institution." John replied, "Well, that is where our philosophy is different because I think we are a whole child institution." He then had a deeper conversation with the teacher about the two different views.

John furthered, "The negative nellies like the old way and so this work is leaving some of those folks behind." He was quick to add that he is not intentionally leaving them behind but "if you [a teacher] are not inspiring students and are not with the program, then we cannot force you to change but our change process will leave you. And we've had some this year that left."

Feedback. John's immediate response was, "It's embedded throughout everything." Although the campus uses Survey Monkey after each professional development, John, true to his nature, goes out and talks to his faculty. He often turns to his teacher leaders, as he explained, "because I don't have all the answers, so I lean on them and they are the ones doing this work." John pointedly asks for their feedback with questions such as: "What do your teachers think",? "What are they telling you",? "What did you think",? "How did it go?" John was sure to mention that he also had his administrative team, because they are over different houses and he wants them to grow as well, to have the same conversations. Ultimately, the end goal is to model feedback with the intent of moving teachers to get student feedback.

Emergent patterns. What John and his administrative team began to notice was teacher trust based on how consistent they were. A few days after any professional learning John would let the faculty know they could come and talk to him. He said, "I'll

be down in the library to have a conversation about the work we are doing and the transformation process. Come down during your conference period if you would like to and have a conversation with me," and eventually many did.

The conversations and targeted professional learnings were consistent with the schools vision. Once the Design Room was open (they moved two rooms to create the space for it) John worked with his administrative team to get more teachers in there. He added, "We have to make this work take off," and it did. More teachers signed up to use the Design Room once they realized John and his team were serious about the work.

Comparison of Participants' Perceptions

Providing a combined lens of each principal role extends the data analysis beyond the principals themselves to what their leadership roles say collectively. This section will review the principal role results and the chaos theory tenets common to all three principals.

Principal's Roles

All three principals took each of the five principal roles seriously. Nonetheless, as would be anticipated, each had different strengths and understanding of the roles depending on their own histories, interests, and schools' needs.

Distributive leadership. Each principal noted that there was no way, in a large urban school, to make all school decisions. For Paul this was a process that, overtime, became distributive leadership. All three principals understood the importance of having their administrative teams and teacher leaders make decisions and contribute to the decision-making processes of their campuses. Their discussions included words such as "value," "input," "collaborate," and "team." There also were deeper discussions and time

spent on forms of the word "grow." By distributing the leadership, each principal knew

they were helping their faculty mature. Paul stated,

> You need to make sure that people are growing that you work with. So you have
>
> to give up leadership, you have to give up so-called power along the way, in order
>
> to grow yourself and specially to grow the people that you work with.

Moral leadership. All three principals began their discussions on moral

leadership with stories from their childhoods and how it shaped their values. Paul noted,

"If you are not driven by values then you are not going to be a good leader because

people never know where you stand." They each discussed the value of acting on their

belief systems and felt their staffs knew where they stood on issues.

Each principal tied his moral leadership commitments to actions within another

leadership role. Paul felt a moral duty to be a mentor for his new teachers and led weekly

PLC meetings for them. George acted on his passion to be an advocate for "those

students who look like me because that had been my experience." He ensures

traditionally underserved students are scheduled into PreAP and AP classes and get the

supports they need to be successful. John felt a moral responsibility to be both a "leader

of leaders" and ensure all students get an engaging education by creating the Design

Room. John wanted to make sure "we are going to take care of all of our kids." Each

principals' actions are fueled by their values and a sense of moral obligation to students,

faculty, and their communities.

Democratic leadership. Although all three principals had collegial, collaborative

decision-making processes to promote school improvement, there were different levels of

democratic leadership observed for each of the principals. Paul spoke of his teachers

working with the instructional coaches on the topics needed for their own professional development and growth. Though impressed with Paul physically moving away (he sat back in his chair and crossed his arms) from his administrative teams decision-making so that the decisions really "belonged to them." Nonetheless, there was no discussion on student input for any campus decisions.

With Georges' campus teachers could, through their department heads participation in PDLT, use that structure for voicing concerns and shared decision-making. George also had three different meeting groups throughout the week involving diverse participant groups of administrators, counselors, instructional coaches and teachers. Furthermore, as evidenced from my observation, departments had the autonomy to make decisions about their CIP and their instructional commitments for the upcoming year. George also used a survey to get student input for their PAWS program.

However, it was with John's campus where there was a stronger sense of democratic leadership. Teachers used their 'houses' to discuss, give feedback, and make decisions. An intentional goal was to model decision-making input from teachers to administrators so that teachers would eventually become comfortable with input from students to teachers. As John explained, "I knew that I wanted to get back to student feedback at the end. So we are trying to serve everybody and make everybody feel a part of a team and then some intent on it as well."

Social justice leadership. Paul recognized the need to assist his campuses growing populations of ESL and economically disadvantaged students because of the implications of poverty versus privilege and barriers versus access. Paul also understood the need to provide support to their LGBTQ community through clubs such as No Place

for Hate and the Gay Straight Alliance. Although Paul stated that he expected everyone to treat all students the same, there was no specific mention of addressing classrooms where inequalities existed. It should be noted that both George and John are in dissertation programs, at two different universities, and had a much clearer understanding of the term *social justice* then Paul did.

George, because he had been labeled a special education student as an African-American male, was committed to finding students of color who had been underserved and making sure they were placed in PreAP and AP classes. George began the discussion on social justice by stating, "I think a lot of things that are happening to our kids is because we have low expectations for our African American and minority students."

John's lens on social justice began with, "We get stuck on equity versus equality and not knowing the difference." To address instructional inequalities, John and his campus made designing engaging lessons a priority for all classrooms. Finding the time and substitutes to give his teachers access to the Design Room was an integral part of John's role as a principal. John was disturbed that the rigorous and engaging instructions were primarily found in the PreAP and AP classrooms. John added, "Now that is just not right."

Instructional leadership. As with other leadership roles, the level of personal involvement for instructional leadership varied. Both George and John felt that instructional leadership was best handled, more as part of distributed leadership, by department heads and instructional coaches. John, as part of the school commitment to designing engaging instruction, trusted the work in the Design Room to his teachers and associate principal. John supported their work by providing the time and substitutes.

Paul took an active role in the instructional leadership of his campus. He led a PLC for his new teachers, worked with the instructional coaches on the professional development provided for teachers, and made walk-throughs and T-TESS observations part of his day. Paul explained, "As an instructional leader, you owe it to the kids who are in those classrooms that your teachers be as well trained as possible." Paul knew that one of his strengths was his instructional leadership; he stated, "I know a lot about instruction and I know a lot about how to teach people how to do instruction." In listening to his interview, instructional leadership was clearly one he felt impassioned about and he had a clear commitment to work with his faculty on growing their instructional practices.

Chaos Theory

Nowhere in the questions sent to principals for the second interview does it say *chaos theory*. Nonetheless, each principal ended the interview asking me how I came up with my questions. Therefore each of the second interviews had lively discussions about chaos theory as an educational change process and how each of the questions reflected a tenet of chaos theory. All three enjoyed thinking about and discussing the tenets of chaos theory and how it was reflected in their own school's change process.

Change was non-linear. At some point during my interview discussions all three principals stated, "There was nothing linear or predicable about the change process." John noted, "Once you throw an idea out there and give it to your faculty, there is no way you have any control left. It's in their hands and you just have to go with it." All three expressed the need to be flexible and to let go of any preconceived notions of how they wanted or expected the change process to evolve. As Paul stated, "Well, that would just

be futile and silly."

Difficult to measure using external standards. Principals found it difficult to measure their change efforts with an external standard. Paul's change process was the adoption of PLC's and he was exasperated with his district for giving his faculty a handbook to help guide the effectiveness of their PLC's. Paul added, "There was no training on how to use the handbook—just a 'here ya go' and hope it helps kind of an attitude." He admitted that some of the PLCs still struggle with using data to guide their conversations but that knowledge came from the assistant principals who worked with the PLCs and not from any external standards.

George's change process focused on making his school a safer environment for learning and felt the only standard that could be used to measure the success would come from the campuses own tardy and ISS records; again, not an external standard. John too could not find any external standards that could measure the effectiveness of his campuses change process to their professional learning. John stated, "The best way we can do it [measure] is by just having conversations with the staff—it's more qualitative than anything."

Effect of small events. Each of the principals could readily name a small event in one part of the school that had a strong effect on the change process. For Paul's campus it was the Algebra 1 teachers who started a PLC, just to see how it would work and benefit their students, before the district announced they wanted all campuses and course-alike teachers to begin PLCs. The Algebra 1 teachers shared their successes at faculty meetings; when it was time for the whole campus to adopt PLCs the transition was not as foreign for teachers. Paul stated, "It really helped us slowly take bites out of the apple

instead of trying to stuff the whole thing down our mouths at once."

For both George and John communication about the changes was an integral part of the change process. George sent letters, posted information on their website and had assemblies for the students about the changes. By first communicating with his community, it was easier for him to react to student pushback. George considered his quick response to students as another small event that had a strong effect on their change process. As George noted, "It was setting a tone and an expectation."

John too noted that his communication style and commitment to building relationships with teachers had a strong effect on their change process. The feedback he asked for from teachers after each professional learning, often in person, and having his administrative team model the same, he believed, laid the foundations for their work. John explained, "We were moving away from programmed PD to true professional learning with an emphasis on 'our students can't learn unless our adults are learning,' and we did so with intentionality."

Revelation of self-similarity. Self-similarities that effected the change process across different parts of the school organization were evident at each of the three high schools. Paul noticed that not all PLC's are comfortable yet with accessing data. He felt training was needed for teachers to understand that data is not the whole lens but one tool to supplement teachers work in their PLCs. George thought the student pushback on his campuses behavior initiative was most noticeable for upper classmen used to, as George stated, "running the school the way they had before." John noticed a shift from a detached attitude to one of enthusiasm and renewed interest once teachers saw the benefits of the Design Room.

Turbulence. The question about turbulence was everyone's favorite because it was a concept they had never thought of before. Both Paul and John, as examples of turbulence that had a negative impact, had teachers who, as Paul put it, "were going to wait it out till this [change process] goes away and the new flavor of the month is in so they can say 'I told you so.'" George experienced the same with teachers who did not want to participate in the PAWS program. When George asked for feedback, some teachers told George to just, "'Make it go away' and that just was not going to happen." All three principals noted that the teachers who were not willing or able to be part of the change process eventually retired or went to another district. Paul lamented,

> The problem lies in the fact that some of those folks were really good teachers
> and informal leaders that people listened to. Had they used the PLC for the
> positive they could have affected us in a great way instead of using it in a
> negative way and slowing down the process.

George and John both gave examples of turbulence that had a positive effect on the change process. For George, his students saw that he was going to be consistent and would follow through on the changes his campus put into place. John credits the commitment he and his administrative team made to build relationships with the faculty for advancing their change process. What ultimately made the difference between turbulence that was positive or negative was the commitment of all three principals to the change process.

Feedback. The descriptors used by all principals in their discussions on feedback included "vital to the process," "crucial," "essential," and "integral." Each felt their change processes could not have happened without feedback. John stated that

feedback was at the core of his campus's professional learning initiative and his ultimate goal of including student feedback to teachers as part of the school culture.

For Paul, teacher feedback was embedded into the TAP program and was crucial to the implementation of the interventions for students. Paul explained, "There were so many different touch points on feedback in that [TAP] process and teachers were being reflective about their practices … so yes the feedback was also very reflective." George too felt feedback was essential to his campuses change process and stated, "As far as PAWS, feedback was pivotal because I needed to listen to those teachers. In some of those elective classes—in the enhancement type classes—we let teachers really reach out to us."

Emergent patterns. The principals agreed that the patterns that emerged were not ones they had readily anticipated. On Paul's campus the switch from a 7-period day to a 4-period block meant the loss of time for his teachers to meet and he believed it set their process back. He is still trying to find creative ways to remedy this. George did not anticipate the high levels of pushback he got from his students but knew his only solutions would be consistency in the behavior plan's implementation and modeling positive reactions. John was pleased to see teacher trust in him and his team as they too modeled building relationships and the use of the Design Room to create engaging lessons.

V. DISCUSSION

Progress is impossible without change.

Walt Disney

There are three purposes to my research study. First, to learn how principals' leadership roles build capacity for change. Second, to inform principals on ways to meet the challenge of educating all students. And the third purpose is to explore how chaos theory can be applied to education as an organizational change theory. In support of the research purposes, my two research questions asks: How do principal's leadership roles build capacity for change?; and How does chaos theory contribute to our understanding of the principal's role in building capacity?

My research methods are based on an epistemological belief that meaning-making is created (Crotty, 1998; Glesne, 2011; Merriam, 2009; Patton; 2002). This constructionist epistemology is coupled with an interpretivist theoretical perspective and the use of grounded theory for my methodology. Grounded theory, like chaos theory, looks for patterns to support understanding (Charmaz, 2011; Patton, 2002; Wheatley, 2006). The primary data collection tool was the interview. Three principals from Central Texas were interviewed twice. The first interview corresponds to my first research question about principals leadership roles and the second interview was based on the second research question about chaos theory as an educational change theory. Charmaz (2014) recommends interviewing with grounded theory because both methods "are open-ended yet directed, shaped yet emergent, and paced yet unrestrictive" (p. 85). Charmaz notes that research also must pay close attention and "heed cues" to what the written word cannot include.

Interpretations

If I were to create an artifact for the interpretations of the interviews, I would choose a mobile (Louis, Toole & Hargreaves, 1999). Each of the three principals had an example of one or more leadership roles working in tandem with another. Paul's example includes his moral and instructional leadership, for George it was moral and social justice leadership, and John's commitment to be a leader of leaders was evident in each of his other four leadership roles. The principal's interviews, artifacts, and observations fit with the fluid and organic nature of chaos theory. As an example, chaos theories turbulence, which was a favorite interview question among the three principals, was present throughout the principals five leadership roles. The tenets of chaos theory are interwoven with the leadership roles, thus creating a complex mobile. This section provides meaning to the larger mobile of principal roles, chaos theory, and their intersections with the roles that build capacity for change.

Distributive Leadership as a Structure for Democratic Leadership

A common thread found in the myriad attempts to define capacity building is that it enables the conditions needed for successful processes and outcomes (Fullan, 2005; Harris, 2002; Harris & Jones, 2010; Hopkins, 1996). Distributive leadership creates the opportunities and space for school community members to come together and make collective decisions. Distributive leadership builds capacity because it deliberately creates the experiences and opportunities for a campus community to learn how to do things together. Distributive leadership can become a structure for democratic decision making.

The three participating principals provided examples of distributive leadership as

a conduit for democratic practices. At Paul's observation I saw him physically push back from the table and cross his arms while he let his assistant principals decide how to structure and implement three different lunch schedules. George had three different meetings each week to address campus needs that included teachers, instructional coaches, and administrators—the Professional Development Learning Team, the Behavior Team, and the Instructional Leadership Team. Each meeting had an agenda sent out to each member as a Google.doc so that anyone could add to the agenda before the meeting. Another example was the observation on Georges' campus of a CAAC Meeting to present the campus improvement plan. Every department made a presentation led by teacher leaders.

The connection between distributive and democratic leadership roles are supported by the findings from Mullen and Jones' (2008) research on teacher leadership capacity building through democratic principal leadership. Each of the three principals in their descriptions of distributive leadership used words synonymous to Mullen and Jones (1999) descriptors of democratic leadership—inclusion, representation, and equity. Similar findings were presented by Leithwood, Day, Sammons, Harris, and Hopkins (2006) in their descriptions of successful school.

The most prevalent connection of distributive and democratic leadership to chaos theory is the principals' experiences of this type of leadership as unpredictable and nonlinear. During the second interview, each principal stated that their change process was nonlinear and they could never really predict the outcomes of meetings or professional learnings based on distributive and democratic leadership. Principals also

stated that feedback was crucial to their change processes and often the best feedback came from their teachers.

These findings point to the potential of distributive leadership as a way to create communities of decision makers and foster democratic practices—especially among teacher leaders. Barth (1999), who did extensive research on teacher leaders, concluded that they should be nurtured and supported. Teacher leadership not only builds capacity for campus change but also enhances school culture and trust. This conclusion is consistent with NCSL's capacity building recommendation to recognize the school leader (principal) as a problem-solving facilitator rather than a solutions person.

Instructional Leadership is Essential to Student Achievement

Researchers have found that principal leadership is second only to classroom instruction in influencing student learning (Cherian & Daniel, 2008; Leithwood et al., 2004; Marzano & McNulty, 2003; Sebastian & Allensworth, 2012; Youngs & King, 2002). Paul led new teacher PLCs and felt a moral obligation to both grow new teachers and to create a supported environment where all teachers can cultivate classroom best practices. For John, instructional leadership was tied into both moral and social justice leaderships. John's Design Room was created so that classroom instruction was engaging for all students (and not just the PreAP/AP classroom) in an effort to answer his questions of "Why do the AP classes have all the fun and why can't all classrooms be like that?" Although George's initial focus was on making his campus a safe environment, he also understood that instruction must be at the forefront of what happens on his campus and therefore created the Instructional Leadership Team (ILD). George's campus also embraced AVID as a structure for instructional practices that can be used

systemically in every classroom.

Instructional leadership, because it involves the classroom, must involve teachers and teacher leaders; thus, democratic practices become part of a change process for instruction (McGhee & Jansen, 2005). This reflects Barth's (1999) conclusion that the best way to improve school culture and student achievement is to include teachers through democratic practices. Leithwood et al. (2006) list "Managing the Instructional (Teaching and Learning) Programme" (p. 43) as one of four core practices leadership should embrace to build capacity for student achievement. NCSL also acknowledges that capacity building means leadership that is systemic and reliant on genuine collaboration. Systemic collaboration aligns with the complexities addressed in chaos theory as a change process, including the strange attractors of sustainability and change, feedback loops, and turbulence.

One of the purposes of my study is to inform and educate principals on how to meet the challenge of educating all children. This means that close attention must be given to the principals' role of instructional leadership, especially given the U.S. Census Bureau's 2010 findings on the growth of minority children in Texas and the predictions made by former State demographer Steve Murdock (2014). This recommendation to prioritize instructional leadership connects with the research of Sebastian and Allensworth (2012) that supports distributive leadership as a way to build a strong learning climate.

Feedback is Crucial

Feedback was the only tenet of chaos theory to be specifically mentioned in both interviews and with clear statements from each of the three principals of how crucial

feedback is to capacity building. Interview Two naturally included questions about

feedback because it is a part of chaos theory. What was telling was the strong language

concerning feedback used in the principals' responses ("vital", "crucial", "essential" and

"integral") and how quickly they responded with emotion.

Paul's discussion about feedback included the work done on his campus to initiate

the TAP program and the eventual adoption of PLCs. Feedback was part of Paul's

instructional leadership in the form of data provided to teachers to help shape discussions

around next steps. Paul also relied on teacher feedback to reorganize the 0-hour program

on his campus. Another example was George's discussion on setting up the PAWS

program on his campus; George noted that both teachers and students used the ILD and

PDLT to advance their change process and to make the program a success. Both the ILD

and PDLT were also mentioned by George as he discussed distributive, democratic, and

instructional leadership. John's example included professional learning on engagement

and how his campus implemented engagement into their classrooms. At the end of every

professional learning teachers took a Survey Monkey. John also made himself available

to teachers for any further discussions and questions. Like the other two principals,

John's focus on feedback was interwoven throughout his leadership roles.

The principals' descriptions of feedback as part of a change process are mirrored

in Wheatley's (2006) descriptors of chaos theory's feedback loops as an organic recursive

process that is changing, evolving and providing growth to a system. The high value the

participants placed on feedback is consistent with other findings from education

researchers. Furman and Starratt (2002) write of the "participatory process" needed to

build school cultures and maintain a change process. Gordon et al. (2008) noted from

their study that the most successful schools embraced "two-way dialogue, shared decision-making, collegiality, and collaboration" (p. 91). This parallels the work of Glickman et al. (2012) who note the importance of feedback mechanisms as a tool for reflection that can, in turn, redirect change efforts. For a high school principal, this means providing the structures for meaningful feedback to take place so that change is fluid and inclusive.

Turbulence is Both Normal and a Strange Attractor

Chaos theory's turbulence was a favorite concept for all three principals. It was not an idea they had thought of before, and certainly one I had not placed as much relevance on either. The idea that turbulence will happen—not could or might, but will—means that change agents who recognize chaos theory as a platform for educational change processes can anticipate it and thereby react in a way that helps move the process forward.

Paul wished he had known that turbulence was a normal occurrence because he felt blindsided when confronted by angry teachers at an after-school meeting. He did address and assuage the teachers fears and eventually relied on his teacher leaders to work with the teachers who were "angry" with changes being made. But as Paul noted, "a heads-up that this was actually something you could label, may have been helpful." George, who gave examples of how turbulence both helped and hurt his campuses change process, felt the key was his personal efficiency in addressing and constructing ways to address turbulence. John, as part of his commitment to build relationships, would station himself in the library after professional learnings to address teacher concerns and questions. This is consistent with both Gordon (2008) and Fullan's (2001) writings about

natural "implementation dips" that can happen in a change process when turbulence inevitably occurs.

One of NCSL's models for building capacity has wording that mirrors turbulence; it states, "change creates disturbance which school leaders can work with and turn to the school's advantage. Schools are living entities and the process of leading and managing change is conducted on a more organic basis" ((NCSL, as cited in Steigelbauer, et al., 2005, p. 31). Wheatley (2006) too noted that turbulence is part of "healthy well-ordered systems" and paradoxically becomes part of a strange attractor with stability (p. 87). The notion of turbulence as part of a strange attractor is also present in the writings of Fullan (1999), Patton (2002) and Sergiovanni (2005).

Sarason (1971) and Stoll (2007) both discuss the inevitability of resistance because change means a shift in power relationships that staff may not readily embrace. What this means for principals is a different mindset about turbulence (or push-back, or implementation dips), redefining it as a way to be reflective with your campus about the change process. However, the first step is recognizing that turbulence is part of a natural organic process and therefore it should not be feared or avoided.

"Grow Your Staff"

This is not my terminology but that of the principals; all three often used that exact wording. Each participant used "grow" and "growth" while describing their leadership roles and throughout their discussions on campus change processes. The principals discussions included strengthening school culture, building trust, finding ways to be inclusive, supporting teacher learning, and delegating responsibilities based on

knowledge and not position. Their usage of the word "growth" was aimed at both administrative and teaching staff.

The actual wording "grow your staff" as a strategy for building capacity is rarely found in the literature but the concept is nonetheless present. McLaughlin and Talbert (2006) wrote of the principal's key role in developing a teaching and learning community; Harris's 2010 study found that professional collaboration was a key factor in determining the success of schools; and Day, Harris and Hadfield's (2001) study found that successful schools had principals who promoted both teacher and student growth (42).

"Grow your staff" is also consistent with researchers who studied teacher leadership and its effects on school culture, teachers, and student achievement. As example, Mullen and Jones (2008) found that teacher leadership was a strong measure of school success, and Barth (1999) reported that the most prevalent recommendation made for improving America's schools was for teachers to take on more of the leadership. Pil and Leana's (2009) research contributed to the growing evidence that teachers' collaboration and mutual trust (social capital) have as great an effect on student achievement as teacher human capital. A fourth example comes from the Leithwood and associates' (2006) review of successful school leadership for NCSL that includes a section on "Developing People". The three principals seem to have intuitively understood that "grow your staff" was an important part of their work.

Conclusions

There are several lessons learned from my study:

- The results of this study indicate that capacity building is the foundation to school

improvement, and relationship building is the foundation for capacity building. If a principal does not have good relationships with all members of a school community meaningful progress is not possible. Teachers are the key to what happens in classrooms, and if they do not feel they have a relationship with their principal, one where trust and dialogue can happen, then instructional best practices and change efforts will be thwarted. I am reminded of Nel Noddings' (1995 & 2005) teachings on the ethics of care and how it influences not only students but also the school community. In reviewing both the results of this study and the literature on capacity building, the constant current is relationships, trust, dialogue, and a commitment to care and nurture.

- When I began this dissertation process, I was skeptical of using chaos theory as my theoretical lens—it certainly sounded interesting but what if chaos theory did not really fit as an organizational change theory for education? I am not only pleased to say chaos theory is viable but also a bit relieved. My interpretations are based on what the three principals discussed most often (change as nonlinear, the importance of feedback, and using turbulence) but other tenets of chaos theory also were present. Paul told of an assistant principal who, years before they began PLCs on his campus, wanted to start his own PLC with the Algebra 1 teachers; this evolved into an important model that other faculty looked to when they began PLCs on his campus and is a perfect example of how a small event amplified into an unexpected result—or the butterfly effect. Examples of strange attractors also existed but did not play as large a part in the interviews as other aspects of chaos theory.

- The principals in this study realized that change is inevitable and a constant, and that what matters for a campus is the *process* of the change because the effects will have multiple causes. Process has to include conversation, support, and reflection because complex problems do not have simple solutions. Process needs to include reflective questions: What is working and why? Are we true to our vision? What is not working and how do we fix it? What is the data telling us? There are myriad questions and variables to plug in, but that is the point of process—how to keep it fluid and organic.

- It is important to pay attention to school structures because they are the conduits for the change process moving from conversation to implementation. Structures can include professional development, PLCs, action research, and inclusive meetings such as those cited as examples of democratic practices by this study's participants.

- The results of this study are consistent with the concept of principal as facilitator. Kayser's (2010) Taoist view of facilitator as "one who is a neutral servant of the people" (p. 13) is a closer definition of how I now envision the five leadership roles. The principal who builds capacity facilitates distributive leadership, moral leadership, democratic leadership, social justice leadership, and instructional leadership. The "roles" now turn into the "actions" of facilitation.

Recommendations

Recommendations for Principals

The three principals interviewed had different interpretations of the five leadership roles and implemented them in different ways. Each role was dependent on

the principal's campus needs and their own beliefs. What does this mean for principals?

Principals need to reflect on their own interpretations of the five roles by considering questions like the following. Which leadership roles do you embrace? Which ones are important to you now? Do you have leadership roles that dovetail with your personal moral leadership?   How will feedback and campus needs change your roles? Which role could improve how you interact with your campus? Which role do you want to learn more about and apply to your personal leadership beliefs? The same types of reflective questions can be applied to the tenets of chaos theory. Are your processes nonlinear? Are you seeking and getting meaningful feedback that helps move the process forward? Where is turbulence likely going to appear, and what would be the most appropriate way to respond?

The principal needs to walk the campus every day at different times, to be seen and talk to people. Everyone on a campus should know the principal is approachable and values building relationships. The principal needs to communicate, in myriad ways, with students, teachers, support staff, custodians, and substitutes. Building relationships with the community can only enhance trust and help build a positive school culture. This will also be a benefit when, not if, turbulence comes the principal's way.

Although the title is "principal," the terms "change agent" and "facilitator" both are more accurate descriptions of how the principal's role has changed. At the same time, the principal is the head administrator and there will be times when decisive and quick action will determine the success or failure of a change effort.

The principal needs to continue to be a learner. Research is constantly expanding the knowledge base, and change is constantly being implemented at other schools. How

did these schools manage the change process? What structures were in place? Principals need to conduct their own research on the issues and topics that effect their school, and participate in professional development related to anticipated or desired change. Leaders wishing to grow their staff, must themselves continue to "grow".

Additionally, the principal needs to be aware of campus data. If teachers are asked to examine data for their own classrooms and as part of a PLC, then surely the principal should be reviewing campus data as well.

Recommendations for Central Office Administration

Central office administrators need to accept the reality that one size does not fit all. They need to learn what each campus needs (observe meetings, look at the data, conduct a campus survey, have conversations) and then decide how central office can support individual campuses. Central office support could include professional development, coaching, and feedback. Central office administration should also give ongoing support and professional development for principals on ways to facilitate change. Professional development for principals could also support the structures, such as action research, that studies have shown build capacity, promote teacher leadership, and increase student achievement. By providing such support districts can grow their principals and their campuses.

Another way to support campuses initiatives is to review how similar campuses have approached a change process and their lessons learned. Such literature could be shared with the school community, providing a basis for rich discussions. These suggestions mirror the recommendation of Childress et al. (2007) that districts should give top-down "support" so that the actual change process is left to schools.

Additionally, the district offices should be the bridge between campuses and universities willing to partner with the district and its campuses.

Central office administrators should model systemic change and collaborative decision-making. Recent research on the changing role of districts (Childress et al., 2007; Darling-Hammond, 2007; Fullan, 2007; Marzano & Waters, 2009; McLaughlin & Talbert, 2002) supports a need for districts to model how schools could be organized for capacity building. Such modeling should include the superintendent. Just as principals are key to the success of a school's organizational capacity, the superintendent is key to increasing a district's capacity to assist school change. Studies have found that superintendents who stayed five or more years and were committed to support for teaching and learning had a direct and positive correlation to improved student achievement (Darling-Hammond, 2007; Marzano & Waters, 2009; McLaughlin & Talbert, 2002).

Recommendations for Principal Preparation Programs

Skills taught by principal preparation programs should include how to facilitate a change process, how to create a safe environment for students and faculty to learn, how to "grow" your faculty, how to be culturally aware, and how to respond to difficult situations. Principal preparation programs should provide potential administrators with a good understanding of organizational theories that promote attention to process, relationship building, and the learning styles of adult learners and students. A common thread in each course in a preparation program should be reflection. Potential principals should become reflective about their own values, feelings about power, and commitments. The five principal roles examined in this study should be reflected in

principal preparation, along with reflection on how to interact with diverse groups of people.

Ideally, it would be helpful if local districts would be willing to create leadership preparation partnerships with universities offering principal preparation programs. Then students could experience real-time praxis between theory and action. This would make the theories and skills taught much more tangible and applicable to situations students may encounter as principals. Field experiences could be embedded in university coursework, not only allowing immediate application of new knowledge and skills but also allowing discussion and reflection on field activities within the safety of the university classroom.

Principal preparation programs need to make social justice a priority. Social justice and issues of equity are everyone's concern. Two principals who participated in this study were enrolled in PhD programs that emphasized social justice and thus were able to articulate principles of social justice. Although the third principal had clubs and programs in place for his LGBT students, he could not articulate what social justice means. The education of our administrators on such an important issue must begin at the outset of their graduate studies. Describing and learning how to address deficit views needs to go beyond race and include LBGT students, gender, religion, and the disabled. Additionally, it is important to acknowledge that social justice needs to shift to problematizing people's understandings of social justice and intentionally move from a protective mindset to one of inclusion. As an example, Paul's counselors provided a "Rainbow Prom" for their LBGT community but the gay assistant principal and her

partner did not chaperone the dance because they felt it was a form of exclusion and protection and not inclusion.

Chaos theory should be studied and applied to school administration in principal preparation programs. Chaos theory focuses on processes that are nonlinear, and administrators need to know about and reflect on what nonlinear processes mean for their own work. Other tenets of chaos theory, such as feedback, turbulence, strange attractors, and initial conditions, were important to the participating principals and they all said they wished they had known more about these concepts earlier in their careers.

Recommendations for Future Research

One recommendation is to continue with research on chaos theory and its relationship to leadership for organizational change in education. Chaos theory and how it applies to and helps us learn more about education is a fairly new idea, but based on this present study, it is highly relevant. It would be interesting to see more research on this topic with a larger number of subjects. The field would benefit from extensive research on more principals from different districts going through change processes and viewing those processes through a chaos theory lens.

It would also be helpful for research to provide more examples of different ways schools are meeting the challenges of social justice. One of the principals in this study supported students through clubs and push-ins for ESL students. Another principal actively sought children of color for PreAP and AP classes and then offered support to keep them in those classes. The third principal was committed to make classes engaging for all students. More research is needed so that campuses and districts can learn about successful efforts to foster equity and social justice in districts and schools with similar

demographics. Given the changing demographic of the state of Texas, documenting social justice leadership should be a priority for future research.

I also recommend future research partnerships between universities and school campuses focused on the study of capacity building for school improvement. Principals can learn how to lead (Copland, 2003; Darling-Hammond, 2003; Fullan, 2001; Gordon & Boone, 2012; Lambert, 1998), and the best place to learn is in their principal preparation program. If aspiring administrators can participate in research partnerships between their university and a K-12 campus, then they will gain invaluable first-hand knowledge.

Concluding Comments

As an advocate of reflection, I am now at a place to reflect on how I have grown through this research process. An ideal example presented itself when I recently found the one-page letter of interest explaining why I wanted to enter into a School Improvement PhD program.

Being an effective change agent comes with great responsibility. My biggest challenge is melding 'change' with 'sustainability'. How do I best involve faculty with the process of change and what are the steps along the way to measure whether or not our goals are being met? How can I best support faculty through the process and still create sustainability? What is the best was to work with faculty to make changes and yet help them understand we must constantly evaluate the outcomes? … To meet these professional goals I need a stronger skills and knowledge base.

Rereading my original words and thoughts feel like a gift because (a) I actually wrote about chaos theory's strange attractors of 'change' and 'sustainability' in the essay, and (b) I now have better honed skills to facilitate the change process.

I have also learned to slow down, because I cannot solve any complex problem on my own, and the lessons learned from my research only reaffirm this. I do not want to try to do it on my own; that would be neglectful and counter-productive. I have also learned to have a much wider lens in how I think about the human and social capital of an organization, and I know this has helped me as an administrator. I have grown and deeply appreciate the opportunity to do so.

APPENDIX A

Preparation for Interview 1

For the purpose of preparing for Interview 1, assume you have been asked to write a book on how your leadership roles build capacity for change. The five chapters in the book will be entitled:

Chapter 1: My Role in Distributing Leadership

Chapter 2: My Role as a Moral Leader

Chapter 3: My Role as an Advocate for Social Justice

Chapter 4: My Role as a Democratic Leader

Chapter 5: My Role as an Instructional Leader

Assume that each of the five chapters will have three to four topics. For each of the chapters, under the chapter topic, list the three or four topics that you would write about. The topics you write out will be the topics that we discuss in the interview.

Additionally, please bring an artifact that symbolizes each of the leadership roles. Each artifact will be discussed as part of your chapters.

Chapter 1: My Role in Distributing Leadership:

Chapter 2: My Role as a Moral Leader:

Chapter 3: My Role as an Advocate for Social Justice:

Chapter 4: My Role as a Democratic Leader:

Chapter 5: My Role as an Instructional Leader:

APPENDIX B

Preparation for Interview 2

To prepare for the second interview, think of a major, long-term effort of yours to build capacity for a specific change and/or facilitate movement toward a particular change. Be prepared to discuss whether each of the following was true concerning the change process, and to give examples as appropriate. If you do not believe one or more of the topics are relevant to your change effort, feel free to say that during the interview.

Additionally, please bring two to three artifacts that represent the long-term change effort you choose to discuss.

1. The change was non-linear: it did not follow a blueprint and the different phases of the change or events taking place during the change were not predictable.

2. It was difficult to precisely measure the change using external standards.

3. Small events in one part of the school or within the change process had strong effects on other parts of the school or on the change process.

4. The change process revealed, or led to, self-similarity in different parts of the school organization (eg., similarity at the classroom, grade or department, and school level; similarity at the administrator, teacher, and student level; similarity at the professional development, curriculum development, and community development level, and so forth). The self-similarities you describe could be initial conditions that indicated the need for change, initial reactions to the change effort, work on the change, or effects of the change *across different parts of the school organization.*

5. The change effort was accompanied by different levels of turbulence; sometimes mild turbulence, sometimes heavy turbulence. Some types of turbulence hurt the change effort, other types of turbulence assisted the change effort.

6. Feedback was an important part of the change process. Sometimes the feedback impeded the change, sometimes it caused the change to be modified, and sometimes it assisted the change, but feedback was essential for the change to succeed.

7. There were patterns present in the change process (eg., student-centered learning) that provided the change with a sense of order.

Email sent to Principal Participants about the Interview Process

Subject: Principal Interview Process

Hi [Principal Name],
Thanks for your quick response about participating in my dissertation research. Below is some basic information about the interview process and my timeline. Ideally, I would like to do the observation and first interview (#6 below) sometime within the next 2 weeks and then the second interview in early June.

Here's the basics:
1- The title of the dissertation is "The Principal's Roles in Building Capacity for Change". I am looking specifically at the following leadership roles -- distributive, moral, social justice, democratic, and instructional.

2-- There are two interviews. Each interview is approximately 1.5 hours. The first interview focuses on the leadership roles mentioned in #1. The second interview, scheduled 1-2 weeks apart, looks specifically at chaos theory and the principalship -- this includes reflective practices, dialogues, revisiting programs and evaluating them, etc. The basic view with chaos theory is that schools are nonlinear and one-size-does not-fit-all.

3-- Each interview will take about 30 minutes of preparation from the principal participating. None of it is hard -- just thinking about the interview outline I provide.

4 -- Each interview also asks for you to provide an artifact. You can include an item to symbolically represent your leadership roles. Or you can bring specific agendas from meetings -- both work.

5 -- I also ask to observe one meeting -- for example, this can be with your administrative team, teacher leaders, or a PLC. Again, I am not talking to anyone nor will the district, school, or meeting participants be mentioned.

6 -- The triangulation of the data I collect includes the two interviews, the observation, and your artifacts. Therefore, I would need to do an observation before the end of the school year. We could then meet in early June (once the dust settles from graduation!) for the second interview.

Something I want to be very upfront about -- I have not gone through district offices to ask permission to interview you for my research. I was told by a district lawyer that because I am not writing about a district and therefore not mentioning the names of particular schools, principals, or school communities then I do not need permission. Basically, the focus is on the principal and principal roles -- not the district, the school or students.

So ... if you could spare two 1.5 hour sessions, I would greatly appreciate it; again, one interview before school ends and one in early June. I have attached the questions for the first interview.

You can respond to this email to set up a time, call my cell (#), or my office (#).

Many thanks and have a great day,
Sara Butler

APPENDIX D

Email to Principals for Feedback on Interviews 1 and 2

Hi [Principal name],

Attached is your transcribed Interview. The first interview [or second with corresponding focus on Chaos Theory] focuses on five principal leadership roles and how those roles build capacity on a campus. The five roles include distributive, moral, democratic, social justice, and instructional leadership.

Please take a few minutes to read over your interview and provide feedback.

If you see no reason to make any changes, please email me back with a 'good to go'.

However, after you read over your transcribed interview and find you would like to make some additional comments, you can let me know which of the five roles you would like to add to and make those additions in an email.

Additionally, if you see a response you would like removed or edited, please let me know the page number and what to strike. I am also happy to edit any comments you feel need more explanation.

My goal is for all principals participants to be comfortable with the collected data (interview) before I start my coding process. Once I have completed the analysis of my first interviews, I will send your 2nd interview (chaos theory as a lens for change processes) and ask again for your feedback.

Many thanks for your help. Feel free to call should you have any questions – [cell #].

Sara

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