

**The Prevalence of Complexity Leadership (CL) Traits Among Principals in Alabama  
Torchbearer Schools in Successfully Implementing and Achieving No Child Left Behind  
Mandates**

by

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## Abstract

The purpose of this study is to determine the prevalence of the leadership behavior known as Complexity Leadership (CL) style among the principals of Alabama Torchbearer Schools that were successful in implementing and meeting the mandates of NCLB. The concept imposed by CL is concerned less with the effects of hierarchical control in operational leadership as with how interaction in networks can lead to new patterns of behavior or innovative models of operation and information (Brown, 2011; Heifetz, 1994; Plowman et al., 2007; Uhl-Bien, Marion, & McKelvey, 2007). While traditional literature cites transformational leadership as being effective in producing system-wide change, recent conceptions from complexity leadership suggest a combination of traditional leadership traits employed across networks (CL) may be more common. The research question proposed in this study is: “How prevalent was the CL style of leadership among principals of Torchbearer Schools who were successful in implementing and achieving NCLB mandates?” The hypothesis for this study contends that the patterns of leadership behavior proposed by CL were more prevalent in the leadership behavior of more Torchbearer Principals than in the leadership patterns of non-Torchbearer Principals. The research methodology for this study is quantitative, using Paired Sample t-Test analysis to determine the prevalence of CL leadership behavior of Torchbearer principals compared to non-Torchbearer principals. The participants are eight principals who presided over Alabama’s Torchbearer schools and eight principals who presided over public schools that were not Torchbearer schools but located in the same school districts as the Torchbearer schools. An Auburn Qualtrics online questionnaire was used for collecting data. Findings suggest that although several significant difference in patterns of leadership behavior were found, the CL leadership style was not found to be more prevalent among Torchbearer principals. More

research into the effectiveness of the CL leadership style in the educational leadership is suggested.

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In Memory of my parents

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The unconditional love and spiritual support you gave instilled in me a desire to always strive to do my best believing God will answer my prayers.

The strength and courage you showed me in overcoming adversities you faced in life and never complained nor gave up instilled in me a will to set high goals and focus on success, never giving up nor coming up with excuses to quit.

The undying love and faith you had in God through your many struggles instilled in me courage to trust God when I had no clue of what to do or which way to turn. Knowing in my heart He had a Divine plan for my life.

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*Now unto him that is able to keep you from falling, and to present you faultless before the presence of his glory with exceeding joy,  
To the only wise God our Saviour, be glory and majesty, dominion and power, both now and ever. Amen.  
(Jude 1:24-25)*

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## List of Abbreviations

**ALSDE:** Alabama State Department of Education.

**AYP:** Adequate Yearly Progress.

**CL:** Complexity Leadership

**ECIA:** Education Consolidation and Improvement Act.

**ESEA:** The Elementary and Secondary Education Act.

**ESSA:** Every Student Succeeds Act which was signed into law Dec. 10, 2015 by President Barack Obama. The law replaced its predecessor, the No Child Left Behind Act (NCLB), and modified but did not eliminate provisions relating to the periodic standardized tests given to students. As the No Child Left Behind Act, ESSA is a reauthorization of the 1965 Elementary and Secondary Education Act. (Hirschfeld, 2015).

**LEA:** Local Education Agencies.

**NCLB:** No Child Left Behind Act was signed into law in 2001 by President George W. Bush which was a reauthorization of the Elementary and Secondary Education Act (Education Week).

**NCES:** National Center for Education Statistics.

**OECD:** Organization for Economic Co-operation and Development

**OFSTED:** Office for Standards in Education in Great Britain (1997).

**SES:** Socioeconomic Status.

**TALIS:** Teaching and Learning International Survey



## CHAPTER 1: INTRODUCTION

The study of the academic achievement gap of public school students has been a major concern for educators and government policy makers for the last five decades. According to the National Assessment of Educational Progress (NAEP, 2011), the existing achievement gap has continually persisted with Black students generally scoring lower than White students.

According to a letter written in August 2012 by the Commissioner of the National Center for Education Statistics (NCES), numerous studies documented persistent gaps existing between the educational achievement of White males and that of Black, Hispanic, American Indian/Alaska Native, and Native Hawaiian/Pacific Islander males. Evidence also showed growing gaps by sex within these racial/ethnic groups, as females participate and persist in education at higher rates than their male counterparts (NCES, 2012).

Many actions have been taken by Congress to reduce these various achievement gaps. One action, the publishing of yearly student achievement data, is believed by Dr. Ruby Payne (2013) to have revealed the great magnitude of achievement disparities that exist between the economically disadvantaged students and their more advantaged peers. Hirsh (2005) and other educators concerned with the plight of the academic achievement of these subgroups (Balfanz, 2007; Carter, 2000; Frymier & Joekel, 2004; Jeynes, 2015; McCaslin, 2006; Sadovnik, 2008) believe that the main objective of the various public-school reforms should focus on closing the achievement gap, while providing all students the opportunity to achieve high levels of performance. Of various school system educational reform programs, one of the most far-reaching and controversial legislative school reform programs was the No Child Left Behind Act of 2001 (NCLB). NCLB is possibly the most recognized acronym in many years as well as the

most debated educational legislative act. Lois Harrison-Jones (2007) proclaimed, “There is almost no one without an opinion about this program’s merits or shortcomings” (p. 346).

Initially a sequel to the Goals 2000 Educate America Act, the No Child Left Behind Act was designed to ratify the theories of standard-based education reform that emphasize the rationale that high expectations and goal-setting results in success for all students. The NCLB Act includes a mixture of high expectations, new requirements, sanctions, incentives, resources, and accountability for states, districts, and schools to advance faster and to improve the academic achievement of every child (Harrison-Jones, 2007). The fundamental reasoning behind this reform is that the publication of detailed information on school-specific test performance and the linking of that performance to the prospect of meaningful sanctions can improve the focus and productivity of public schools (Dee, Jacob, Hoxby, & Ladd, 2010).

Mary McCaslin (2006) argues that the NCLB Act targets more specifically the “gap” between the achievements of economically advantaged and disadvantaged students. She believes that the primary objective is to provide classroom students of urban and rural poverty areas with educational opportunities that will increase their performance in targeted areas — reading and mathematics — followed respectively by science and social studies. These actions were aimed at ensuring that no child would be trapped in a failing school.

### **Statement of the Research Problem**

As stated by Harris (2007), even with the implementation of various school reform programs, including NCLB, many schools still fail to provide all students with the skills necessary to achieve the basic learning standards required for grade level-achievement. Harris believes that even with the decades of research performed by researchers such as Fryer and

Levitt (2004) seeking to identify sources of academic inequalities, a solution dependent on test levels only reflect initial disadvantages, rather than school effort or effectiveness (2007, p. 370).

Echoing the sentiment of Harris (2007) concerning the inability of NCLB to reduce the academic achievement gap in public schools, Noguera (2008) expounded the following:

Unfortunately, the number of schools where race is not a strong predictor of academic performance and no longer “matters” with respect to its ability to predict academic outcomes are relatively few (Noguera, 2001, 2003). While there are a small number of schools where it is common to find Black students among the highest achievers (Perry, Steele & Hilliard, 2003) and even a number of high performing high poverty schools (Education Trust, 2002), in most schools in the U.S. the racial achievement gap remains, despite the President’s exhortations to eliminate it. (p. 96)

With the passing of the No Child Left Behind Act, the federal government moved from being primarily a source of funding for public schools to becoming a major factor in restructuring the substance of K-12 academic and curriculum instruction (Bloomfield & Cooper, 2003). Almost 10 years after the passing of this law, Stecher, Vernez, and Steinberg (2010) describes NCLB as being:

a force that set the nation along a path of judging schools by student academic outcomes; establishing strong accountability mandates with stringent enforcement; utilizing parental choice as a motivator for school improvement; requiring higher qualification for teachers; measuring performance of racial, ethnic, socioeconomic, and other subgroups; and basing school and academic improvement efforts on research-based practices. (p. xiii)

It was apparent by 2010 that many schools were not going to obtain the achievement goals set by NCLB. Nationwide, nearly 38 percent of schools, that year, were failing to make

adequate yearly progress (AYP). This was an increase from 29 percent in 2006. In 2011, U.S. Secretary of Education, Arne Duncan, in his effort to get the law rewritten by Congress, warned that 82% of the nation's schools would be labeled "failing" that year. Overall, the number of schools labeled "failing" in 2011 was not that high, but some states did have failure rates of more than 50% (Klein, 2015).

### **The Alabama Accountability Act**

In 2013, to meet the demands of NCLB in the state of Alabama, the Alabama legislature enacted the Alabama Accountability Act (AAA) which established three changes in the Alabama public education system:

1. Flexibility: Local school boards were given the opportunity to choose how federal funding was used.
2. School Choice: The option to change schools was provided for students zoned to "failing" schools.
3. Tax Credits: Families who incurred cost in transferring their children out of "failing" schools into either qualifying nonpublic schools or non-failing public schools were offered tax credits.

Tax credits were available to individuals and corporations who donated to Scholarship Granting Organizations (SGOs) which provided scholarships for income-eligible students to transfer out of "failing" schools (Crain, 2014). More discussion concerning the AAA and the Alabama "failing schools" are found in the literature review in Chapter 2.

### **The No Excuses Campaign and School Principals**

In 2000, Samuel Casey Carter published the book entitled, "No Excuses: Lessons from 21 High-Performing, High-Poverty Schools," which proposes that there is no excuse for the

failure of most public schools to teach poor children. The Heritage Foundation organized the No Excuses Campaign in a national effort to stimulate public awareness on behalf of better education for the poor. The campaign brought together liberals, conservatives and centrists, who were committed to high academic achievement among children of all races, ethnic groups, and socioeconomic status (Carter, 2000, p. 7)

In his investigation of the educational plight faced by children from low-income families, Carter (2000) discovered and wrote about twenty-one high-performing, high-poverty schools that dismissed the fable that children living in poverty are destined for academic failure, thereby condemning them to a life of failure. He found that the academic achievement of these schools was not accidental. But instead, it stemmed from “the intended result of hard work, common sense teaching philosophies, and successful leadership strategies that can be replicated” (p. 12).

Carter (2000) referred to the twenty-one principals in his book as “No Excuses Principals.” He argues that the recruitment of exceptional principals for high-poverty schools is one of the best ways to increase the opportunity for low-income children to be academically successful. He propounds that finding suitable principals, who will then find suitable teachers, may possibly be more important than the reduction of class size, modernization of school facilities, or many of conventional remedies currently proposed (p. 14).

### **Purpose of Research**

Based on the view posed by Carter (2000) as well as other researchers (Branch, Hanushek & Rivik, 2013; Fiarman, 2017; Habegger, 2008; Hull, 2012; Trach, 2017), high-performing school principals are fundamental to the academic achievement of public schools. It therefore can be surmised that low-performance/high-poverty schools require principals with leadership skills necessary for meeting challenging academic tasks. Because of the importance

of their position and duties as leaders, this study examines the leadership style of the public-school principals.

Carter (2000) states that No Excuses Principals possess distinctive competencies which include: a superb interconnectivity with parents and the enlistment of their active support for the school mission, a capable administrator with innovative problem-solving skills, and a creative ability that establishes a happy, safe, and disciplined environment in schools that are sometime old and located in dilapidated buildings (p. 12). This implies that high-performing principals exhibit leadership behavior that enables them to overcome difficult, demanding and complicated situations and accomplish set goals and objectives despite the obstacles, challenges, and resistances faced.

Despite the increased number of Alabama public schools being label as “failing,” there are some schools and their principals, like those discussed by Carter (2000), that have met the challenge of achieving academic success and complying with federal educational mandates imposed by NCLB and the Alabama Accountability Act. This research study investigates how the leadership styles of public-school principals impact the successful compliance of public schools to the federal and state educational mandates. To adequately explain how leadership style can impact public school academic success and the successful compliance to federal and state mandates, a discussion on the importance of school leadership follows.

### **The Importance of School Leadership**

An abundance of research has been committed to investigating the advancement of academic success in the public-school system and it has been found that school educational success fundamentally depends on school leaders (Branch, Hanushek, & Rivkin, 2013; Dinham, 2005; Fullan, 2002; Harris, 2002; Habegger, 2008; Kurland, Peretz, & Hertz-Lazarowitz, 2010;

Sergiovanni, 2001). Today school leaders are accountable for how adequately teachers teach and how much students learn and are considered essential for high-performance educational systems (Abu-Hussain, 2014; Hallinger, 2003; Harris, James, Gunraj, Clarke, & Harris, 2006; Leithwood & Levin; 2005; Stewart, 2006; Wallace, Sweatt, & Acker-Hocevar, 1999; Williams, 2004; Whitlock, 2018).

The Wallace Foundation (2019) advocates the necessity for high-quality school leadership which affects dozens of teachers and hundreds or thousands of students. It is stated that such leadership is “a pivotal role” (p xiii) in the public school system. For nearly two decades, the Wallace Foundation has sponsored numerous research studies on school leadership and published over 70 reports on its importance. The Foundation has also funded projects in 28 states and various districts within those states. From their effort, an understanding of the complexities of school leadership has been obtained in new and meaningful ways. The Foundation offers the following perspective on the importance of the leadership of the school principal:

Education research shows that most school variables, considered separately, have at most small effects on learning. The real payoff comes when individual variables combine to reach critical mass. Creating the conditions under which that can occur is the job of the principal. (Wallace Perspective, 2013, p. 4)

The Wallace Perspective (2013) was developed by the Wallace Foundation as a series of studies looking at school leadership and how it is best developed and supported. Concerning the issue of school leadership and the transformation of failing schools, this statement was made:

Armed with what we’ve learned about the potential for leadership over the last decade, we have cause for optimism that the education community’s long neglect of leadership is

at last coming to an end. We still have a lot to learn, but we have already learned a great deal. In the face of this growing body of knowledge and experience, it is clear that now is the time to step up efforts to strengthen school leadership. Without effective principals, the national goal we've set of transforming failing schools will be next to impossible to achieve. (p. 17)

The effects of school principal leadership appear to be mainly indirect. It is assumed that leaders influence student learning and comprehension by helping to promote school mission and vision. They also ensure organizational learning procedures which allow teachers to routinely share their learning techniques with others and improve their teaching ability (Abu-Hussain, 2014; Bell, et al., 2003; Branch, Hanushek, & Rivkin, 2013; Fullan, 2002; Habegger, 2008; Hallinger, 2003; Voulalas & Sharpe, 2005).

With the constant multitasking and role shifting of principals, Shelly Habegger (2008) asked the question, "How does a principal get past the "daily survival mode" in order to create a successful learning environment?" (p. 42). Her findings were similar to those of Samuel Carter. She found many urban and rural school districts faced the traditional limitations and barriers to student learning: lack of sufficient resources (both human and material), poverty (Lyman & Villani, 2002; Payne, 2013), parents with less than a high school education, students whose primary language is not English, and a high disproportion number of under-qualified teachers. The research performed by Habegger (2008), like Carter (2000), revealed that there were schools in which students of low socioeconomic status and cultural diversity were achieving high academic success despite surrounding societal obstacles. Her final question was, "What are these schools doing differently?" (p. 42).



Habegger's (2008) research observed the roles of principals presiding at three schools. She found their duties included: developing instructional guidelines for student success; assuring instruction is aligned with state academic content standards, maintaining continuous improvement of the school building, establishing partnership with parents and the community, and promoting a culture in which each individual felt valued. Habegger states that her research found that, "principals need to create a positive school culture that promotes learning and engagement for students and adults." (p.42). In essence, her study revealed that the *leadership behavior/style* of the principals (ability to perform the roles designated to them) was the key factor to the success of each school.

Virkus (2009) states that serious scientific research on leadership had its inception in the twentieth century. Since that period, thousands of research studies have been administered that have spawned a host of theories. These theories are affected by various factors and can be perceived from many different viewpoints, and the author's perspective is usually influenced by the theoretical standpoint from which their interest in the phenomena stems. McCaffery (2004) proclaims that while leadership is one of the most researched phenomena in social sciences as well as in business studies, the mystique of leadership has remained intact, due to results showing that none of these theories have fully explain the phenomena. (p. 62).

Abu-Hussain (2014) explains that scholarly literature on leadership is rich in hypotheses and definitions which are based on studies of leadership that engage in the leader's personal background, perceptions, action, behavior, and character traits. Thus, research concerning leaders' traits and behavior is prevalent.

## **Trait and Behavioral Paradigms**

From the 19th century to the present day, research on leadership has generally been divided into two approaches or paradigms: trait and process/behavioral approach (Virkus 2009). Since then, many studies have revealed that the behaviors and traits of leaders are essential indicators of leadership effectiveness (Abu-Hussain, 2014; Eagly, Karau & Makhijani, 1995; Judge, Bono, Ilies & Gerhardt, 2002; Judge, Colbert & Ilies, 2004; Koys, 2001; Mumford, Campion & Morgeson, 2007). Researchers Derue, Nahrgang, Wellman, and Humphrey (2011) believe that even though leadership traits and behaviors have been probed in many research studies, there exists a lack of integration of leadership research within and across the trait and behavior paradigms. The cause of this is believed to be that research performed within each paradigm usually focuses on a single behavioral or trait perspective.

### **Trait Leadership Paradigm**

Pertaining to the trait leadership paradigm, Abu-Hussain (2014) explains that “Great Man Theory” is the basis for the trait perspective which focuses on personal background, characteristics, and perception of the leader. It proposes that effective leaders are endowed with extraordinary skills, knowledge, and attitudes (McDowelle & Buckner, 2002). Bass (1990) further expounds that scholars usually examine leader traits in three areas: *demographics*, such as education, age and gender; *task ability*, such as intellect and conscientiousness; and *interpersonal characteristics*, like agreeableness and extraversion (Bass & Bass, 2008; Derue et al., 2011).

Stogill (1948), after reviewing over 100 articles written on the trait theory, rejected the theory by proposing that an individual does not become a leader by possessing inborn characteristics or traits. However, Avolio (2011) argued that although personality traits do not sufficiently propel an individual into leadership, some inborn traits are necessary. Avolio’s

research estimated that about 30% of leadership development can be attributed to innate personality features. From this, it can be surmised that the trait theory still partially retains its validity in proclaiming that it is necessary for leaders to possess some inborn personality traits in order to be effective (Silva, 2015).

### **Behavioral Leadership Paradigm**

According to Hupp, Reitman, and Jewell (2007), one of the first comprehensive efforts to describe behavioral theory was introduced by John B. Watson (1924) in his book *Behaviorism*.

Watson (1913) developed his concept of behaviorism by elaborating on themes first developed in his “behaviorist manifesto”. Watson (1924) believes that behaviorism should focus on observable phenomena rather than consciousness. His research ultimately concludes that much human behavior is learned via classical/stimuli conditioning processes.

Hupp et al. (2007) further expounds that the cognitive-behavioral framework proposed by Kendall (2006, p. 7) placed the “greatest emphasis on the learning process and the influence of the models in the social environment, while underscoring the centrality of the individual’s mediating/information processing style and emotional experiencing.” From this definition several key components can be recognized, including (a) learning from direct experience, (b) social learning, and (c) cognitive and emotional mediation (Hupp et al., 2007, p. 263).

Hupp et al. (2007) summarizes the behavioral leadership paradigm as being primarily concerned with the learned actions of leaders, versus trait leadership paradigm which focuses on their internal or inborn attributes or intellectual qualities (Cautilli, Rosenwasser & Hantula, 2003; McLeod, 2017; Skinner, 1936, 1948, 1971). Amanchukwu et al. (2015) further argues that the behavioral theory poses the assumption that great leaders are not born but made (e.g., people are capable of learning to become leaders through observation and training). Proponents of the

behavioral leadership paradigm (Bass & Bass, 2008) believe that a good leader must possess the knowledge, experience, commitment, patience, and the skill which is developed through the process of training, self-study, and education. More on trait versus behavioral leadership paradigms are found in Chapter 2.

Dr. Dianna Whitlock (2018), in her article entitled, *Types of Effective Leadership Styles in Schools*, states that many of the theories overlap. She further argues that no one leadership style or theory can work in isolation and no leader can rely on one style for all situations. She believes it is vital leaders identify and incorporate elements from different leadership styles. To begin the investigation into this notion, four educational leadership styles considered to be effective in promoting academic success are examined.

#### **Four Major Educational Leadership Styles**

From the array of leadership styles that have been proven to promote educational achievement in schools, there are four major styles of leadership which are considered most effective in the educational setting. Although each of these styles has its good points, there is a broad range of variation. Of the four styles, it is believed that transformational leadership is truly an amalgamation of the best attributes of the other three. The four leadership styles are: Servant, Transactional, Emotional, and Transformational (Lynch, 2018). An extensive discussion of these leadership styles and other effective educational leadership styles incorporated by school principals are described in the literature review of this study. However, because of the numerous studies that have claimed its effectiveness in public school operation and recognized the positive relationships that exist between transformational leadership and various school and teacher organizational environments (Anderson, 2008; Balyer, 2012; Bass, 1998; Heck & Hallinger,

1999; Garcia-Morales, Loréns-Montes, & Verdú-Jover, 2007; Dawson, 2015), the transformational leadership style is a major part of this research study.

### **The Complexity Leadership Style**

The complexity leadership style is described as a style that “provides a framework in which certain leadership behaviors work to foster complex mechanisms and generate conditions in which agents can respond quickly and effectively to unanticipated conditions (both destructive and beneficial)” (Marion, 2008, p. 10). This complexity leadership style is based on concepts posed by the complexity theory and the assumption that emergent, intelligent order in a complex system can be produced from the interactions among individuals within that system without any necessary external, central authority, or command (Siemens, 2005; Uhl-Bien & Marion, 2008). Currently, Baltacı and Balcı (2017) has expanded the concept of complexity leadership by describing it as, “an alternative approach for contemporary organizations to survive that function in a rather volatile, unpredictable, competitive, chaotic environment based on information technology” (p. 32). More on complexity leadership and emergent dynamic structure are found in the literature review in Chapter 2.

### **Complexity Leadership Style and Education**

Increasingly, theorists in the field of education are looking to complexity leadership as a means to make advancements in the educational system (Davis & Sumarra, 2006; Doll, 1989,1993; Hannah, 2019; Kirshner, 2018; Marion & Uhl-Bien, 2001, 2002, 2007; Siemens, 2005). To accept the shift presented by complexity leadership in educational operation, there is a need to view educational leadership from a different aspect or perception of leadership thinking.

Davis and Sumara (2006) believe that, currently, there is an explosion of interest among educationists in complexity thinking. These researchers argue that it is becoming increasingly

evident that complexity thinking offers a powerful alternative to the linear, reductionist method to enquiry that has dominated the science arena for half a millennium—and educational research for over a century (p. xi). In their book entitled, *Complexity and Education* (2006), the authors emphasize the relevancies of complexity thinking for educational research and practices. A synopsis of their endeavor follows:

We aim to present complexity thinking as an important and appropriate attitude for educators and educational researchers. To develop this point, we endeavor to cite a diversity of practices and studies that are either explicitly informed by or that might be aligned with complexity research. We also offer focused and practiced advice for structuring projects in ways that are consistent with complexity thinking. To illustrate the discussion, we have attempted to present a broad (but by no means comprehensive) overview of the sorts of studies that have been undertaken within education. (p. xi)

### **Complexity Leadership in Schools**

Harcourt-Heath (2013) states that the basic unit of complexity theory is the complex adaptive system (CAS). These systems are considered complex in that they are diverse and composed of multiple interconnected components and adaptive in that they have the capacity to change and learn from experience. It is further contended that schools can be regarded as complex adaptive systems. This argument, proposed by Harcourt-Heath (2013), is based on the assumption that all schools demonstrate at least some of the described features that follow, which are identified as typical of CAS by several authors (Cilliers, 1998; 2005; Cohen et al., 2011; McMillan, 2008; Radford, 2008):

- They are open systems;
- They have ill-defined boundaries;

- They consist of many components interacting dynamically in a nonlinear way creating increasingly higher levels of complexity;
- They are complex, complicated and constantly changing
- They are a human service and rely on people;
- Their components interact with many others;
- They display behavior that results from the interaction between components and not from characteristics inherent to the components themselves;
- They have a range of methods of communication and rely on communication and effective networking;
- They are self-organizing;
- The environments (external and internal) in which they operate are largely unpredictable and fluctuating;
- They learn to adapt to changing circumstances, constantly revising their structures;
- Small changes can have massive effects;
- They have emergent properties;
- They operate under conditions not at equilibrium, seeking to exist on the edge of chaos;
- The new variables that emerge could not have been predicted from circumstances prior to the interaction
- They display behavior over a divergent range of timescales which is necessary in order for the system to cope with its environment. (p. 290).

Christie and Lingard (2001) argues that school leadership is not a simple concept and should be viewed through a more complex lens of leadership perception that allows for the

interaction of various forces and fields. In proposing this line of thought, the following statement is made: “The position [complexity leadership] proposed here is that leadership involves the complex interplay of the personal/biographical, the institutional/organisational, and the broader social, political and economic context” (p. 7). A discussion of educational complexity leadership is found in the Literature Review in Chapter 2.

### **Transformational Leadership Style**

From numerous studies performed by these researchers and others (Balyer, 2012; Leithwood & Jantzi, 2006; Leithwood et al., 2004; Marks & Printy, 2003; Moolenaar, Daly, & Slegers, 2010), it was found that the transformational leadership style directly and indirectly affects followers’ behavior, their psychological status and organizational performance. Other studies argue it has influences on teachers’ commitment to change in the area of vision building, acquiring consensus concerning team goals and intellectual stimulation, supportive leadership, communication, and personal awareness (Gronn, 1995; Leithwood & Jantzi, 2006; Leithwood et al., 2004; Nemanich & Keller, 2007). More discussion of transformational leadership style is found in Chapter 2.

### **Transformational Leadership Style and School Principals**

Pertaining to school principals, Balyer (2012) recounts Leithwood and Jantzi’s (2000) proclamation that the transformational leadership style asserts six dimensions at schools, which are: 1) developing a school vision and establishing school goals; 2) providing individualized support; 3) providing intellectual stimulation; 4) demonstrating best practices and organizational values; 5) establishing high academic standard expectation; and 6) creating structures that foster participation in decisions-making (Balyer, 2012, p. 582).



The research team of Kurland, Peretz, and Hertz-Lazarowitz (2010) examined the influence of principals' leadership style on school learning utilizing school vision as a mediator. The results of their study found that high performing schools had transformational principals who shaped the school vision and developed a mutual culture that fostered the empowerment of teachers (Smith, 2016). Overall, the results of the study showed that school vision is significantly predictable by principals' transformational leadership style (Kurland, Peretz, & Hertz-Lazarowitz, 2010, p. 19).

### **Shift in the Leadership Style Paradigm**

It is believed by some research scholars that traditional leadership styles, such as the transformational leadership style are deeply rooted within an industrial age paradigm in which leaders are perceived to occupy privileged positions within a vertically organized hierarchy (Uhl-Bien, Marion, & McKelvey, 2007). According to this perspective, leaders possess some favored combination of specialized knowledge and specific characteristics endowing them with the ability to see what others cannot (behavioral/trait paradigms which is discussed in the literature review) and, by means of vested authority, protect the enterprise from destabilizing external forces and lead it in a desired direction (Lichtenstein et al., 2006; Marion, 2012; Plowman & Duchon, 2008).

Although these traditional leadership styles were productive and served industrial enterprises well, paradigm shifts have occurred in the last two decades. Given the significant shift from a society based on an industrial economy to one embedded in the generation of knowledge, along with the general societal shifts towards globalization, many of the applicable leadership methods of the traditional view of leadership come into question due to circumstances

such as; increasing diversity, international cultural norms, multi-level interaction, and complex, inadvertent chaos (Howard, 2007; Kruse & Seashore-Louis, 2010).

Some researchers (Hazy, 2006, 2012; Lichtenstein et al., 2006; Marion, 1999; Marion, 2012; McKelvey, 2008; McMillan, 2008; Plowman & Duchon, 2008) believe that in the field of education, there exists a tenacious adherence to traditional leadership while all aspects of education are being faced with widespread change. Since education should be positioned at the forefront of cultural change, it should not be restrained by traditional models or styles of leadership that focuses on traditional outcomes (Marion & Uhl-Bien, 2002; Marion, 2008; Lichtenstein & Plowman, 2009; Hazy, 2012). These theorists do not imply that innovative progress in education related to teaching and learning have not occurred, but, due to the many shifts and changes in the educational landscape, there are those that believe time has come for change. One leadership style proposed to meet this challenge is the complexity leadership style (Hazy & Uhl-Bien, 2013; Lichtenstein, et al., 2006; Marion, 1999; Marion & Uhl-Bien, 2001; McMillan, 2008; Towler, 2019).

## **Theoretical Aspects of the Research Study**

### **Educational Leadership Theories**

Lorri Santamaría, (2016) explains that the origin of educational leadership theories began in the United States and is based mainly on principles drawn from industry and commerce management. Leadership theories derived from business-oriented frameworks have been utilized and adapted for use in educational systems in the United States and various developed nations. Therefore, it can be surmised that theories of educational leadership originated from a diversity of interdisciplinary models and conceptualizations over time. Because of this, leadership theories can be considered emergent, dynamic, and prone to further evolutionary changes (e.g.,

transformational and complexity leadership). Santamaría (2016) believes that all theories of educational leadership are subject to investigation of educational facilities such as schools, educational centers, and university settings to seek better understanding of the dynamics of leadership in various educational contexts. Harcourt-Heath (2013) expounds that in terms of defining a school facing challenging circumstances, there exist a disproportionately large number of negative factors acting internally compared with the whole set of contexts that schools nationally are operating within (p. 20). Santamaría (2016) argues that sometimes the investigated situations lead to the development of innovative and groundbreaking theories that contribute to existing canonical literature of this field.

Santamaría (2016) further expounds that most theories of education leadership are composed of key elements which usually include information concerning approaches, practices, and capabilities. A more in-depth observation of the elements composing these educational leadership theories reveals theoretical types of educational leadership, namely, styles, traits or behavior.

This research study employs the theories of educational leadership to examine the educational leadership behavior/style of public-school principals based on their practices and actions. The complexity leadership (CL) style and its behavioral attributes will be compared the those of other leadership styles noted as being effective in promoting academic success in public schools. One leadership style in this comparison has been considered as being highly effective, inspirational, and influential is known as transformational leadership (Bass & Avolio, 1994). This leadership style is described by Bass and Avolio (1994) as follows: “The new leadership that must accompany good management but goes beyond the importance of leaders simply getting the work done with their followers and maintain quality relationships with them” (p. 1).

A discussion of transformational leadership is found in the Literature Review in Chapter 2 of this study.

### **Transformation vs Complexity Leadership Style**

Although both transformational and complexity leadership address processes for stimulating transformation within organizations for effectiveness, their means of doing are viewed from different perspectives. In their discussion of differentiating transformational leadership from complexity leadership, Marion and Uhl-Bien (2002) begin by describing the transformational leader, according to Burns (1978, p. 4) as being a leader that “looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower” in an effort to transform followers into self-motivated “leaders” and to create a culture of organizational effectiveness. Their argument is that leadership that incorporates complexity theory likewise seeks strategies for stimulating effective organizational behavior, but it achieves this task from a uniquely different perspective. Complexity theory explores the dynamics of social network behavior, focusing on the products of interdependent interaction rather than on the products of direct leadership. Marion and Uhl-Bien propose that leadership activity is certainly important, but it is contained within the broader context of interactive dynamics (p. 3).

Marion, Uhl-Bien and Hall (2003) argue that while transformational leaders transform attitudes concerning a fundamental vision, complexity dynamics transform a social system into a network of unbiased, diverse, adapting agents. Further, transformational leadership seeks to convert followers into replicas of themselves, while complex leaders seek to convert followers into diverse yet interdependent “Complex Adaptive Agents” (Marion & Uhl-Bien, 2002, p. 56).

While traditional literature cites transformational leadership as being effective in producing system-wide change, recent conceptions from complexity leadership suggest a

combination of traditional leadership traits employed across networks may be more common (Harcourt-Heath, 2013; Marion, Uhl-Bien, & Hall, 2003; Uhl-Bien & Marion, 2002). Authors Marion and Uhl-Bien (2002) further argue that, “transformational leadership can be more fully realized within a context of network interdependency and should be considered a sub-perspective of a broader theory of Complex Leadership” (p. 5).

### **Research Question**

Samuel Casey Carter (2000), in his investigation of the educational plight faced by children from low-income families, discovered and wrote about twenty-one high-performing, high-poverty schools that dismissed the fable that children living in poverty are destined for academic failure condemning them to a life of failure. He found that the success of these students is the result of “hard work, common sense teaching philosophies, and successful leadership strategies that can be replicated” (p.2).

Carter (2000) argues that high-poverty schools not only should aim for excellency, but principals of these school, called “No Excuses Principals,” should ensure that children of all races and socioeconomic levels master key subjects, such as mathematics, reading, and fluency of the English language. Such high-performing principals possess distinctive competencies which include: a superb interconnectivity with parents and the enlistment of their active support for the school mission, capable administrators with innovative problem-solving skills, and creative ability that creates happy, safe, and disciplined environments in old dilapidated buildings (p. 3).

Effective school leadership for high-poverty public schools is identified and recognized in Alabama. Principals (and their schools) were recognized for their academic achievement as recipients of the State of Alabama Torchbearer School Award. Information concerning the

origin, honors, and accomplishments of Alabama Torchbearer Schools can be found in the Literature Review of this research study.

The transformation/transformational leadership style of principals is considered by many leadership theorists as being the most effective leadership style for encouraging change and implementing academic success and accountability mandates. Studies of Alabama Torchbearer Schools and their principal have claimed that the leadership style exhibited by the Torchbearer principals demonstrated leadership pattern the transformational leadership style (Coleman, 2013; Dawson, 2015; Gill, 2013; Sullivan, 2013). Although there are some very pertinent similarities that exist between the two leadership styles—transformation and complexity (CL)--this study argues that the leadership style of more Torchbearer principals exhibited more patterns of the complexity leadership (CL) style than the leadership patterns exhibited by non-Torchbearer principals. As argued by Marion and Uhl-Bien, there are distinguishing differences in the perspective of the two leadership behaviors: transformational behavior transforms attitudes concerning a fundamental vision while complexity leadership transform a social system into a network of adapting agents.

This study seeks to show that principals of Torchbearer Schools transformed their school system into a network of unbiased, diverse adapting agents instead of establishing a school system set on accomplishing a fundamental vision. Therefore, the question is:

Q1: Was the pattern of complexity leadership (CL) behavior more prevalent in the leadership actions of more principals of Alabama's Torchbearer Schools than in the actions exhibited by non-Torchbearer principals?

The hypothesis for this research study contends that the patterns of leadership behaviors described in complexity leadership were more prevalent in the leadership behavior of more Torchbearer Principals than the leadership actions of non-Torchbearer principals.

### **Significance of the Study**

Miller and Hutton (2014) describe school leadership as being ‘situated’ within an individual, but emerging through his or her interactions, managements, negotiations, and navigation in a school’s internal and external environment. There exists an abundance of research studies that confirm that schools need principals with new perspectives on leadership that challenge educational leadership theorists and practitioners to identify, rethink, and develop leadership strategies best for minority students in low-performing, high-poverty schools (Abu-Hussain, 2014; Arnold, 2018; Baltacı & Balcı, 2017; Gill, 2013; Goldstein, Hazy, & Lichtenstein, 2010; Hannah, 2019; Hazy & Uhl-Bien, 2014; Heissenberger & Heilbronner, 2017; Miller, 2017; Uhl-Bien, & Arena, 2017). Studies by Samuel Carter (2000), Shelly Habegger (2008), and others have shown that there are high-poverty, low-performance schools that have been transformed into high-poverty, high-performance schools because of the leadership exhibited by the school principal. The Torchbearer schools here in Alabama have also faced similar challenges as those schools described by the mentioned authors, yet they overcame and were able to successfully comply with NCLB mandates.

This study seeks to contribute to the vast pool of knowledge on educational leadership by providing a view of what leadership style may have been utilized by the Torchbearer Principals that led to the academic success of their schools. This endeavor is intended to aid in developing a tentative and practical leadership model for public school principals derived from the perspectives and experiences of high poverty/high performing schools exhibited by Torchbearer principals which led to improving student academic achievement. Such effort is focused on viewing public school

leadership from a retrospective view that recognizes the leadership style and its components that can enhance and advance student academic achievement in Alabama's low-performing schools.

### **Definition of Key Terms**

**Accountability:** Under the NCLB's accountability provisions, states must provide detailed plans describing how they will close the achievement gap and make sure all students, including those who are disadvantaged, achieve academic proficiency (U.S. Department of Education).

**Failing Schools:** A school a) is designated as a failing school by the State Superintendent of Education; and b) does not serve, exclusively, a special population of students and is listed in the lowest six percent of public K-12 schools based on the state standardized assessment in math and reading (ALSDE, 2013).

**Federal Poverty Level (FPL):** The set minimum amount of gross income that a family needs for food, clothing, transportation, shelter and other necessities. In the United States, this level is determined by the Department of Health and Human Services. FPL varies according to family size.

**High Poverty Schools:** Public schools where more than 75.0 percent of the students are eligible for free or reduced-price lunch.

**Low-income Families:** A term associated with the measure of poverty in the United States. Low-income families are primarily working families with income that is less than twice the Federal Poverty Level (FPL) (Acs & Nichols, 2006).

**Low-Performing Schools:** Schools that are classified as being in the bottom 10 percent of performance in a state, or who have significant achievement gaps, based on student academic performance in reading/language arts and mathematics on the assessments required under the ESEA or graduation rates (US Dept. of ED).



**Poverty:** A Deficiency of adequate income combined with other various deprivations that causes human capabilities to be neglected.

**Rural Schools:** Schools located in communities with a population under 2,500 (Johnson & Strange, 2007; NCES, 2006).

### **Limitations of this Study**

There are several limitations for this study. The first is the exemption of high school principals in this study. Only elementary and middle/junior high schools received the Torchbearer School Award during the duration of the program. Therefore, only principals of elementary and middle/junior high schools are included in this research study which limits the generalizability by excluding high school principals. The second limitation deals with the generalizability of this study. The findings may apply to schools and principals in Alabama with similar poverty levels (FPL) and population but cannot be generalized outside the state. Another limitation to this research study is the small sample size which consists of sixteen principals: eight Torchbearer principals and eight Non-Torchbearer principals.

### **Summary**

This research study is conducted to acquire information concerning whether the complexity leadership style can impact school principals in the successful compliance with the educational mandates imposed by NCLB and the Alabama Accountability Act. The study is presented in five chapters. Chapter 1 addressed the problem and the purpose of the study, the components involved in developing the research study, the theoretical aspect of the study, the research question, the hypothesis, the significance of the study, the definition of key terms, and the limitations of this study. Chapter 2 delivers a literature review that will elaborate on the topics that are involved in proposing this research investigation. This includes a review of the

origin, implementation, and effects of federal and state educational mandates, and extensive review of the most effective traditional leadership styles including transformational leadership (TFL), and the more recent leadership style, complexity leadership (CL). Chapter 3 will explain the research design and methods, including consent procedure, questionnaire development and administering used to examine the leadership style of the Torchbearer principals. Chapter 4 discusses the findings of the research analysis derived from the administering of the questionnaire which was composed of both Likert-style and open-ended questions. Chapter 5 is comprised of a discussion of the results, implications of the study, and recommendations for future research endeavors.

## CHAPTER 2: LITERATURE REVIEW

### **Introduction**

The following literature review provides insight into how various scholars have viewed issues concerning public school reform, compliance with federal and state educational mandates, and educational leadership styles. The review begins with highlights of the educational legislation that led to the passing of the NCLB Act of 2001 and the formation of the Alabama Accountability Act. The review of these two fundamental legislative acts is followed by information concerning the origin and significance of the Torchbearer Schools program. This is followed by a lengthy discussion of leadership styles which includes a view of the distinction between trait and behavioral characteristics of leadership. By vast amounts of research, components or characteristics of these selected leadership styles have been recognized as being the most effective styles for promoting academic school achievement.

Next, a discussion of the proposed hypothesis is undertaken that involves the combination of trait leadership characteristics. This proposal is intended to illustrate the possibility of the interaction of trait characteristics exhibited in the four leadership styles chosen to provide the school leadership behavior necessary to meet the challenges and demands faced by public school principals. This study poses the complex leadership (CL) style as being capable of meeting this challenge. The chapter will conclude with a detailed discussion of the origin, the proponents, and critics of this leadership style.

### **Legislation**

The Elementary and Secondary Education Act (ESEA) of 1965 brought education into the forefront of the national attack on poverty as proclaimed by President Lyndon Johnson's "War on Poverty" (Paul, 2016). This battle had been proposed earlier. The publication of

*Education and the Disadvantaged American* in 1962 by the National Education Association provided an analysis of “the problem of the disadvantaged” (Jeffrey, 1978, p. 12). It was proposed that by changing the way of instructing the poor, by enriching their school experience and increasing services, “compensatory education” could bring deprived children up to the achievement level of the middle-class children. Educators emphasized:

These disadvantaged children who live in the depressed core of the city, have the same intellectual potential as other normal children. They are not inherently dull or stupid; many are, or would be, bright and alert if their basic physical needs were met, if they were given experiences that would encourage them to want to learn the ways of the middle-class world, if they were carefully and devotedly taught by able teachers who believed in their potential and sought to release it through all the many means of excellent education (Passow, 1963). If schools could succeed in raising deprived students to the academic level of middle-class students, “then the regular learning procedures of the school which are quite effective for the advantaged children are also likely to be effective for the culturally deprived children.” (Bloom, Allison, & Hess, 1965, p. 12)

The signing of the ESEA represented an unprecedented commitment to equal access to quality education that aimed at compensating educational deficits that existed in the lives of the poor and minority children of this nation (Bloomfield & Cooper 2003; Cross, 2004, 2005; Paul, 2016). Since its inception, the government has reauthorized the Act every five years, although various revisions and amendments have been introduced.

The most recognized subdivision of ESEA is Title I. It is the program established by the U.S. Department of Education to allocate funding to Local Educational Agencies (LEA) for the education of children from families of low socioeconomic status (SES) (Zascavage 2010). Title

I is not only the most recognized provision of the ESEA, it also accounts for over 83% of the total funds authorized by the federal government to the educational program (Paul, 2016).

Over the past four decades there have been many amendments and reforms of the ESEA which always included changes to the federal regulation of Title I. In 1981, during the Regan administration, the Education Consolidation and Improvement Act (ECIA) was passed by Congress to reduce federal regulations of Title I. This change sought to reflect the stance of the administration that educational funding should be administered by the state and LEA rather than at the federal level. The proposed changes outlined by the ECIA along with the intended designation of Title I to Chapter 1, was never fully implemented and the traditional practices of Title I continued (Paul, 2016; Zascavage, 2010).

### **No Child Left Behind Act (NCLB)**

The major change in federal educational funding occurred on January 8, 2002 with the signing into law of the No Child Left Behind (NCLB) Act of 2001, which reauthorized the ESEA of 1965. Although Title I remained dedicated to the advancement of academic achievement of children from minority and low-income families, the NCLB Act transformed the federal government's role in public education from being primarily dedicated to providing supplemental funding to becoming a major factor in the development of K–12 curriculum and instruction (Bloomfield & Cooper, 2003; Zascavage, 2010).

Christopher Cross (2004) composed an analogy that provides a synopsis of the radical changes made by NCLB pertaining to the federal government's role in the public education school system:

The No Child Left Behind Act of 2001 transformed the federal government's role in education, moving it, in a musical sense, from second-chair status in the orchestra to the

conductor's podium. The government is now almost literally in the position of setting the stage for all the other players. The conductor can call in the string section (highly qualified teachers), cue the wind section (supplementary-service providers), maintain the drama through the percussionists (adequate yearly progress), and conclude with a stunning finish that brings everyone to their feet (accountability)... [And] state superintendents of education, along with the state boards, legislatures, and governors, must now follow the score. (p. 158)

### **NCLB: Accountability and Mandates**

The No Child Left Behind Act of 2001 was a profound departure from the traditional role that the federal government played in public education (Cross, 2004; Sunderman, Kim, & Orfield, 2005). Bloomfield and Cooper (2003) stated the passing of the NCLB Act allowed the federal government to make an unprecedented move toward a national standard in education based on state-determined tests and standards, combined with specific processes and consequences that are federally mandated. Although the standards were established at the state level, states' compliance toward national standardization would be measured by student performance on the National Assessment of Educational Progress (NAEP, 2011).

According to NCLB mandates, all students are required to be tested during grades 3-8, 10, and 12 in math and reading, and all schools are required to demonstrate that their students are making adequate yearly progress (AYP) in mathematics and reading (Bloomfield & Cooper, 2003; Fletcher, 2006).

States had to create AYP objectives that were consistent with the following seven requirements:

1. States were required to develop AYP statewide measurable objectives for improved academic achievement and for groups such as students with disabilities, economically disadvantaged students, and students with limited English language proficiency.
2. These objectives were set with the goal of having all students at a proficient level in 12 years.
3. AYP was to be based on statewide standardized assessments. These assessments had to include one additional academic indicator.
4. AYP was to be assessed on a school-wide level. Schools not meeting AYP for two consecutive years were identified as needing improvement.
5. School AYP results were reported separately for each of the identified student groups in order to determine if the district was meeting AYP.
6. At least 95 percent of each group of students had to participate in the statewide assessments.
7. States could aggregate three years of data when making AYP (Rotherham & Dillon, 2007, p. 3).

States were also required to provide “highly qualified” teachers to all students. Each state was responsible for creating their standard for “highly qualified.” States were also required to create “one high, challenging standard,” which the state defined, and the state had to apply these curriculum standards to all students (Rotherham & Dillon, 2007, p.3).

Schools were held accountable by punitive measures that would be enforced if schools failed to meet AYP in the following manner.

1. Schools that missed AYP for two consecutive years were publicly labeled as “in need of improvement.” These schools were required to develop a two year improvement

plan for the subject in which the school is not meeting AYP. Students were also given the option of transferring to a better school within the school district.

2. Missing AYP for a third consecutive year mandated that schools offer free tutoring and other supplemental education services to students that were struggling.
3. Schools missing AYP for a fourth consecutive year were publicly labeled as “requiring corrective action.” Corrective action could include changes in the staff and administration, introduction of a new curriculum, or extending the amount of time students spend in the classroom.

If a school failed to meet AYP for a fifth consecutive year, a plan was put in place to restructure the entire school. This plan was implemented if the school then failed to meet AYP for a sixth consecutive year. Options for restructuring included closing the school, hiring a private company to run the school, converting the school into a charter school, or asking the state department of education to directly oversee school operations (Rotherham & Dillon, 2007, p. 3).

### **Every Student Succeeds Act (ESSA)**

Every Student Succeeds Act (ESSA) was signed by President Obama on December 10, 2015 replacing NCLB. The bill reduced the authority of the U.S. Department of Education over state education systems by granting both states and school districts more power to determine their own academic assessment, testing standards, and interventive methods (Klein, 2015). States still must test students in reading and math in grades 3 through 8 and once in high school, and provide data for whole schools, plus different “subgroups” of students (English-learners, students in special education, racial minorities, those in poverty). ESSA maintains the federal requirement for 95 percent participation in tests. States must continue supporting their lowest-performing schools (“priority schools”) and schools with big achievement gaps (“focus schools”)



until the ESSA plans are fully enforced. Although NCLB has been replaced by ESSA, many of the academic challenges faced by the public-school system still persist (Klein, 2015).

### **The Alabama Accountability Act**

The Alabama Accountability Act was passed by the Alabama State Legislature in 2013. The accountability provisions made for Alabama, which are in line with 12 other states, were viewed as a major step toward improving the educational objectives of students in failing schools. The Act established educational flexibility from some state requirements which already existed for public schools, created a tax credit scholarship program, and started a refundable tax credit for parents of students in K-12 public schools (Crain, 2014).

In compliance with the AAA guidelines, a revised list of schools is developed and posted annually. The list is provided by the State Department of Education, and provides the System Code, System Name, School Code, and School Name for each school. In accordance with the AAA of 2013 Definition per Section 4(3) of ACT 2013-265, a public K-12 school is defined as “failing” based on one or more of the following three criteria:

1. That is labeled as persistently low-performing by the State Department of Education, in the then most recent United States Department of Education School Improvement Grant application;
2. That is designated as a failing school by the State Superintendent of Education;
3. That does not exclusively serve a special population of students and, until June 1, 2017, has been listed three or more times during the then-most recent six years in the lowest six percent of public K-12 schools on the state standardized assessment in reading and math.

4. That on or after June 1, 2017, has during the then most recent three years, earned at least one grade of “F” or, during the then-most recent four years, earned at least three grades of “D” on the school grading system developed pursuant to Section 16-6C-2, Code of Alabama 1975 (ALSDE, 2015).

The current law defining “Failing” Schools as defined by the Alabama Accountability Act of 2015-434, p.7 states:

A Failing School is a public K-12 school that is either of the following:

- (a) Is designated as a failing school by the State Superintendent of Education.
- (b) Does not exclusively serve a special population of students and is listed in the lowest six percent of public K-12 schools based on the state standardized assessment in reading and math. It does not automatically include schools receiving School Improvement Grants (ALSDE, 2018).

### **Alabama’s Failing Schools List**

The establishment of the Alabama list of “failing” schools met with controversy from its inception. Opponents claimed the AAA weakened the financial support as well as the perception of public schools by:

1. Labeling schools as “failing” and creating negative attitudes toward those schools which included the teachers, students, and surrounding community.
2. Providing tax incentives for movement from “failing” public school zones further replenished resources needed to improve education at the schools.

Those opponents of NCLB and the Accountability Act had various reasons for their stance. Four key areas cited by various authors (ALSDE, 2015; Crain, 2014; Hursh, 2007; Karen, 2005; Stecher, Vernez, & Stecher 2010) were: 1) narrowing school curricula, 2)

compelling teachers to focus on a particular subgroup of students at the expense of others, 3) not promoting the development of higher-thinking and problem-solving skills, and 4) the belief that AAA relies on flawed methodology for labeling schools as “failing.”

Lily Eskelsen-García, president of the National Education Association and Otha Thornton, president of the National Parent Teacher Association, argue that accountability under NCLB is based entirely on standardized tests: a single number that has the power to determine whether students graduate, or teachers remain employed. They believe a single test score is analogous to a blinking “check engine” light on a car dashboard that informs us something is wrong but does not tell how to fix the problem. These authors further expound that what is necessary for academic achievement is a whole dashboard of indicators that monitor better indications of success for the whole child — a critical, creative mind, a healthy body and a moral, ethical character. These indicators should focus on the educational services, programs, and resources available students (Eskelsen-García & Thornton, 2015).

In response to NCLB proposing equal opportunity for low-performing, high-poverty schools, Eskelsen-Garcia and Thornton (2015) stated the following in an article in the Washington Post:

Real equal opportunity, of course, isn't a “one size fits all “proposition. It means providing every child whatever he or she needs to learn, whether its tutoring and mentoring, counseling or other services. If a student comes to school hungry or sick, can we really say that she has an opportunity to learn? Of course not—and we must acknowledge this by seeing each student as a whole human being with individual needs.

However, before the passing of the legislative accountability bill, the State of Alabama established a *State Accountability System* under the NCLB Act which established a reward

system for schools that met or exceeded annual academic achievement expectations. Schools were selected based on assessment data and recipients were awarded according to the categories of: Advancing the Challenge, Meeting the Challenge, Exceeding the Challenge, Addressing the Challenge, and Torchbearer School (ALSDE, 2013).

### **Alabama Torchbearer Schools**

To meet accountability standards, comply with federal mandates, and improve the academic success of high-poverty schools, the Alabama State Department of Education (ALSDE) pursued avenues to support the development and growth of all school leaders. This pioneering initiative was accomplished by the establishment of the Alabama Leadership Academy (ALA) whose purpose was the promotion of academic quality of school leadership statewide (Coleman, 2013; Thatcher, 2006).

### **The Torchbearer School Program**

The Torchbearer School Program was created in 2004 by the Alabama Leadership Academy at the Alabama State Department of Education. Its establishment was based on research conducted in Samuel Casey-Carter's book, *No Excuses: 21 Lessons from High-Performing, High-Poverty Schools*. This book provided insight into the dynamics of 21 high-poverty schools that overcame "the bureaucratic and cultural obstacles that keep low-income children behind in most public schools" (Carter, 2000, p. 1). These schools replaced the academic standards of failure with standards of achievement (ALSDE, 2013).

The Alabama Leadership Academy believed that such schools existed in Alabama and established the Torchbearer School Program as a platform for recognizing the accomplishments made by Alabama's high-poverty public schools that overcome the odds against them and achieved standards of academic excellence. These accomplishments were attributed to the

arduous work and commitment exemplified by Alabama administrators, principals, teachers, staff, students, families, and communities (Thatcher, 2006).

### **The Torchbearer School Award**

Since its inception, the reward for being a Torchbearer School was considered a momentous accomplishment that included an annual state-wide commencement ceremony and a \$25,000.00 cash incentive for each school. The objective of the Torchbearer School Award was to recognize schools considered to be high-poverty/low-performing that demonstrated resilience and overcame educational and academic challenges and successfully met NCLB mandates.

Over the duration of the program, the requirements for Torchbearer School recognition changed. The criteria for receiving the award were:

- Have at least 80% poverty rate (percent free/reduced meals).
- Have at least 80% of students score Level III or Level IV on the reading section of the Alabama Reading and Mathematics Test.
- Have at least 80% of students score Level III or Level IV on the mathematics section of the Alabama Reading and Mathematics Test.
- Have at least 65% of students score in stanines 5–9 on Stanford 10 reading.
- Have at least 65% of students score in stanines 5–9 on Stanford 10 mathematics.
- Have at least 95% of Grade 12 students pass all required subjects of the Alabama High School Graduation Exam.
- Have a graduation rate above state average.
- Identified as Meeting the Challenge School.
- Identified as Advancing the Challenge School
- Identified as Exceeding the Challenge School.

- Be in existence at the time of the award. (ALSDE, 2014)

Schools defined as Challenge Schools are those that have met criteria set by the No Child Left Behind. Such schools, by meeting or exceeding AYP objectives or closing achievement gaps became eligible for Academic Achievement Awards. The categories included: Exceeding the Challenge, Addressing the Challenge, Advancing the Challenge, and Meeting the Challenge. Schools having more students than the state averages in specific demographic groups passing standardized reading and math tests would receive the “Exceed the Challenge” and/or “Addressing the Challenge” for closing the achievement gap that exists between White and minority students by at least 15 percent. Schools with at least 80 percent of their students coming from families that are poor are eligible for two awards: 1) “Advancing the Challenge” by having more students score in the “advanced” category of the standardized tests than the state average and “Meeting the Challenge” for meeting state academic standards for at least two years in a row (Coleman, 2013).

State Superintendent of Education Dr. Tommy Bice made the following statement concerning the success of Torchbearer Schools:

Since 2004, the Torchbearer School Program has recognized public schools in Alabama that show growth and success in the face of significant challenges. Torchbearer Schools do not allow those challenges to turn into excuses. Torchbearer schools exhibit exemplary leadership, helping all students towards success. (ALSDE, 2013).

The “exemplary leadership” of the Torchbearer school principals is congruent with the leadership found in the 21 high-poverty high-performance schools researched by Samuel Carter; Carter also attributed the success accomplished by the schools to the leadership of the school principal.

Several dissertations have been done that focused on various perspectives of the leadership exhibited by the principals who presided over Torchbearer Schools in Alabama (Coleman, 2013; Dawson, 2015; Gill, 2013; Ross, 2013; Sullivan, 2013). Although each study incorporated research using different research methods and perspectives, all the studies emphasized the exemplary leadership demonstrated by the Torchbearer principals. This study agrees with those researchers concerning the accomplishments made by those principals and focuses on the leadership style used by them.

### **The Importance of Leadership Styles of School Principals**

Research on the vital role of leadership styles employed by school principals has grown exponentially over the past decades because of the demands for effectiveness aimed at improving school management, educational success, and implementation of educational policies (Abu-Hussain, 2014; Amanchukwu, Stanley & Ololube, 2015; Bush, 2007; Ekpiken & Ifere, 2015; Smith, 2016). The Organisation for Economic Co-operation and Development (OECD, 2009) stated in their report “Leading to Learn: School Leadership and Management Styles,” that to face the educational demands of the 21<sup>st</sup> century, principals in primary and secondary schools must exhibit a more dynamic role and become more than an administrator of hierarchical rules and regulations.

The school principal is defined as being the professional and administrative leader of public schools. Therefore, he/she is directly responsible for the overall successful operation of their school (Branch, Hanushek & Rivik, 2013; Fiarman, 2017; Habegger, 2008; Hull, 2012; Trach, 2017). Because of the importance of their position as leaders, the leadership style of the public-school principal will be examined.

## **Leadership Styles**

The rich and abundant source of information available pertaining to educational leadership styles provides a vast array of leadership models that have been proposed as effective in impacting the success of public schools (Abu-Hussain, 2014; Amanchukwu, Stanley & Ololube, 2015; Blanken, 2013; Dems, 2011; Gupta, 2016; Smith, 2016; Whitlock, 2017). Many of the styles differ in their approach to leadership attributes, the interaction that exists between the leader and the school staff, and level of commitment. With increasing challenges faced by principals, a variety of leadership styles have been identified in hopes of providing the leadership that is necessary for fulfilling the accomplishment of school academic success and for compliance with federal and state educational mandates. Ten leadership styles and their most basic behaviors are listed in Table 1, followed by a discussion of the concept and the characteristics exhibited by each style.



**Table 1***Most Common Leadership Styles and Their Behaviors Considered Effective in Educational Achievement*

<b>LEADERSHIP STYLE</b>	<b>BEHAVIOR</b>
1. Adaptive Leadership	Provides the ability to diagnose and innovate within an environment. Mobilizing staff to tackle difficult task and thrive (Heifetz, Grashow, & Linsky, 2009).
2. Task-Oriented Leadership	Establishing detailed schedules and plans. Prioritizing objectives and ensuring a clear collaboration with staff members (Bass, 1967; Blake & Mouton, 1964; Spahr, 2015 ).
3. Emotional Leadership	Demands leaders be emotionally intelligent themselves and then to motivate through the use of that emotional intelligence (McDowelle & Buckner, 2002; Marques, 2007).
4. Innovative Leadership	Seeks to find what is not working and brings new ideas and actions in the situation (Shimonseki, 2014; Heissenberger & Heilbronner, 2017).
5. Situational leadership	Instructive and supportive while coaching and empowering. Makes changes in behavior, and direction to obtain set goals (Hersey & Blanchard, 1969).
6. Strategic Leadership	Usually involves strategic thinking and planning. Provides new possibilities through a prescriptive set of habits (Stacey, 1992; Tichy & Sharman, 1993).
7. Transformational Leadership	Seeks to stimulate change and innovation. Leader serves as a role model and counts on everyone giving their best (Burns, 1978).
8. Transactional Leadership	Fulfilling set goals through rewards and incentives. Completely status quo, leader/subordinate interaction (Burns, 1978; Spahr, 2014).
9. Servant Leadership	Strives to serve first, rather than to lead, always striving to meet the highest priority needs of others (Greenleaf, 1977).
10. Cross-Cultural Leadership	Involves working in a multi-cultural environment. Required to have skills for adapting to multi-cultural differences (Tung, 1997; Tullett, 1997).

**Note:** This table identifies some of the most common leadership styles and their behaviors.

The ten leadership styles listed in Table 1 have been utilized in many organizations and institutions and have been acknowledged as being successful in accomplishing desired goals and objectives. In today's educational arena, these leadership styles are designed with the intention of pushing school principals beyond the traditional expectation. Michael Fullan (2007) argues that effective school leaders are essential to comprehensive, sustainable educational reform. He further states that only principals who are capable and equipped to handle the complex, increasingly changing school environment can implement the reforms that lead to sustainable improvement in student achievement. A description of the characteristics of each leadership style follows.

### **Adaptive Leadership**

Adaptive leadership style is defined as, "the practice of mobilizing people to tackle tough challenges and thrive" (Heifetz, Grashow, & Linsky, 2009). These authors explain that the practice of this leadership style is based on six components which are:

- Adaptive leadership is explicitly about change that empowers the capacity to thrive. New avenues and new tasks demand new strategies.
- Successful adaptive changes are both conservative and progressive. They make the best utilization of previous wisdom and capabilities.
- Organizational adaptation happens through experimentation. Such leaders must learn to improvise as they go.
- Adaptation depends on diversity. For organizations, such as schools, adaptive leadership would create a culture that values diverse views and does not always rely on central planning.

- New adaptations greatly replace and rearrange some old standards. One individual's innovation can cause others to feel betrayed, incompetent, or unimportant. Since few people like the idea of "rearrangement," there is a need for acquired knowledge to counteract these patterns of behavior.
- Adaptation is not instantaneous; it takes time. Significant change is produced through incremental experiments that develop over time (2009, p. 14)

### **Task-Oriented Leadership**

Task-oriented leadership style is one of the primary models of leadership behaviors (Bass, 1967; Blake & Mouton, 1964; Fielder, 1967; McClelland, 1961; Wofford, 1970). Bass (1990) depicts several versions of task-oriented leadership styles starting with the type of task-oriented leadership proposed by Birnbrauer and Tyson (1984) known as "hard driver" or "persuader," and "autocratic leadership" posed by Reddin (1977). Bass argues that successful task-oriented leaders contribute to the followers' effectiveness by establishing goals, assigning duties, and imposing sanctions. These leaders also provide structure, direction, and develop well-defined paths of organization and channels of communication for their followers that focuses on ways to accomplish assigned objectives (Bales, 1958; Bass, 1981; Hemphill, 1950; Hersey & Blanchard, 1977, 1982; Thenuwara & Pang, 2003).

Other researchers viewed task-oriented leadership as performance leadership that motivates and stimulates groups to the achievement of goals (Misumi, 1985; Spahr, 2015), viewing such leaders as strategic thinkers who project patterns of collective behavior in consideration of the entire situation. This view poses that the curiosity or inquisitiveness of the leader concerning issues and approaches within the organization can form an inner-connection that achieves objectives, thus forming a "culture of productivity" (Cleveland, 1980).

## **Emotional Leadership**

Emotional leadership style is based on the concept of emotional intelligence (EQ). McDowelle and Buckner (2002) point out that emotional leadership is supported by over eighty years of rigorous empirical research on the function and role of emotions in decision making. It is believed that the concept of EQ can provide vital insight into human behavior and aid school leaders in understanding and predicting the actions of individuals in organizations when utilized with accuracy and care.

McDowelle and Buckner (2002) defined emotional intelligence leadership as:

- Knowing one's own emotions: being able to identify with accuracy what you are feeling (e.g., knowing whether the emotion you are experiencing is fear or anger).
- Managing one's emotions: using your emotions in a productive manner and not permitting your emotions to overwhelm you.
- Motivating oneself: the ability to utilize your emotions to promote self-motivation.
- Recognizing emotions of others: the ability to empathize. This is the skill of being able to put yourself in someone else's situation.
- Handling relationships: the ability to recognize emotions in those in your surroundings and the ability to use others' emotions in productive manners. (p. 4)

In her journal article entitled, "Leadership: Emotional Intelligence, Passion and ... What Else?" Joan Marques (2007) further proposes that without the presence of emotional intelligence, a leader may lack the vital quality of "reading between the lines and listening to the unspoken" (p. 645). Marques further expounds on the meaning of emotional intelligence by providing the definition given by Mayer, Caruso and Salovey (1999, p. 267):

Emotional intelligence refers to an ability to recognize the meanings of emotion and their relationships, and to reason and problem-solve on the basis of them. Emotional intelligence is involved in the capacity to perceive emotions, assimilate emotion-related feelings, understand the information of those emotions, and manage them. (p. 645)

### **Strategic Leadership**

Strategic leadership style describes leaders as having the ability to be strategically oriented. This quality involves the ability to consider both the long-term future, seeing the bigger picture, as well understanding the current contextual setting of the organization. Strategic orientation is defined as the ability to link long-range visions and concepts to daily work (Adair, 2002; Beare, 2001; Boisot, 1995; Stacey, 1992; Tichy & Sharman, 1993).

Strategic leaders are said to have the ability to align people and organizations. This ability involves aligning individuals, or the school as a whole, to a future organizational state or position (Davies, 2003; Gioia & Thomas, 1996; Gratton, 2000). Davis and Davis (2004) believe that one way of rationalizing the sense of complexity is to create mental models and frameworks to add clarity in their understanding. Boal and Bryson (1988) believe a key element of this ability is to encourage commitment through shared values. Davis (2004) adds that strategic leadership is based on a conceptualization of strategic intelligence—like emotional intelligence—can be summarized as three kinds of wisdom:

- People wisdom: sharing information and participating with others; developing innovative thinking and motivation; and developing competencies and capabilities within the school.

- Contextual wisdom: sharing values and beliefs; developing networks and understanding the external environment; and developing and understanding and culture;
- Procedural wisdom: provides a strategic learning cycle that enables the appropriate choice of strategic approach and appropriate choice of strategic processes (p. 134-136).

### **Transformational Leadership**

The original concept of transformational leadership theory was formulated by Burns (1978). The core of transformational leadership is the idea of change or transformation within an organization. Transformational leadership is defined by Tichy and Devanna (1986) as a combination of change, entrepreneurship and innovation. Burns (1978) further defines this leadership as a procedure in which “leaders and followers raise one another to higher levels of motivation and morality” (p.20).

Burns (1978) argues that the act of directing attention on necessary actions makes leaders accountable to their followers. He further explains that followers are motivated by a moral need, which stems from a desire to conquer a challenge or to take a moral stance on a given issue. He believed that transformational leaders should strive to make sense out of inconsistency and that conflict is a necessary means of creating alternatives and making change possible (p. 36). The transformational process is characterized by insight, empathy, consideration, and understanding; not power wielding, manipulation, or coercion (Burns, 1978; Crawford, 2001).

The concept of educational transformational leadership had its origin with Kenneth Leithwood and other educational researchers (Leithwood, 1990; Leithwood, Begley, & Cousins, 1990; Leithwood & Jantzi, 1990; Leithwood & Steinbach, 1991) during the late 1980s and early

1990s. The transformational leadership model arose from the demands on the school system to raise standards and improve students' academic performance, along with the recognition that there is a link between leadership and school effectiveness (Smith, 2014; Stewart, 2006). It soon became recognized as a leadership style exemplified by individuals who are team-oriented, strong communicators, team players, problem solvers, change-makers and educational leaders.

Phaneuf, Boudrias, Rousseau, and Brunelle (2016) describe the transformational leadership style as possessing four leadership behaviors. The first, *individualized consideration*, consists of the leader's interest, respect, and concern (care/love) for their employees and the development of their aspirations and maturity (Abu-Hussain., 2015; Bass, 1999; Smith, 2016). *Intellectual stimulation* refers to innovative ideals, a movement from the status quo, and a motivating environment for change (Bass, 1998). *Inspirational motivation* instills a motivational environment with a positive vision aimed at creating a sense of pride, value, and support amongst employees (Bass & Riggio, 2006). *Idealized influence* is charismatic behavior that makes the leader a role model that inspires visions, instills trust (Bryk & Schneider, 2003; Fiarman, 2017), confidence, and empowers the school to perform as a collective unit (Balyer, 2012). The research team of Kurland, Peretz, and Hertz-Lazarowitz (2010) examined the influence of 7 principals' leadership style on school learning utilizing school vision as a mediator. The results of their study found that high performing schools had transformational principals who shaped the school vision and developed a mutual culture that fostered the empowerment of teachers (Smith, 2016).

Bill Hogg (2012) believes there are an additional set of characteristics besides the basic leadership qualities that define transformational leaders which are listed in Table 2. For each of the 10 characteristics, the behavioral attributes are listed.

Table 2

*Characteristics of Transformational Leadership (adapted from Bill Hogg, 2012)*

Characteristics	Behavioral Attributes
1. Internal motivation and self-management	Ingenuity, Innovative
2. Organizational Consciousness	Self-awareness, Self-confidence
3. Visionary	School mission, Academic vision
4. Willing to listen and entertain new ideas	Good listener, Creative
5. Ego Check	Humility
6. Willing to take the right risks	Courageous
7. Adaptability	Flexible
8. Inspirational	Motivating
9. The ability to make difficult decisions	Good Judgement
10. Proactive	Driven

Brower and Balch (2005) propound that pedagogical decision-making is a core component of transformational leadership. Their view is that without a consistent decision-making pedagogy, unanimity does not develop in the presence of difficult decisions. Because of this, transformational decision making, acting, and thinking should reflect the common good rather than the individual good in a manner that all leaders and members of the institution can embrace a common pedagogy geared toward transformational leadership conception (p.15).

### **Innovative Leadership**

Innovative Leadership style is viewed by many researchers as having its origin linked to transformational leadership and its leadership qualities (Heissenberger & Heilbronner, 2017; Howell & Higgins, 1990a, 1990b, 1990c; Shimonseki, 2014). Research performed on innovative



leadership behavior suggests that the act of innovating has definite social implications in the personal, organizational, and global context (Crawford, 2001; Howell & Higgins, 1990a, 1990b, 1990c; Rice, 1987; Walther, 1994).

Innovation is described by Shimonseki (2014) as the concept of vision being developed into strategy and adapted into a culture that can help breed innovative thinking. The utilization of this practice can help the development of innovative leaders or allow them to emerge. Concerning innovation and school principals, Heissenberger and Heilbronner (2017) ask the question of whether leaders need a vision to bring about innovation, or can they effectively control the development of innovation through a management approach? The research study performed by Heissenberger and Heilbronner, along with that of Kurland, Peretz, and Hertz-Lazarotiz (2010) suggest that links do exist between school innovation and the leader's vision, especially with those school principals that exhibit transformational leadership style.

Heissenberger and Heilbronner (2017) performed a study that examined the match between leadership style and the type of school in terms of innovative practices. Their findings agreed with those noted by Avolio and Bass (1995), that highly transformational leaders are apt to find leadership intellectually stimulating which motivates them to define goals and try new strategies to promote innovation (p. 97).

Jack Zenger and Joseph Folkman (2014) conducted a study to determine what the attributes of innovative leaders were. From their investigation, ten distinct behaviors emerged: 1) strategic vision; 2) focus; 3) reciprocal trust; 4) loyalty; 5) faith in a communicative culture; 6) persuasive; 7) set stretch goals; 8) emphasize speed; 9) candid communication, and 10) inspire and motivate. The authors note that their investigation involved a single company but argue that the results were consistent with analysis of highly innovative leaders in hundreds of other

organizations in industries as varied as pharmaceuticals, automotive, consumer products and from all parts of the globe. From this, it is suggested that these conclusions describe highly innovative individuals in all industries, as well as from different cultures throughout the world.

### **Situational Leadership**

Situational leadership style was developed by Paul Hersey and Kenneth Blanchard (1969) and refers to the practice of leaders adjusting their leadership style to fit the development level of the followers. This leadership style proposes that the leader changes his or her style depending on the situation, and it is not the followers adapting to the leader's style. Therefore, the leadership may continually change to meet the needs of those in the organization based on the situation (Anthony, 2019).

According to Hersey (1985), there is a correlation between a situational leader's expectations and the resulting performances of followers. A leader possessing high, realistic expectations causes high performance of followers, whereas a leader's low expectations leads to low performance of followers. Hersey argues that a leader's diagnostic skills are vital since the willingness of the followers vary. Therefore, the leader must use sensitivity and diagnostic ability to recognize and differentiate. Concerning situational leadership style, Hersey (1985) says, "It [situational leadership] provides a framework from which to diagnose different situations and prescribes which leader behavior will have the highest probability of success" (p. 57).

The theory of situational leadership is based on the notion that there is no best style of leadership, it all depends on the situation. Situational leaders evaluate situations by asking questions concerning any occurrence within the organization. The understanding is gained from the answers received from the questions; the leader performs the task that is necessary to

successfully lead the followers. The basic attributes of this leadership style are flexibility; directive (gives specific instructions to followers concerning objectives or goals); coaching (encourages followers, solicits input); participative (allows followers to actively participate in the decision-making process); delegative (employees know their role and perform it with little supervision required (Anthony, 2019).

### **Transactional Leadership**

Transactional leadership style, first introduced by Max Weber, is “the exercise of control with knowledge” (Spahr, 2014). Spahr (2014) argues that this leadership style tends to focus on results while conforming to the existing structure of an organization. It is based on hierarchical superior/subordinate organizational standards and thrives on implementing structured policies and procedures efficiently (Amanchukwu et al., 2015). Successful completion of accomplishments are measured according to the institution’s system of rewards and penalties (Burns, 1978; English, 2008). Nazim and Mahmood (2016) further explain that a transactional leader sets the goals and conveys the relationship that exists between performance and rewards.

The transactional leadership style grew in notoriety after World War II in the United States because of governmental concentration on rebuilding which required an elevated level of structure to maintain national stability (Spahr, 2014). Spahr (2014) believes that presently, this leadership style is more prone to succeed in a crisis situation such as natural disasters or in organizations requiring linear and specific procedures such as large corporations.

Burns (1997), in his book entitled *Leadership*, states that the most difficult and challenging problem faced by many leaders is the act of reconciling divergent groups which in turn effects the leader. This results in conflict taking place within the leader as well as among the groups, staff, or constituents involved. He relates that such conflict is multifold and the

function of leadership becomes even more complex with the consideration of the leader's varying relations to conflict and consensus, which is dependent on the context within which a particular leadership is perceived. He argues that, in such situations, transactional leadership has a central role. Burns states:

The most visible and often the most consequential type of leader is the person who has major objectives—ideological, programmatic, policy, career, or immediately self-serving—and who seeks to activate, mobilize, and motivate all persons relative to their purposes. (p. 262)

Because of this view, it is emphasized that transactional leaders should exemplify high moral standards and set optimum objectives. The model of a transactional leader proposed by Burns (1997) possesses the following characteristics: honesty, commitment, fairness, and being responsible/accountable (p. 263).

### **Transformational versus Transactional Leadership**

Some authors argue that the concept of transactional leadership is not equipped to function effectively in today's educational systems, while others believe that both transactional and transformational leadership are beneficial to academic success. It is argued by Heissenberger and Heilbronner (2017) that the transactional leadership style produces less enlightenment within an organization causing leaders to worry about how others can benefit them rather than how their actions can benefit the school system and achieve better results. They believe transactional leaders tend to focus more on the daily oversight of teacher management, contingent on rewards, than on the visionary aspects connected to innovation and intellectual growth.

Bryant (2003) contrasts transformational and transactional leadership as follows:

- Transformational leadership inspires exceptional performance while transactional leadership aims to achieve solid, consistent performance that meets established goals.
- Transformational leadership creates an atmosphere that encourages intellectual development and motivate teachers to create and share knowledge while transactional leadership provides rewards and punishments to encourage performance.
- Transformational leadership, by clearly articulating a challenging vision and strategic objective for the school system, inspires motivation to higher levels of commitment, innovation, and effectiveness. Transactional leadership encourages detailed exchanges of instructions and regulations linked with a close connection between objectives and rewards. Because of this exchange, workers are not motivated to give anything beyond what is clearly specified in their contract. (p. 6-7)

Although these two models of leadership are mainly considered to be polar opposites (Ingram, 2019), it is the view of some authors that some leadership characteristics are shared. Bryan (2003) states that both Bass (1985) and Conger and Kanungo (1998) agree that although individual leaders tend to emphasize one of these styles more than the others, all leaders exhibit characteristics of both transformational and transactional leadership styles. Conger (1999) proposes that both models require effective management of knowledge of the school system.

A study performed by Halia Silins (1994) sought to examine the degree of overlap that existed between operational definitions of transformational and transactional leadership. Findings indicated that transformational leadership influences school, teacher, and instruction/program outcomes strongly and directly. Evidence from the analysis also presented a positive, correlational nature of relationship between the two models of leadership. Silins concludes her study by stating that the comparison of the two styles “provided evidence for the

positive, relational nature of the link between transformational and transactional leadership” (1994, p. 14).

### **Servant Leadership**

The concept of servant leadership is based on a leadership style in which the leaders are driven to serve first, rather than to lead, and continuously strive to meet the highest priority needs of others (Ferch, Spears, McFarland, & Carey, 2015; Letizia, 2018; Russell, 2001; Russell & Stone, 2002). The concept of servant leadership was first introduced by Robert Greenleaf (1977). It is believed that the idea of this concept came partly from his over fifty-year experience working to restructure large institutions, a forty-year career with AT&T and twenty-five years as an influential consultant to major institutions which included Ohio University, Ford Foundation, MIT, the Mead Foundation, the American Foundation for Management Research, and Lilly Endowment. Since its inception, Greenleaf’s servant leadership essays and writings have deeply influenced leaders, educators, and others who are concerned with issues of service, management, leadership, and personal growth. It is believed that the school administrator with a spiritual leadership style, practices a kind of servant leadership, which is central to caring about others.

Authors Russell and Stone (2002) are in unison with Greenleaf that self-interest should not motivate servant leadership, but rather, it should rise to a higher plane of motivation that is focused on the needs of others. Recognizing that leadership is enforced by power, these authors provide a quote from Nair (1994) that differentiates the notion of power viewed from the hierarchical perspective to that of servant leadership:

As long as power dominates our thinking about leadership, we cannot move toward a higher standard of leadership. We must place service at the core; for even though power will always be associated with leadership, it has only one legitimate use: service. (p. 59)

Hannah, Woolfolk, and Lord (2009) points out comparisons that exist between transformational and servant leadership styles. Numerous analogous characteristics between the two models have been identified which include: vision, trust, respect/credibility, influence, risk-sharing/delegation, and integrity (Stone, Russell, & Patterson, 2004, p. 354). Authors Stone, Russell and Patterson (2004) propose that although both models attempt to define and illuminate people-oriented leadership styles, one vital element differentiates the two styles:

While transformational leaders and servant-leaders both show concern for their followers, the overriding focus of the servant-leader is upon service to followers. The transformational leader has a greater concern for getting followers to engage in and support organizational objectives. (p. 354).

Therefore, it can be surmised that the focus of transformational leadership is toward the organization/school and establishing commitment to organizational goals through empowering followers, while the focus of servant-leadership is on the service itself; servant-leaders are focused on the needs of those around them. Russell (2001) argue that these leaders value human equality and strive to enhance the personal development and professional contributions of all organizational members.

Hannay (2009) explains that Russell and Stone (2002) propose 20 characteristics that researchers have consistently recognized as being associated with servant-leaders, many of which are shared with the transformational leadership style (Bill Hogg, 2014; Leithwood, 1990; Leithwood & Jantzi, 1990; Leithwood, Begley, & Cousins, 1990; Leithwood & Steinbach,

1991). Russell divided these characteristics into two divisions with the first group comprised of what was termed *functional* attributes due to their repetitive prominence in the literature. These functional attributes are the characteristics and distinctive features belonging to servant-leaders and can be observed through specific leader behaviors in the workplace: vision, honesty, integrity, trust, service, modeling, pioneering, appreciation of others, and empowerment. The remaining characteristics are identified as accompanying attributes of servant leadership: communication, credibility, competence, persuasion, stewardship, visibility, influence, listening, encouragement, teaching, and delegation (Russell & Stone, 2002, p. 147). Both Russell and Stone (2002) and Hannay (2009) assert that these accompanying attributes are not secondary in importance; instead they are complementary and may even be prerequisites to effective servant leadership.

### **Cross-Cultural Leadership**

Cultural awareness has become a prominent part of our society and our national school system (Tung, 1997; Tullett, 1997; Marquardt & Horvath, 2001; Osula & Irvin, 2009). This acknowledgement poses the need for cross-cultural leadership. According to Harris, Moran, and Moran (2004), cross-cultural leadership is defined as being capable of achieving an organization's objectives by:

operating effectively in a global environment while being respectful of cultural diversity.

This is an individual who can manage accelerating change and differences. The global [cross-cultural] leader is open and flexible in approaching others, can cope with situations and people disparate from his or her background, and is willing to reexamine and alter personal attitudes and perceptions. (p. 25)



Because of extensive range of diversity in this nation's public school system, the cross-cultural school leadership style is necessary to deal with the challenges of cultural differences in order to successfully achieve academic objectives. Bordas (2007) believes that such leadership encourages collaboration, ingenuity, and innovation. Bordas, along with other scholars (Dahl, 2004; Dimmock & Walker 2005; Hofstede 1984; Sergiovanni 1990; Snaebjornsson, Edvardsson, Zydziunaite, & Vaiman 2015; Walker 2014), define culture as a collection of learned values, beliefs, rules, symbols, norms and traditions that are communal to a group of people. They all agree that an effective school principal/leader must be sensitive to the unique needs of the students their school serves, realizing "one size fits all" does not work. It is believed that principals must act with conviction and courage to make their school a special place that advances and defend their school's ideal culture.

In his book, *Cultures of Educational Leadership*, Miller (2017, p. 16) describes principals as "drivers" who are held responsible to students, families, and the nation's educational system. Principals are also "drivers" of governmental policy at the operational level. According to Miller, educational policy, personal values, agendas, and resources all play a major role in determining how a successful principal lead.

### **Complexity Leadership Theory**

#### **Origin**

The concept of complexity theory emerged from prior research on chaos theory performed by scientists in the United States and Europe in the 1970s. Those scientists began to observe the parts of the physical world that did not appear to follow scientific linear, cause-and-effect principals. Their observation recognized that the aspect of disorder in large bodies of water, the atmosphere, the human heart and brain, and other natural phenomena were too erratic

to be explained by existing science. While these other sciences focused on reducing all systems to their smallest constituent parts in order to obtain a better understanding of them (reductionism), chaos theory sought to examine systems more holistically (Harcourt-Heath, 2013, p. 279).

Various scientists such as Thomas Kuhn (1970), Mitchell Feigenbaum (1976), recognized as “the father of chaos theory,” Benoit Mandelbrot (2004), Robert May (2001), Joseph Ford (2015), and Michael Shlesinger (1998) developed the notion that changes to initial conditions can hugely influence outcomes. As previously stated, this notion moves away from the linear cause-and-effect relationships on which science has always relied. Thomas Kuhn (1970, p.150) described this move as a paradigm shift.

Harcourt-Heath explains that the discussion of chaos proposed by proponents of the concept of the chaos theory do not suggest that it is always problematic and something to be avoided, but that it is a necessary part of change and growth. This change allows the emergence of a higher-level structure or entity from a lower-level initial condition. Waldrop (1992) suggests that operating ‘on the edge of chaos’ is where the most effective and creative changes occur, and where the theory of complexity resides (p. 222).

### **Complexity Theory**

The theory of complexity has been defined similarly by various authors (Marion, 1999; Maron & Uhl-Bien, 2001; Goldstein, 2008; Brown, 2011). Urry (2005) describes it as the investigation of emergent, dynamic, and self-organizing systems that interact in ways that heavily influence later events (p. 3). In an article entitled, “Complexity Theory, School Leadership and Management: Questions for Theory and Practice,” Keith Morrison (2002) argues that although key elements of complexity theory have major contributions to offer school

leadership, precaution needs to be exercised in the acceptance of its practice too readily.

Morrison (2002) cites the following problematic issues:

1. Is unclear on its own novelty, nature and status;
2. Can be regarded as disguised ideology in conflating description and prescription;
3. Confuses explanation with prediction;
4. Is relativist, undermining its own status;
5. Contains problems in its advocacy of self-organization;
6. Neglects the ethical and emotional dimensions of leadership and management;
7. Risks exonerating school leaders and managers from reasonable expectations of accountability and responsibility (p. 374).

Morrison (2002) further argues many authors do not view complexity theory as exhibiting properties of a theory, but, as posed by Fitzgerald and van Eijnatten (2002, p. 406) as being more of a disparate collection of ‘concepts, premises and notions.’ He goes on to cite other authors’ perceptions as follows:

It has been suggested that CT should best be regarded as a metaphor (Murray, 2013; Smith & Humphries, 2004), a metaphorical device (Burnes, 2005), a lens (like chaos or chaordic systems) (van Eijnatten & van Galen, 2002; Fitzgerald & van Eijnatten, 2002) or an analogy (Sundarasaradula et al., 2005). Indeed Lissack (1999) argues that it is more a collection of ideas than a theory. The issue that this raises is the need for the view of CT adopted here to clarify its status, and as what: a theory, framework, metaphor, set of constructs, lens, principles or collection of ideas. (Morrison, 2002, p. 380)

In his opinion, Morrison (2002) proposes that complexity theory (CT) may be more important as an alternative to linear thinking, a set of constructs or as a new approach to

considering leadership and management rather than a theory. However, he believes, “whilst its status quo theory may be overstated, it may be unwise to throw out the baby of new insights that it offers with the bathwater of theory” (p. 381).

Harcourt-Heath (2013) argues that for several decades, the scientific community has accepted the concept of complexity into its thinking and practice, but the non-scientific community which includes business and management has been a slow process. He further argues that within educational systems, the move toward complexity theory seems to have been even more delayed, with little literature written that relates to research conducted to examine its potential for aiding in academic achievement.

Having its origin developed by the many researchers who formulated the theories of chaos and complexity, the Complexity Leadership Theory was introduced by authors Marion and Uhl-Bien (2001). These researchers continued the stance that the science of complexity establishes a paradigm for leadership that differs from other leadership theories. It is proposed by these two complexity theorists that most existing approaches to the study of leadership remain heavily embedded in the premise that leadership is interpersonal influence (Bass, 1985; Gardner & Avolio, 1998; Graen & Uhl-Bien, 1995; Katz & Kahn, 1978), and therefore mainly focused on leader attributes and follower emotions (Hollander, 1978; House, Spangler, & Woyke, 1991). Although this is a critical aspect of leadership, as proposed by proponents of transformational leadership, it is proposed that this emphasis could be linked to problems of *reductionism* and *determinism* in the leadership field (Hunt, 1999). *Reductionism* is defined as research logic that isolates parts of a system and studies the isolated parts independently of the system from which they were derived. The basic idea is that, if one can understand the parts, one can draw suppositions about the whole. *Determinism* proposes that all events are predetermined by

preceding events and by knowing the preceding variables one can predict the future with certainty. Marion and Uhl-Bien refer to this perspective as “the Logic of Certainty” by Prigogine (1997). Prigogine (1997) declares a change in the rationale of mankind in the following statement:

We are observing the birth of science that is no longer limited to idealized and simplified situations but reflects the complexity of the real world, a science that views us and our creativity as part of a fundamental trend present at all levels of nature. (p. 7)

Angeliki Lazaridou (2015) points out that until recently, complexity theory has not been used extensively for understanding educational organizations. She proposes that the use of complexity theory in educational leadership can be an asset to gaining insights that complement traditional, reductionist methods of viewing educational organizations, thereby adding perceptions which are non-linear, organic, and holistic. Her definition of CLT is in agreement with that of Marion and Uhl-Bien (2002) that states that the focus of the concept is on structures and behaviors that emerge as a result of a dynamic interaction of networks. She states that the key components of complexity theory in the analysis of social organizations are: adaptability (complex adaptive system); connectedness; emergence; distributed control; feedback and recursion; relationships; self-organized criticality; self-organization; networks; communication; organizational learning; nonlinearity; and structures (Lazaridou 2015).

### **Characteristics and Components of Leadership Styles**

Dr. Dianna Whitlock (2018) in her article entitled, Types of Effective Leadership Styles in Schools, states that many of the theories overlap. She further argues that no one leadership style or theory can work in isolation and no leader can rely on one style for all situations. She believes it is vital leaders identify and incorporate elements from different leadership styles.

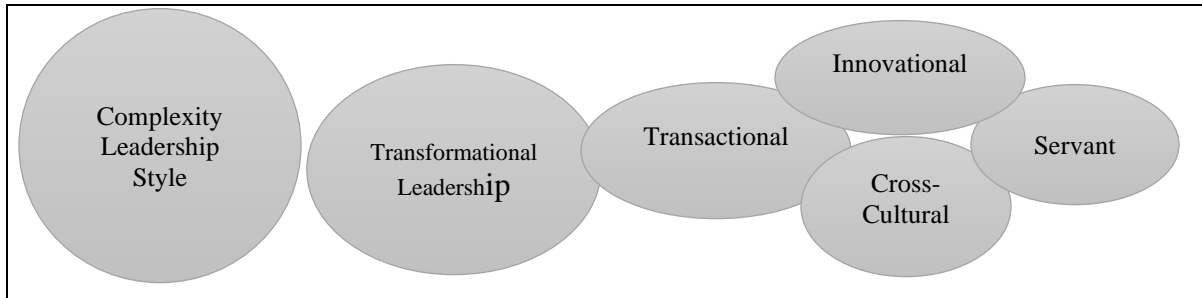
Whitlock (2018) supports the view proposed by Heifetz (1994), who proclaimed the following statement: “It takes the identification and incorporation of elements from different leadership styles to meet the challenges principals face, many with no easy solution” (p. 2).

Fullan (2007) further argues that future principals must be more in synch with a world view of education that is complex and dynamic. They must also possess sophisticated skills for transforming organizations through the utilization of people and teams. This notion is supported by Sergiovanni and Corbally (1984) in English (2006, p. 16) by favoring a total reconceptualization of leadership focusing on establishing identity, enhancing understanding, and making the work of others more meaningful.

This study is based on that assumption that one leadership style does not effectively apply to every situation faced by school principals in the public school system. In a Power Point presentation entitled, Leadership Theories, Moore (2018) illustrates a model of leadership drawn from the Encompassing Theory of Leadership (Hitt, 1990). The model used by Moore (2018) consists of the comparison of Transactional to Transformational Leadership encompassing the behavior of other four leadership styles, namely; *manipulative, bureaucratic administrative, professional management, and transforming leadership styles* (p. 15).

Gleaning from Moore’s (2018) model, this study examines the comparison of complexity (CL) to transformational (TFL) leadership encompassing the behavior of four other leadership styles which are *transactional (TAL), Innovative (IVL), Servant (SVL), and cross-cultural (CCL) leadership styles*. According to Moore (2018), Hitt (1990) points out the positive or “pluses” of the four leadership behaviors/traits shared by the two leadership styles being compared, transformational and transactional (p. 210). The adapted diagram for this study points out the

“pluses” shared by transformational leadership style and the four other leadership styles with complexity leadership.



Complexity leadership is compared to transformational leadership with shared components of four other leadership styles: transactional, innovative, servant, and cross-cultural leadership styles.

**Figure 1.** Leadership Comparison adapted from Moore (2018, p. 15)

In their identification of the components of authentic leadership, Avolio and Gardner (2005, p. 323) formulated a table comparing authentic leadership with transformational, charismatic, servant, and spiritual leadership theories. Gleaning from their concept and illustration, this study adapted their concept by formulating three tables comparing trait and behavioral components of the five leadership styles (complexity, transformational, transactional, innovative, servant, and cross-cultural) in three tables entitled *intrinsic trait/behavioral*, *networking/relation interaction*, and *cohesive strategy*. The three tables list the leadership traits or behaviors that have been shown through educational research discussed in this study to be necessary to effectively promote academic achievement in the incorporation of the leadership styles being compared.

Each column beneath each leadership style listed in Table 3 corresponds to whether, as posed by Hitt (1990), the leadership component is considered as being a “plus” for that style. The utilization of these three tables is part of the research design of this study and will be further

discussed in the Research Methodology in Chapter 3. The reason for the different tables relates to the three different aspects of leadership action taken by the principals recruited for this study.

Each table is followed by notions associated with the given title.

Table 3

*Intrinsic/Trait Leadership Components*

<b>Intrinsic Trait Values</b>						
<b>Leadership Components</b>	<b>CL</b>	<b>TFL</b>	<b>TAL</b>	<b>INVL</b>	<b>SVL</b>	<b>CCL</b>
Authentic (Genuine)	x	x	x	x	x	x
Committed	x	x	x	x	x	x
Courageous	x	x	x	x	x	x
Creative	x	x		x	x	x
Imaginative	x	x		x	x	x
Flexible	x	x		x	x	x
Loving (Concern)	x	x		x	x	x
Passionate	x	x	x	x	x	x
Visionary	x	x		x	x	x
Innovative	x	x		x	x	x
Focused	x	x	x	x	x	x
Initiates	x	x	x	x	x	x
Persistent	x	x	x	x	x	x

CL: complexity leadership

TFL: transformational leadership

TAL: transactional leadership

INVL: innovational leadership

SVL: servant leadership

CCL: cross-cultural leadership



## **Intrinsic Value**

Table 3 list leadership components that are basically inborn trait characteristics. As previously stated in the discussion of the trait/behavioral paradigms (pp. 20–22), numerous studies have revealed that the recognition of behaviors and traits of leaders are essential indicators of leadership effectiveness. Brigitte Hyacinth (2014), like other proponents of the trait/inborn paradigm, concluded in an article entitled, “Are Leaders Born or Made? A True Story” that leadership is derived from art rather than from science. She goes on to argue that it (leadership) is a collection of innate traits, refined and enhanced over time by education, training and experience.

“Intrinsic values” describes the inborn or traditional trait/personality-based theories (Amanchukwu et al., 2015). It is argued that the terms associated with leadership are loaded with emotional content which carries implicit norms and values such as love (concern), vision, courage, and vision. From this it is construed, as previously state, that the power of leadership possesses “intrinsic worth” (Heifetz, 1994, p. 14).

Table 4 lists some of the components necessary for effective execution of educational operations and actions that are carried out by principal in accomplishing academic and governmental mandates through effective interaction.

Table 4

*Networking/Relationship Interaction*

<b>Networking/Relationship Interaction</b>						
Leadership Characteristics	CL	TFL	TAL	INVL	SVL	CCL
Good judgment	x	x	x	x	x	x
Good Communicative skills	x	x	x	x	x	x
Competence/knowledge	x	x	x	x	x	x
Interpersonal skills	x	x	x	x	x	x
Confidence	x	x	x	x	x	x
Trustworthy	x	x	x	x	x	x
Good Listener	x	x		x	x	x
Consulting	x	x		x	x	x
Analytical	x			x		
Problem solving	x	x	x	x	x	x
Hierarchical Control		x	x		x	x
Inspire/Motivate		x		x		x
Authoritative			x	x		x

CL: complexity leadership  
 TFL: transformational leadership  
 TAL: transactional leadership  
 INVL: innovational leadership  
 SVL: servant leadership  
 CCL: cross-cultural leadership

Table 4 compares the five leadership styles that research has commonly viewed as part of leadership operational character. The comparisons are based on the attributes found in the literature review of each leadership style.

Moolenaar, Daly, and Slegers (2010, p. 625) states that research in the area of principal’s leadership style and networking/social interaction suggests that relationships between

educators within schools are essential to promoting innovative school climates in which new teaching strategies can communally develop and new shared knowledge can emerge. Bill Hogg (2012) argues that there are certain leadership characteristics that are basically core leadership characteristics to effective leadership styles. These include: Good judgment, Communication skills, Competence or knowledge, Interpersonal skills, and Confidence.

Table 5 looks at the leadership characteristics that promotes bonding within the school system to a common objective or goal (cohesion).

Table 5

*Leadership Cohesive Characteristics*

<b>Cohesive Strategy</b>						
Leadership Characteristics	CL	TFL	TAL	INVL	SVL	CCL
Good judgment	x	x	x	x	x	x
Communication skills	x	x	x	x	x	x
Competence/knowledge	x	x	x	x	x	x
Interpersonal skills	x	x		x	x	x
Confidence	x	x	x	x	x	x
Collaboration (Teachers)	x	x	x	x	x	x
Incentives/Rewards	x	x	x	x	x	x
Shared Mission	x	x	x	x	x	x
Shared Vision	x	x	x	x	x	x

CL: complexity leadership  
TFL: transformational leadership  
TAL: transactional leadership  
INVL: innovational leadership  
SVL: servant leadership  
CCL: cross-cultural leadership

## **Cohesive Strategy**

Festinger (1950) defines cohesion as being the result of all forces acting on team members to remain in the group. Along with this perception, Heifetz (1994 p. 26) describes “Cohesive strategy” in education as being qualities associated with the ability of the principal to sustain stability and cooperation of the school staff in accomplishing the academic school objective and the educational legislative compliance. It is believed that cohesive tendencies exhibited by principals can also provide moral strength in times of school crisis (Christie & Lingard, 2001, p. 18).

Tables 3, 4, and 5 provide three different aspects in the comparison of complexity to transformational leadership and the other four leadership styles that deal with; trait, interactive, and cohesive characteristics. These three aspects of leadership characteristics will be used in the conceptualization of this study to analyze the response of the recruited principals to the questions presented to them in the questionnaire formulated for this research investigation.

## **Complexity Theory in Education**

### **A Case Study of Policy Change in a Complex Organization**

In a case study performed by Lazaridou (2015) entitled: *Reinventing Principal Preparation in Illinois: A Case Study of Policy Change in a Complex Organization*, the author employed the concepts proposed by complexity leadership theory to develop changes to the State of Illinois’s Principal Preparation program. The research study performed by Lazaridou (2015) stemmed from the 2005 report published by Levine (2005) entitled *Educating School Leaders*, that became the catalyst for a nation-wide reform movement in the United States to improve school leader preparation programs. Levine’s study examined programs established for

preparing school principals and superintendents nationwide which led to the mandate made by the State of Illinois that all its principal preparation program (PPP) be redesigned.

Lazaridou (2015) states that her participation in the PPP reform project was as a researcher. The opportunity to research the reform project allowed her to report changes to the leadership program from the view of the complexity theory. She states that her participation as a researcher was for the following purpose: “By studying the change process with complexity theory, we may gain new insights about how major reforms take place, the challenges that surface during the change process, and how they are best resolved” (p. 19). Lazaridou (2015) argues that although complexity theory is a relatively new way of studying organizations, much information can be gained from its incorporation in her study. Lazaridou (2015) concludes with the following findings: “Emergence in complex adaptive systems leads to the production of new knowledge, new dynamics, and a paradigm shift, which is the result of the intense and focused interactions of individuals in the system” (p. 19).

### **Complexity Leadership in Schools**

In the research study entitled *Primary Schools Facing Challenging Circumstances: Effective leadership and the potential contribution of complexity theory*, Harcourt-Heath (2013), acknowledges that little has been written about educational research that incorporates a complexity theory paradigm (p. 296). Because of this, Harcourt-Heath (2013) proclaims that the research study sought “to add to the body of knowledge applying complexity theory to schools (p. 296). The following statement proclaims:

This research identifies common themes in primary schools facing challenging circumstances, with a particular focus on leadership, and explores further the links between them, the networks they create and the contribution that these combinations

might make to improvement or decline. The original contribution made by this research is to establish complexity theory as a useful approach in examining the nexus between school leadership and primary schools facing challenging circumstances, including a proposition for representing these complex school systems. (p. 3)

The study originated from the researcher's extensive work in primary schools confronting and struggling with challenging circumstances. From this, an intense curiosity grew pertaining to what occurred in those schools that resulted in their improvement or decline.

The study involved the examination of three English primary schools that were subject to an Office for Standards in Education (OFSTED) improvement category resulting from an inspection, and the possibility of functioning without a permanent school leader or on the verge of a school merger. The challenges faced by these schools are very similar to those faced here in the United States and the mandates imposed by the Office of Standards in Education (OFSTED) and LEA are likewise, similar to those of NCLB and the Alabama Accountability Act (AAA).

In her conclusion, Harcourt-Heath (2015) states that evidence gained from her investigation demonstrates:

that improvement in schools facing challenging circumstances can be as originating from behaviour as complex adaptive systems and being led according to the principles of complexity theory. What leads to each school's improvement or decline is not a single identifiable factor but a combination of the influences of numerous aspects of the organisation's structure and work. The fact that a school exists within challenging circumstances seems to intensify the overall influence of these combining factors. This research concludes that complexity theory offers an appropriate framework through which to examine particular sets of circumstances. (p. 355)

Harcourt-Heath (2013) reaffirms the vital importance of having effective leadership in potential development of schools facing challenging circumstances. She believes that the leadership chosen for these schools needs to be aware of every aspect of context and dynamics. She goes on to say that to accomplish this task, leadership must be capable of moving between leadership styles. Noted styles were transformational, distributed and adaptive complexity. She implies that whatever the style, the leadership should possess the potential for eliminating barriers or establishing 'enabling' structures or systems that push an organization toward self-organization and emergence into a more robust system capable of coping more effectively with challenges faced in the surrounding environment.

### **Capturing Complexity Leadership in Educational Leadership**

In support of utilization of complexity leadership in education, researchers Christie and Lingard (2001) argue that school leadership should be 'de-romanticised' and viewed in terms of social relations instead of personal attributes or positions (p. 2). They believe, as do other proponents of said leadership style, that educational leadership should be understood as a complex interplay of personal, organizational, and broader social context. Further, this leadership needs to be expanded across tasks and people, rather than being the object of just designated individuals.

Their research study presents a case study of post-apartheid schools in South Africa. Their view that school leadership should be 'de-romanticised' stems from the challenging circumstances in the South African school system, namely the downfall of academic achievement (both teaching and learning) in Black township schools during and following apartheid.

Christie and Lingard (2001) conclude by stating that their investigation has shown effective leadership is to be viewed as:

A dynamic process in which conscious and unconscious rational and irrational forces play out in complex social situations. The task of educational leaders and theorists of leadership is to work creatively with complexity if schools are to meet the goals of providing high quality teaching and learning for all students in the most equitable way possible. (p. 20).

### **Concepts of Complexity Leadership Relevant to This Study**

Several factors associated with the implementation of complexity leadership in school educational leadership proposed by Christie and Lingard (2001) and Harcourt-Heath (2013) are supportive to this research study. Issues of relevancy are found in their discussions on leadership traits (intrinsic traits); networking/relationship interaction; and cohesive strategy.

### **Leadership Trait Attribute**

Christie and Lingard (2001) speaks of such traits as persistence and courage being necessary to reform schools considered to be academically failing. This view of necessary traits in leadership is in congruent with Heifetz (1994, p. 14). The statement made by the researchers that “it is necessary for those in leadership and headship to recognize a process or emotional agenda...to create a culture of care (Christie & Lingard, 2001, p. 19) reflects the notion of “intrinsic worth” (Heifetz, 1994 p. 14). In her conclusion, Harcourt-Heath (2013) states that for successful school leadership, “leadership traits are necessary for accomplishing results in challenging school situations (p. 48) which supports Amanchukwu et al. (2015).



## **Networking/Interaction**

Both studies (Christie & Lingard, 2001; Harcourt-Heath, 2013 ) support the premise that positive results are based on clear communication and positive interaction. Both agree with Uhl-Bien et al.'s (2007) concept of networking and social interaction is based on the actions of “interdependent agents who are bonded in a cooperative dynamic by a common goal, outlook or need” (p. 299).

## **Cohesive Strategy**

Christie and Lingard (2001) supports the notion of cohesion and believed it is necessary for establishing accountability and authority and a “central purpose” such as school vision (2001, p. 10). Their view supports the importance of cohesive strategy (Heifetz (1994 p. 26) is further expressed by their suggestion that in situations of social dilemmas and particularly in hostile and volatile environments, inner cohesion may be a significant source of strength (2001, p, 18).

## **Opinions Concerning Complexity Leadership Implementation in Education**

Because the concept of Complexity Leadership theory is fairly new compared to other leadership theories, there are various questions and concerns that have been expressed. Harcourt-Heath (2013) argues that although complexity theory may possess a significant contribution to be made to educational research, there remains a need for further real-life examples in order to demonstrate this. Harcourt-Heath (2013) provides various scholars' opinion of complexity leadership in education as follows:

A potential limitation of complexity theory in relation to educational research is that it lacks a track record. Griffiths (1997, p. 376) states that complexity theory may need ‘evidence to support its extravagant claims’. Radford (2008), in Mason (2008, p. 148), suggests that complexity theory should make us cautious about offering explanations

because the relationships between evidence and practice are not linear. He proposes that the researcher's role is 'to offer tentative identification and critical analysis' of possible interpretations. Morrison (2002) also recognizes the need for further empirical research into the effects of organizing schools on a deliberately complexity theory-driven principle. He says that, 'it is a theory awaiting testing in schools' (p. 189) and that its claims should be validated through research evidence. (Harcourt-Heath, 2013, p. 321)

Harcourt-Heath (2013) responded to these comments by defending her research study which explored the incorporation of complexity leadership in educational leadership with following statement:

The work contained within this thesis seeks to offer some new real-life insights based on original research, identifying links between a number of school circumstances and elements of complexity theory in order to determine potential strengths and weaknesses of such an approach and by doing so to add to the body of evidence that would strengthen some of the claims made. (p. 321)

### **Summary**

This chapter highlighted issues that are relevant to this research study pertaining to legislative educational achievement mandates, leadership styles, changes needed in school leadership that can adequately respond to the challenges faced in the school system in Alabama, the concept of complex leadership, and its implementation in education and the public school system. Two case studies were presented that examined the utilization of complexity leadership in schools dealing with issues of high-poverty, low-performance that overcame the challenges and became academically successful. The two research studies are mirror reflections of the challenges faced in the public schools in Alabama that also met and overcame many challenges;

namely, the Alabama Torchbearer Schools. Since this study is focused on the importance of school leadership, the principals of these schools are a vital part of this investigation.

Chapter 3 will explain the research method used to examine the leadership style of Torchbearer principals and determine what leadership behavior impacts academic achievement in schools most effectively. The chapter consists of the following:

- The introduction
- The research design
- Participants selection
- Participation consent procedure
- A conceptualization of the research investigation proposed
- Aim of questionnaire used

Chapter 4 will provide the analysis and findings obtained.

## CHAPTER 3: METHODOLOGY

### **Introduction**

This chapter provides a description of the research approach used in this study and the analytic procedure used to explore the research hypothesis. The objective of this chapter is to provide information about the following: the research design, the participants chosen for this study and the reason for their selection, instrument used for obtaining research data, data collection/participation consent process, and data analysis procedure.

### **Research Design**

The quantitative method of statistical research analysis used in this study is Paired Sample t-Test. The Paired sample t-test, sometimes referred to as the dependent sample t-test, is a statistical procedure used to determine whether the difference of the means between two sets of observations is zero or the null hypothesis (Statistics Solutions, 2019). In this research study, data obtained from an online questionnaire, Auburn Qualtrics, compared the responses of principals who presided over Alabama public schools which were awarded the Torchbearer School award (TB) to the responses of non-Torchbearer (NTB) principals. To make a valid comparison, every effort was made to formulate a comparison between principals (TB/NTB) that presided in the same school district and during approximately the same time period.

### **Participants**

The eight Torchbearer principals (TB) recruited for this study were obtained from the 68 principals who once presided over Alabama public schools that were recognized as a Torchbearer school. Although the Alabama Torchbearer Award Program has been discontinued by the Alabama Legislature, the proven accomplishments made by the administrators, principals, teachers, and school staff of these schools still are exemplary to meeting the challenges posed by

federal and state accountability standards in schools deemed high-poverty, high-performing. The principals of the Torchbearer Schools were chosen based on their proven leadership ability and behavior. The small sample size comes from the reality that many of the Torchbearer principals have either retired, changed location, or hold other positions in educational administration.

To perform the Paired t-Test, in addition to the eight Torchbearer principals (TB), eight principals who did not preside over schools that were awarded the Torchbearer school award (NTB) but were in the same districts were recruited to participate in this study.

### **Assumptions**

1. All respondents were honest in responding to interview questions.
2. Each respondent understood the questions asked on the questionnaire and the protocol procedures mandated by the Auburn IRB.
3. The sample of respondents represented Torchbearer principals (TB) and non-Torchbearer principals (NTB) are working in public schools in the state of Alabama.
4. The responses of TB principals reflected the perspectives of their roles as public school principals.
5. The responses of NTB principals reflected the perspectives of their roles as Non-Torchbearer principals.
6. The respondents' perspectives were representative of the leadership characteristics determined by their response to the questions asked.

### **Research Instrument**

An Auburn Qualtrics online questionnaire was developed for collecting data. The questionnaire was developed through the examination and investigation of research studies of various leadership styles (Avolio & Bass, 2004; Derue et al., 2011; Stogdill, 1948; Uhl-Bien &

Marion, 2008; Weberg, 2013; Wofford, 1970). The questionnaire is composed of demographic questions and 40 Likert-style questions. Demographic information of the sixteen principals are obtained from the first questions of the questionnaire which are: age, gender, years of experience, geographic location and population of school, and poverty level. All information obtained will be used for descriptive purposes.

The Principal Complex Leadership Questionnaire (Appendix A) was developed to record the responses of the principals concerning the leadership behavior that best describes their actions, beliefs, or conduct as school principals. The principals were asked to select a number on the 5-point scale that corresponded to the degree to which they agreed with the statements. The scale used is a Likert-type scale, with the following rubric: 1: Strongly Agree; 2: Somewhat Agree; 3: Neither Agree nor Disagree; 4: Somewhat Disagree; and 5: Strongly Disagree. The scale recorded the degree to which the principals believed the action posed by the question responded to their level of frequency of their utilization of the described task or the degree of frequency their action corresponded to the described procedure or operation. The scale is formulated with a response of 1(Strongly Agree) implying the action described is strongly agreed upon meaning said action is more favored to be utilized by the principal more frequently than the others, 2 (Somewhat Agree) implying the action somewhat favorable in frequency of utilization, 3 (Neither Agree nor Disagree) implying neutrality concerning the action, 4 (Somewhat Disagree) implying less to no frequency of utilization of said action, and 5 (Strongly Disagree) implying no utilization.

The purpose of this instrument is to determine by the responses to the questions if the leadership style/behaviors proposed by this study, complex leadership (CL), is found more in the leadership behavior of the Torchbearer principals than that of the non-principal leadership styles

with the inclusion of transformational leadership behavior. A pilot of the questionnaire was conducted to strengthen the inference, validity, clarity, and structure of the survey. The pilot questionnaire was administered to five principals and one administrator. The administrator stated that many of the questions did not pertain to her because they were targeted for principals not administrators. One principal was instrumental in pointing out that the questions caused him to really think about his duties and his personal views on various aspects of his correspondence with teachers, parents, and administrators. Another principal voiced the opinion that the questions made her think about her duties but did not address every area of her actions as a principal. After piloting the questionnaire, the open-ended questions that were originally part of the questionnaire were removed to focus more on the quantitative aspect (Paired t-Test analysis) of the study.

### **Participant Consent Procedure**

Because this study involved human subjects, the approval process of the Institutional Review Board for the Protection of Human Subjects in Research (IRB) was undertaken. The IRB, which is a vital part of the Auburn University Human Research Protection Program reviews all research activities, regardless of funding, which involve human subjects for compliance with applicable federal, state, local, and institutional regulations, guidelines, and ethical research principles. As part of the approval process, a prospectus of this research investigation was submitted to the Auburn IRB which included: the IRB Research Protocol Application; the research abstract, question, and hypothesis for this study; the research design; and the school superintendents and principals to be contacted.

After meeting the approval of the Auburn IRB (Appendix B), letters of permission were emailed to the superintendents of the districts in which Torchbearer schools were located

(Appendix C). The letters contain information assuring the anonymity and confidentiality that will be taken to ensure that the responses of the principals in their districts to the survey will be secure and anonymous. A telephone script of introduction for contacting the superintendents was developed to adequately explain my research endeavor and to ask for their participation in my study (Appendix D). A second script was arranged for the same superintendents to obtain permission to contact the Non-Torchbearer principals (Appendix E).

Once receiving permission from the superintendents, both TB/NTB principals were contacted and asked to participate in this research study. Letters of Informed Consent were emailed to the Torchbearer principals that agreed to participate in the study (Appendix F). A different Letter of Consent was emailed to Non-Torchbearer principals who presided over schools in the same districts as Torchbearer schools but did not receive the award (Appendix G). After receiving signed Letters of Consent, an electronic version of the Leadership questionnaire was emailed to both sets of principals for their completion.

## **Quantitative Analysis**

### **Conceptualization**

(The question/statements posed in the questionnaire used in this study are actually categories or areas of operation and will be referred to as categories in the remainder of this study). The questionnaire is composed of 10 categories/areas of operation performed by principal in various school operations they are responsible for managing. These categories were derived from various questions presented in OECD Teaching and Learning International Survey (2018) and ideas and concepts proposed by researchers Amal EEHE Alansari (2012) and McMillan and Schumacher (2006).

The OECD Teaching and Learning International Survey (2018) questionnaire provided the basic framework for obtaining the demographic information. Although the questions



concerning principal leadership provided by the survey did not pertain to complexity principal leadership, ideas and concepts were gleaned in the formulation of the 10 categories.

The survey presented by Alansari (2012, pp. 183–190) in his dissertation entitled, “A Survey of Leadership Standards for Professional Preparation of Public School Principals in Kuwait,” was designed by the researcher to utilize survey research methodology as the framework to gather information pertaining to such issues as people’s beliefs, attitudes, values, behaviors, ideas demographics, opinions, habits, and other types of information as proposed by McMillan and Schumacher (2006, p. 256). The study performed by Alansari (2012, p. 40) sought to investigate the beliefs and perception of a group of Kuwaiti educators about educational program standards that effectively promote higher academic achievement by the leadership of public principals which is similar to the objective of this study.

The ten categories examined in this study are: project operation, project structure and coordination, resources/finances, stakeholder/interest groups, leadership/teamwork/decision makers, degree of learning, cultural and social context, risk (threats/opportunities), degree of innovation, objectives and assessment results. Each category is composed of four actions or projected tasks that relates to actions exhibiting characteristics that can be viewed as pertaining to CL leadership style. The argument made in this study and previously discussed in Chapter 2 under Characteristics and Components of Leadership Styles, proposed that CL share trait and leadership characteristics with transformational leadership (TFL) which are also linked to four other leadership styles, namely, transactional (TAL), innovative (INVL), servant (SVL), and cross-cultural (CCL).

The selections made by the principals will determine the degree of the frequency of their utilization of the action or projected task chosen based on the Likert scale responses to the

questionnaire. From the responses received from both groups of school principals, TB and NTB, to the questionnaire, a comparative analysis of the acquired data was performed using SPSS Paired t-test to determine if the proposed hypothesis is true: the patterns of leadership behavior proposed by CL were more prevalent in the leadership behavior of more Torchbearer Principals than in the leadership patterns of non-Torchbearer Principals. The following section discusses the ten categories of the questionnaire. Because the questions in this questionnaire are presented in the form of proposed or projected tasks managed by principals, the remainder of the discussion will use the term task instead of question.

### **Questionnaire Categories**

#### **1. Project Organization**

The Project Organization addresses issues of school management faced by public school principals daily. Gómez-Gajardo and De Los Rios (2013), explain project organization as follows:

School management is embedded in a context that is not only territorial but also, institutional, involving actors from different administrative levels that need to interact with principals and their teams to determine guidelines for standards, educational curriculum, management, accountability, among others which requires them to integrate and transmit relevant information from these relations processes within the establishment (p.6).

The projected tasks are:

1. The majority of the projects I managed had many interfaces across a diverse range of stakeholders.
2. The majority of projects I managed had simple hierarchical organizational structures.

3. The majority of projects I managed required undemanding and uniform direct communication to a small group of stakeholders.
4. The majority of projects I managed had few third party relationships working in partnership.

These four tasks deals with CL leadership characteristics shown in Tables 3 and 4 in the Literature Review (Networking/Interaction and Cohesive Strategy) that deals with the social interaction of the principals in the four different areas of educational transactions found in the four projected projects in this category. Tasks 1, 3, and 4 utilizes interactive characteristics of CL at different levels in areas of communication, networking, and interaction while question 2 deals with the principal's interaction involving hierarchy and organizational authority issues

## **2. Project Structure and Co-ordination**

The tasks posed by this category pertain to four issues concerning school structure and coordination actions the principals are faced with. The projected tasks are:

1. The majority of projects I managed had well-structured and sequential phases with no overlap.
2. The majority of projects I managed had very few structures that required co-ordination.
3. The majority of projects I managed demanded highly complex multidimensional reporting to a number of stakeholders.
4. The majority of projects I managed had very elaborate and demanding co-ordination structures that required a high level of management.

Structure and coordination are described as acts of communication between the principals, teachers, and stakeholders. Friedkin and Slater (1994) states the importance of these actions as follows:

Communication ties provide opportunities for a market basket of social events (social sanctions, interpersonal agreements, resource acquisitions, and social supports).

Cohesive communication networks provide an opportunity not only for the widespread occurrence of such social transactions but also have large-scale ramifications. These large-scale ramifications include the development of consensus and the mobilization of social support for an individual who is in trouble or seeking assistance. Hence, a cohesive communication network among the teachers (and principal) in a school indicates the school is a workplace in which a variety of interpersonal transactions and collective achievement occur frequently. (p. 142)

Project structure and coordination pertains to characteristics of leadership involving networking and social interaction of which CL leadership provides. Task 1 represents leadership tasks requiring to leadership style that allows well defined levels of communication and collaboration. Because the desired structures are sequential and not overlapping, there is a need for competence and adaptability in order to produce a positive atmosphere of cooperation. CL leadership style provides these characteristics. Although TFL possess many of the characteristics, CL provides a more dynamic adaptability that deals with acknowledging the aspects of the tension caused by negative interactions in efforts to seek positive changes that may emerge (Lazaridou, 2015; Marion & Uhl-Bien, 2002). This premise also holds true for tasks 3 and 4.

Task 2 states that the tasks of this type require little coordination and are few in occurrence which relates to a small degree of collaboration, interaction, or networking involved. Tasks 3 and 4 both require different degrees and levels of networking and collaboration. Task 3 speaks of “highly complex multidimensional projects” that are reported to various stakeholders. This task can be viewed adequate yearly progress (AYP) report that the principals must report yearly which was a part of the mandates imposed by NCLB. Task 4 can be viewed as requiring the same leadership characteristic as task 3, of which CL can provide.

### **3. Resources, including Finances**

This category addresses tasks of principals in the area of school resources and finances.

The four tasks are:

1. The majority of projects I managed had many people with diverse ranges of skills.
2. The majority of projects I managed involved large capital investments.
3. The majority of projects I managed were funded from a number of stakeholders and many potential resources.
4. The majority of projects I managed had a known and available pool of resources and funding.

In an article entitled, “For Already Burdened Principals, Budget Control Remains Elusive,” Superville (2019) argues the following concerning principals’ role in school financing: Researchers who study school finance have long argued that principals should have more control over how money is spent in their buildings because they are closest to their school, staff, and students and in a better position than central office staff to make spending decisions.

The reasoning behind the statements in this category are further explained by educational researchers like Gómez-Gajardo and De Los Rios (2013) as follows:

Resource management is directly linked to the ability to set goals within available resources to meet timing and process phases. In this ability are combined the capacity to organize learning resources to support the achievement of the educational goals and priorities (material), the ability to create institutional conditions for properly performing the processes of selection, evaluation and development of teacher staff (human), and the ability to ensure that management and financial control are effective and allow improvement of the results of development (finance). (p. 5)

Cohesive characteristics such as establishing and sustaining school goals and objectives are necessary to carry out the tasks described in these selections along with social networking and interaction. Both CL and TFL possess characteristics necessary to effectively accomplish the described duties. In schools where funding is limited there is a need for flexibility, initiative, creativity and passion to bring about needed improvements.

#### **4. Stakeholders/Interest Parties**

The four tasks pertaining to stakeholders and interest parties are:

1. The majority of projects I managed had stakeholders with comparable interests.
2. The majority of projects I managed had numerous high profile interested parties.
3. The majority of projects I managed had a wide range of stakeholders who had unknown interrelations.
4. The majority of projects I managed had a few well-known stakeholders

These actions performed by the principals involves interaction with various organizations such as the board of education, parent and teacher association (PTA), and community and civic

organizations. It is believed by Di Benedetto and Wilson (1982) that the principals of small and rural schools are most directly responsible for maintaining the relationship between the school and the community. Therefore must develop a strategy for school-community relations which takes into account the community's values and power hierarchy. Rousmaniere (2013) points out that in today's public schools, the principal plays the roles of the administrative director of state educational policy, a school manager, an advocate for school change, and the guardian of bureaucratic stability. To perform these duties, the principal must possess the trait characteristics (caring, flexible, initiative) networking skills (good communication skill, good judgement, interpersonal skills), and cohesive abilities (collaboration, shared vision) proposed in this study that are possess by CL leadership

## **5. Leadership, Teamwork and Decision Making**

The four tasks that deals with issues of leadership, teamwork and decision-making are:

1. The majority of projects I managed had a dynamic team structure with frequent movement of team members joining/leaving the project.
2. The majority of projects I managed had many subordinates across a wide control span.
3. The majority of projects I managed had many important decisions required during the execution of the project.
4. The majority of projects I managed required a constant and uniform leadership style.

The actions described by these four tasks relates to what is express by Rousmaniere (2013) that principals carry multiple and often contradictory responsibilities, wearing many hats, and transitioning between multiple roles on a daily basis. All four tasks require many of the characteristics offered by CL which include flexibility/adaptability, communication/interaction, interpersonal skills, and problem solving. Both CL and TFL possess characteristic capable of

providing the principals with the leadership tools necessary to accomplish these tasks, in varying aspects.

The tasks 1 and 2 describes task pertaining to teamwork. Task 1 can be related to schools which have a highly qualified teaching staff, but also have a high rate of turnovers while task 2 could relate to the principals' control and interaction with the teaching faculty. Both CL and TFL encourages interaction but differ in aspects of control. As explained in the literature review, CL seeks to be directed by the dynamics of social network behavior which focuses on the products of interdependent interaction rather than on the products of direct leadership that involves some form of control. Task 3 relates to decision making preference of the principals and task four looks at the type of leadership style perceived by principal to be the best "fit."

## **6. Degree of Learning**

The four tasks concerning operations of learning are:

1. The majority of projects I managed incorporated innovative methods that promote different learning styles.
2. The majority of projects I managed required advance training for learning new techniques for students' academic success.
3. The majority of projects I managed included annual training to learn changes in federal and state mandates.
4. The majority of projects I managed required a small amount of training for students' academic achievement.

The tasks described by tasks 2, 3, and 4 four seeks to determine the principal's view of the degree of continual training is necessary to promote academic success for their students while



task 1 relates to the degree of innovative methods incorporated in the school curriculum by the principal.

Bottoms and O'Neill (2001) believes, "Today's principal must be prepared to focus time, attention and effort on changing what students are taught, how they are taught, and what they are learning" (p. 7). From a leadership perspective, Task 1 looks at the degree that a principal devotes time and effort to advancing student learning through innovative techniques.

Tasks 2, 3, and 4 relates to the degree of time and effort the principal are willing to devote to advancing their competence and knowledge to more effectively promote academic advancement for the students in their schools. Task 2 specifically speaks of the degree of training is believed by the principals to be necessary to adequately informed on state and federal mandates.

## **7. Cultural and Social Context**

The four tasks pertaining to cultural and social issues are:

1. The majority of projects I managed were delivered across a wide geographical landscape.
2. The majority of projects I managed were delivered into diverse cultural and social environments.
3. The majority of projects I managed were delivered to a small managed social span.
4. The majority of projects I managed were delivered into a uniform and well known cultural environment.

These projected tasks provides information relating to the degree of diversity, and social interaction that they experience daily. As previously stated in this study concerning diversity (p.

64), because of the extensive range of diversity in this nation's public school system, the school principal must deal with the challenges of cultural differences in order to successfully achieve academic objectives. This was especially true for TB principals in the efforts to promote academic success facing the challenges imposed by issues related to poverty.

Task 1 and 3 could possibly relate to rural schools of which some are located in small communities and others in areas where students are bused an extensive distance to attend school. Both rural and city school possess varying degrees of social and cultural diversity and principal leadership must be equipped with the necessary leadership skills needed encourage academic success every student regardless of their social cultural background. Renschler (1992) makes the following argument.

A principal interested in establishing the motivation to learn and academic achievement as central features of a school's culture must first persuade everyone—students, teachers, parents, staff, and school board—that goals related to those areas are desirable, achievable, and sustainable. (p. 3)

Cross-cultural leadership (CCL) shares with CL some leadership characteristics that encourage academic success such as collaboration, ingenuity, and innovation. Servant leadership (SVL) and TFL both share with CL leadership trait characteristics such as being trustworthy, loving/concern, a good listener, and a problem solver which are recognized as qualities that promote learning and academic accomplishment in schools with a highly diverse cultural and social population.

## **8. Risks (threats/opportunities)**

These four tasks addressing various degrees of risk faced by school principals.

1. The majority of the projects I managed had high potential for risk with a large impact.

2. The majority of the projects I managed had highly predictable risks (threats/opportunities).
3. The majority of projects I managed had many options to address opportunities.
4. The majority of projects I managed had limited options to address high potential threats.

Risk management is defined as being the measures taken by a society to address factors that pose risks (hazard and vulnerability), reducing those risks and preventing them from causing disasters (Robles, Chaux, Naslund-Hadley, Ramos & Paredes, 2015, p. 2). Krone (2016) believes that by identifying possible risks and applying procedures to assess them, schools can more clearly focus of their prime objectives which includes such priorities as student and employee wellbeing. The potential results of effective risk management was noted by the U. S. Department of Education (2004) in a national report entitled *Threat Assessment in Schools: A Guide to Managing Threatening Situations and To Creating Safe School Climates* which stated the following:

In an educational setting where there is a climate of safety, adults and students respect each other. This climate is defined and fostered by students having a positive connection to at least one adult in authority. In such a climate, students develop the capacity to talk and openly share their concerns without fear of shame and reprisal... Ideally when this climate of safety is created, students experience a sense of emotional “fit” and of respect. Problems are raised and addressed before they become serious. (p. 7)

CL possesses characteristic shared with all the leadership styles that are necessary for effective risk management: ingenuity, concern, initiative, analytical skills, school mission and vision.

## 9. Degree of Innovation

These four tasks seeks to determine the degree of innovation taken by principals in performing various school projects.

1. The majority of the projects I managed had a significant impact on the public agenda (educational compliance).
2. The majority of the projects I managed implemented cutting-edge and unknown technology.
3. The majority of projects I managed required a repetitive, tried and tested approach.
4. The majority of projects I managed involved a large scope of new development.

In the article, *Initiating Change in Schools*, Bowers (1990) claims that school principals become the key player in a school's change process once innovation has been initiated. In support of his claim, Bowers (1990) points out the view of Hall (1988) who argues that the successful implementation of innovation is determined by the principal's leadership style. This view is congruent with notions of leadership styles argued in this study. In the management of projects concerning public agenda (task 1) and task 3 (repetitive/tried/tested projects), CL share characteristics with transactional leadership (TAL) which emphasize detailed exchanges of instructions and regulations linked with a close connection between objectives and academic rewards gained. To accomplish these projected tasks, CL possesses such characteristics as analytical ability, ingenuity, competence/knowledge, and task focused. Task 2 (cutting-edge/unknown technology) and 4 (large scope of new development) enlist characteristics shared with CL and innovational leadership (INVL) like, adaptive, innovative, confidence, and competence/knowledge.

## **10. Objectives/Assessment of Results**

The four projected tasks below are concerned with the perspective of the principals in developing, assessing, and evaluating various school projects.

1. The majority of the projects I managed had transparent objectives and clear mandates.
2. The majority of the projects I managed had many critical success factors and key performance indicators.
3. The majority of projects I managed had clearly defined and agreed objectives.
4. The majority of projects I managed had many interdependent objectives.

Grigsby and Vesey (2011) believes it is necessary for principals to know how to utilize information obtained from the classroom as well as state assessment in order to stimulate student achievement and school improvement (2011, p. 18). Likewise, it is important that principal are knowledgeable in setting objectives for school academic advancement. CL leadership style shares with the other leadership styles characteristics needed in setting objectives for school mission using analytical skills and competence/knowledge concerning assessment criteria. The characteristics offered by TFL aids in clearly articulating objectives while TAL provides clear definition of expected procedures for documenting school documentation.

### **Conclusion**

The actions, tasks or duties posed by the projected tasks/statement in this questionnaire seek to determine the most frequent action taken by each of the principals participating in this study. The collection of data obtained from the administering of the questionnaire to the TB principals will be compared to the data collected from administering of the questionnaire to the NTB principals. The Paired t-Test procedure using SPSS was used to analyze the data. The results of the analysis are discussed in Chapter 4, Analysis Results.

## **Summary**

An overview of the research methodology used in this study was provided in this chapter.

Detailed information was provided about the following:

- The conceptualization process for this study
- The research design method used
- The participants in the study,
- The instrument used for data collection,
- The research participation consent procedures,
- The data analysis procedure used.

Chapter IV will provide the results from the research analysis.

## CHAPTER 4: ANALYSIS AND FINDINGS

### **Introduction**

The research analysis in this study is based on data obtained from an Auburn Qualtrics online questionnaire delivered to former Alabama Torchbearer school principals and Non-Torchbearer principals who presided over schools in the same school districts. The questionnaire consisted of demographic information and 40 Likert-style questions.

The demographic data received from the principals revealed that four of the TB principals were women between the age 43–50 and four were men between the age 47–63. Three of the NTB principals were women between the age 42–53 and five men between the age 40–50. The years as a TB principal ranged from 5–23 years. The years as principal of NTB principals ranged from 3–15. Eight of the schools were in rural districts while eight were in city districts. Nine of the ten schools were elementary schools with Pre-K to 5 and one middle school with K-9. All schools were designated as high poverty schools, with sixteen of the schools serving over 80% of students free lunches and three schools serving less than 70% of the students receiving free/reduced meals.

### **Quantitative Analysis**

A Paired t-Test was performed to determine if there was a significant difference in the data obtained from the principals (TB) that presided over schools awarded the Torchbearer academic achievement award, and data obtained from principals (NTB) presiding over public schools that did not receive the award, but that were located in the same area and district. The analysis was performed on the four tasks/statements found within each of the 10 categories previously described in Conceptualization section of Chapter 3.

As previously explained in Chapter 3 under Research Instrument, the scale used in recording the principals' response was a Likert-type scale, with the following rubric: 1: Strongly Agree; 2: Somewhat Agree; 3: Neither Agree nor Disagree; 4: Somewhat Disagree, and 5: Strongly Disagree. The scale recorded the degree to which the principals believed the action posed by the question responded to their level of frequency of their utilization of the described task or the degree of frequency their action corresponded to the described procedure or operation.

The analysis was performed on the four tasks found within each of the 10 categories previously described in Conceptualization section of Chapter 3. Ten tables were developed from the results of the SPSS analysis of the Paired t-Test comparing the responses of the TB principals to the responses of the NTB principals. The results of the analysis in the tables, based on statistical notation of Kent State University Libraries (2020) are labeled as follows:

**N:** The number of principals, both TB and NTB

**M:** The means of the responses of the principals to each task. The means of the TB and NTB are listed in the columns labeled TB Principals and NTB Principals.

**sd** (Standard Deviation): The standard deviation of the difference in responses.

**t:** The test statistic (denoted  $t$ ) for the Paired t-Test.

**df:** The degrees of freedom for this test.

**$p$  Sig. (2-tailed):** The p-value corresponding to the given test statistic  $t$  with degrees of freedom  $df$ . According to Statistics Solution (2020), the p-value gives the probability of observing the test results under the null hypothesis. The lower the p-value, the lower the probability of obtaining a result like that observed if the null hypothesis is true. Therefore, the lower the p-value, higher the possibility of there being a significant



difference ( $p < 0.05$ ,  $p < 0.01$ , and  $p < 0.001$  leading to the possible assumption that null hypothesis is not true.

Table 6

*Project Organization Category*

Project Organization	N	TB Principals		NTB Principals		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of the projects I managed had many interfaces across a diverse range of stakeholders.	16	1.63	0.52	2.25	1.16	-1.38	14	0.126
The majority of projects I managed had simple hierarchical organizational structures.	16	2.00	1.07	2.25	1.16	-0.45	14	0.880
The majority of projects I managed required undemanding and uniform direct communication to a small group of stakeholders.	16	2.13	0.99	3.50	1.19	-2.50	14	0.318
The majority of projects I managed had few third party relationships working in partnership.	16	2.50	1.07	2.88	1.35	-0.61	14	0.399

\* $< 0.05$ ; \*\* $< 0.01$ ; \*\*\* $< 0.001$

N: number of responses (8 TB, 8 NTB)

**Results Found from Project Organization Category Analysis**

From Project Organization category analysis, no significant difference in the perceptions of the principals concerning school operation was found. The first task project “manages many interfaces across a diverse range of stakeholders” and the last task project “manages few third

party relationships working in partnership” both pose issues of social interaction; one with many interfaces across a diverse range of stakeholders and the other with few third party relationships. As stated in Chapter 3, these two questions deals with social interaction at different degrees and levels (Gómez-Gajardo & De Los Rios, 2013).

The task projects presented in Task 2 speaks of hierarchical structure while Task 3 speaks of uniformed, undemanding communication in a small group which could be viewed as presenting two tasks with different structures and different degrees of social communication (interaction). One is highly structured with formal communication, the other uniformed (but not structured) with informal (undemanding) communication.

As stated in Chapter 3 concerning the actions performed in each of the four the tasks above, networking/interaction and good communication are vital to performing each task. However, the location and population of the schools also have a bearing on the task chosen by the principals. The demographic information on the schools showed that four of the schools presided over by the TB and NTB principals were city schools and five were rural. Although the average population of the rural and the city schools are approximately the same, the schools located in the city school districts would encounter more interaction that has many interfaces and spans a diverse range of stakeholders than rural schools. Likewise, rural schools experience more social interactions with fewer third party relationships working in partnership than in the city schools. In like manner, the city schools have more hierarchical formal communication and the rural schools, more undemanding uniformed communication.

Table 7

*Project Structure/Coordination Category*

Project Structure/Co-ordination	TB Principals			NTB Principals		<i>t</i>	<i>df</i>	<i>p</i>
	<i>N</i>	<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of projects I managed had well-structured and sequential phases with no overlap.	16	1.88	0.35	3.00	1.19	-2.55	14	0.002***
The majority of projects I managed had very few structures that required co-ordination.	16	3.25	1.16	4.13	1.35	-1.38	14	0.754
The majority of projects I managed demanded highly complex multidimensional reporting to a number of stakeholders.	16	2.75	1.03	2.50	1.19	0.45	14	0.852
The majority of projects I managed had very elaborate and demanding co-ordination structures that required a high level of management	16	2.63	0.74	1.88	0.83	1.89	14	0.876

\* &lt; 0.05; \*\* &lt; 0.01; \*\*\* &lt; 0.001

N: number of responses (8 TB, 8 NTB)

**Results Found from the Project Structure/Coordination Category Analysis**

Of the four actions concerning Project Structure/Coordination, one significant difference was found in the responses of the TB versus NTB principals. The p-value in the area “school projects that are well-structured and had sequential phases with no overlap,” is  $p < 0.002$ . This result could imply that actions of the TB principals exhibit CDL leadership characteristics more than NTB principals in the area of structuring school projects. As pointed out by Friedkin and Slater (1994), actions pertaining to project structure require communication (networking) between all involved—the principal, teachers, staff, and stakeholders. It could suggest that the

TB principals presiding over both rural and city schools utilized CL interaction/networking characteristics to some extent to establish projects for school operations that incorporated “cohesive communication” (Friedkin & Slater, 1994), which resulted in positive interpersonal transactions and collective achievements.

The other three project tasks concern structure coordination in various aspects ranging from very few to highly complex, multidimensional, to elaborate and demanding. Each of these structures of coordination require interaction, adaptability, and networking, but in different combinations and degrees.

The task that speaks of managing projects with “very few structures that required coordination” could correspond to task decisions made by a principal without external/internal advice or collaboration. Principals have to make some decisions based on their judgement and competence, but such decisions require fewer characteristics provided by CL such as networking, collaboration and adaptability. Therefore, it can be reasoned that both TB and NTB principals’ perspectives would be similar. However, statements 3 and 4 speak of managing projects with structures that are “highly complex multidimensional reporting to a number of stakeholders” and “very elaborate and demanding co-ordination structures that required a high level of management” which require leadership characteristics that concern team goals, supportive leadership, and communication (Nemanich & Keller, 2007).

Since no significant difference was found in the responses of the TB and NTB principals, concerning issues of Project Structure/Coordination, it could be supposed that both TB and NTB principals presiding over both rural and city schools perceived the administering of these proposed tasks in a similar manner.

Table 8

*Resources/ Finance Category*

<b>Resources/Finances</b>	<b>TB Principals</b>			<b>NTB Principals</b>		<i>t</i>	<i>df</i>	<i>p</i>
	<i>N</i>	<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of projects I managed had many people with diverse ranges of skills.	16	1.75	0.46	1.63	0.74	-2.55	14	0.100
The majority of projects I managed involved large capital investments.	16	3.88	0.64	3.25	1.03	-1.38	14	0.159
The majority of projects I managed were funded from a number of stakeholders and many potential resources.	16	3.63	0.92	2.25	0.71	0.44	14	0.489
The majority of projects I managed had a known and available pool of resources and funding.	16	3.00	1.19	2.38	0.74	1.89	14	0.095

\* &lt; 0.05; \*\* &lt; 0.01; \*\*\* &lt; 0.001

N: number of responses (8 TB, 8 NTB)

**Results Found from the Resources/Finance Category Analysis**

In this category, no significant difference was found between the two groups of principals concerning Resources and Finances. The first statement considers issues pertaining to “human resources” in school management. The task of managing “many people with diverse ranges of skills” calls for a leadership style possessing competence, good social and communicative skills offered by CL along with cohesive characteristic that promotes sustainability (Gómez-Gajardo & De Los Rios, 2013) and the ability adapt to diversity. However, no difference was found between the perceptions of the two groups of principals for this task.

The other three statements are concerned with issues related to school finance and funding. Although each action requires networking and communicative skills provided by CL leadership style, there was not any difference found in the responses of the two groups of principals. This could be attributed to the financial argument posed by Superville (2019) that although school principals are closest to the needs of school (building upkeep/improvement and safety), staff (properly performing the processes of selection, evaluation and development of teachers) and students (learning resources to support the academic accomplishment of school educational goals and priorities), they are given limited control over the financial spending in school funding which is control from central office. Taking this viewpoint, it could be surmised that both groups of principals may have the same perception concerning school financing projects.

Table 9

*Stakeholders/Interest Parties Category*

Stakeholder/Interest Parties	N	TB Principals		NTB Principals		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of projects I managed had stakeholders with comparable interests.	16	1.75	0.71	2.13	0.83	-0.97	14	0.734
The majority of projects I managed had numerous high profile interested parties.	16	3.13	1.55	3.25	0.71	-0.21	14	0.002***
The majority of projects I managed had a wide range of stakeholders who had unknown interrelations	16	3.38	0.74	2.50	1.31	1.64	14	0.037*
The majority of projects I managed had a few well-known stakeholders.	16	3.25	0.88	2.63	1.06	1.28	14	0.582

\* $< 0.05$ ; \*\* $< 0.01$ ; \*\*\* $< 0.001$  N: number of responses (8 TB, 8 NTB)

**Results Found from the Stakeholders/Interest Parties Category**

A significant difference in the perception of the TB and the NTB principals was found in two of the management actions in the category regarding Stakeholders and Interest Parties. These two management statements are: statement 2, describing managing “projects with numerous high profile interested parties,” had a p-value of 0.002 (significant at the  $0 < .01$  level) and statement 3 describing managing “projects that had a wide range of stakeholders who had unknown interrelations,” had a p-value of .037 (significant at the  $p < .05$  level). Both types of projects incorporate the networking and interaction skills provided by CL. The difference in the perception of the two groups could stem from the fact that TB principals may have presided over

schools that had more interaction and support from parents (active parents and PTAs) and community organizations (churches and partnership programs).

The first and last tasks in this category describe tasks dealing with “stakeholders with comparable interest” and “projects with few well-known stakeholders.” These tasks call for networking skills offered by CL but are also common school functions. “Stakeholders with comparable interest” possibly relates to local supporting stakeholders such as parents and community organizations while “few well-known stakeholders” could suggest county and state education organizations such as educational state representatives and county superintendents. However, it can be surmised that both groups of principals’ responses reflected similar performance of these tasks.



Table 10

*Leadership, Teamwork and Decision Making Category*

Leadership, teamwork, and decision makers.	N	TB Principals		NTB Principals		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>Sd</i>	<i>M</i>	<i>sd</i>			
The majority of projects I managed had a dynamic team structure with frequent movement of team members joining/leaving the project.	16	3.50	1.30	3.00	1.77	0.64	14	0.266
The majority of projects I managed had many subordinates across a wide control span.	16	3.00	0.92	2.13	1.36	1.51	14	0.135
The majority of projects I managed had many important decisions required during the execution of the project.	16	2.00	0.92	1.50	1.07	1.00	14	0.506
The majority of projects I managed required a constant and uniform leadership style.	16	1.50	0.53	1.38	0.74	0.38	14	0.693

\* < 0.05; \*\* < 0.01; \*\*\* < 0.001      N: number of responses (8 TB, 8 NTB)

### Results Found from the Leadership, Teamwork and Decision Making Category Analysis

In the area of Leadership, Teamwork, and Decision Making, according to the analysis, no significant difference was found between the perceptions of the TB and NTB principals pertaining the four tasks. The first two tasks, “The projects I managed had a dynamic team structure with frequent movement of team members joining/leaving the project” and “projects I managed had many subordinates across a wide control span” focus on issues of interaction and

teamwork. Although no difference was found in responses of the two groups, the location of the schools may have bearing on the responses of the principals.

Eight schools are in city districts with an average population of approximately 470 students and the eight schools in rural districts have an average population of approximately 365. The number of teachers on staff in the city schools averaged approximately 38, while the average number of teachers on staff in the rural schools averaged approximately 25. Since issues of networking and interaction would differ between the principals and staffs in the rural and city schools, their perspective of the tasks would differ depending on their location. More networking and interaction could possibly occur in larger schools with less in smaller rural schools.

Table 11

*Degree of Learning Category*

Degree of Learning	N	TB Principals		NTB Principals		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The major types of projects I managed incorporated innovative methods that promote different learning styles.	16	1.50	0.53	1.63	0.51	-0.47	14	0.506
The majority of projects I managed required advance training for learning new techniques for students' academic success.	16	1.75	1.03	2.71	0.95	-1.86	14	0.815
The majority of projects I managed included annual training to learn changes in federal and state mandates.	16	2.00	0.92	2.75	1.48	-1.21	14	0.094
The majority of projects I managed required a small amount of training for students' academic achievement.	16	3.25	1.48	2.57	1.39	0.90	14	0.686

\* < 0.05; \*\* < 0.01; \*\*\* < 0.001      N: number of responses (8 TB, 8 NTB)

**Results Found from the Degree of Learning Category Analysis**

No significant difference was found between the two groups concerning the tasks dealing with Degree of Learning.

Table 12

*Cultural and Social Conduct Category*

<b>Cultural and Social Context</b>	<b>N</b>	<b>TB Principals</b>		<b>NTB Principals</b>		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of projects I managed were delivered across a wide geographical landscape.	16	3.50	0.92	3.50	1.30	0.00	14	0.149
The majority of projects I managed were delivered into diverse cultural and social environments.	16	2.13	0.99	1.57	0.53	1.31	14	0.450
The majority of projects I managed were delivered to a small managed social span.	16	2.88	0.83	3.00	0.75	-0.31	14	0.538
The majority of projects I managed were delivered into a uniform and well known cultural environment.	16	2.13	0.99	2.50	1.06	-0.72	14	0.539

\*<0.05; \*\*<0.01; \*\*\*<0.001

N: number of responses (8 TB, 8 NTB)

The results from the leadership tasks relating to Cultural and Social Context show no significant difference in the perception of the two groups of principals in the operation of the four tasks. This finding, once again, could be related to school location and population issues. As discussed in Chapter 3, tasks 1 (“delivered across a wide geographical landscape”) and 3 (“delivered to a small managed social span”) could relate to rural schools’ principal leadership. Although academic concerns for student may have been similar, the perceptions concerning the management of issues pertaining to culture and social diversity may also have been perceived differently.

Table 13

*Risk Category*

<b>Risk (Threats/Opportunities)</b>	<b>N</b>	<b>TB Principals</b>		<b>NTB Principals</b>		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of the projects I managed had high potential for risk with a large impact.	16	2.63	1.06	1.75	0.88	1.79	14	0.582
The majority of the projects I managed had highly predictable risks (threats/opportunities).	16	2.88	1.12	2.25	1.03	1.15	14	0.837
The majority of projects I managed had many options to address opportunities.	16	1.88	0.83	1.88	0.64	0.00	14	0.342
The majority of projects I managed had limited options to address high potential threats.	16	3.38	0.74	3.25	1.16	0.25	14	0.373

\* $< 0.05$ ; \*\* $< 0.01$ ; \*\*\* $< 0.001$       N: number of responses (8 TB, 8 NTB)

**Results Found from the Risk Category Analysis**

Concerning tasks of risk management, no difference was found in the views of the two groups of principals in relation to management of various issues of school risk.

Table 14

*Degree of Innovation Category*

Degree of Innovation	N	TB Principals		NTB Principals		<i>t</i>	<i>df</i>	<i>p</i>
		<i>M</i>	<i>sd</i>	<i>M</i>	<i>sd</i>			
The majority of the projects I managed had a significant impact on the public agenda (educational compliance).	16	2.00	0.75	1.88	0.83	0.31	14	0.538
The majority of the projects I managed implemented cutting-edge and unknown technology.	16	2.88	0.83	2.88	0.99	0.00	14	0.286
The majority of projects I managed required a repetitive, tried and tested approach.	16	1.88	0.35	2.88	0.99	0.00	14	0.247
The majority of projects I managed involved a large scope of new development.	16	2.25	0.88	2.75	0.88	-1.12	14	0.619

\*&lt;0.05; \*\*&lt;0.01; \*\*\*&lt;0.001

N: number of responses (8 TB, 8 NTB)

**Results Found from the Degree of Innovation Category Analysis**

The findings concerning degrees of innovation showed that there was no difference in the actions surrounding innovation perceived by the principals in the two groups. The responses given for task 2 (“the projects I managed implemented cutting-edge and unknown technology”) and 3 (“projects I managed required a repetitive, tried and tested approach”) by both groups of principals were the same with  $t = 0$  (null hypothesis).

Table 15

*Objectives/Assessment of Results Category*

<b>Objectives/Assessment of Results</b>	<b>N</b>	<b>TB Principals</b>		<b>NTB Principals</b>		<b><i>t</i></b>	<b><i>df</i></b>	<b><i>p</i></b>
		<b><i>M</i></b>	<b><i>sd</i></b>	<b><i>M</i></b>	<b><i>sd</i></b>			
The majority of the projects I managed had transparent objectives and clear mandates.	16	1.50	0.75	1.25	0.46	0.79	14	0.116
The majority of the projects I managed had many critical success factors and key performance indicators.	16	1.25	0.46	1.25	0.46	0.00	14	1.000
The majority of projects I managed had clearly defined and agreed objectives.	16	1.50	0.53	1.50	0.53	0.00	14	1.000
The majority of projects I managed had many interdependent objectives.	16	2.25	0.70	1.88	1.12	0.79	14	0.245

\*&lt;0.05; \*\*&lt;0.01; \*\*\*&lt;0.001

N: number of responses (8 TB, 8 NTB)

**Results Found from the Objectives/Assessment of Results Category Analysis**

Concerning objectives and assessment tasks performed by the principals, no significant difference was found between the perceived views of the two groups of principals.

**Chapter Summary**

This chapter provided an analysis of the data collected from eight Torchbearer principals and the eight non-Torchbearer principals using Auburn Qualtrics on-line questionnaire. The questionnaire consisted of demographic information and 40 Likert-style questions/statements. The Likert-style statements pertained to various leadership tasks performed by principals which was divided into 10 categories, each consisting of 4 actions or task.

The statistical analysis of the responses of both the Torchbearer principals and the non-Torchbearer principals concerning their leadership actions revealed that although three of the tasks presented in the analysis were found to be significantly different, most of the tasks in the 10 categories supported the null hypothesis that the patterns of leadership behavior proposed by CL were *not* more prevalent in the leadership behavior of more Torchbearer Principals than in the leadership patterns of non-Torchbearer Principals. Thus, the analysis showed no overall significant differences in the perceived leadership actions of the two groups of principals. A more detailed discussion of these findings is found in Chapter 5.



## CHAPTER 5: DISCUSSION OF FINDINGS AND RECOMMENDATIONS

### **Introduction**

The broad purpose of this research study was to investigate how the interaction of traits and behaviors of leadership styles of school principals can impact the successful compliance of public schools to the educational mandates imposed by NCLB/ESSA and the Alabama Accountability Act. An attempt was made through the research undertaking to see if CL was effective in accomplishing the transformation of high-poverty, low-performing schools into high-poverty, high-performing schools in an effort to meet educational mandate. The Alabama Torchbearer Public School Award provided the requirements necessary for high-poverty, low-performing schools to successfully comply to the Alabama educational mandates and achieve academic recognition.

The school principals who presided over these Alabama public schools that received such recognition played a key role in this accomplishment. Their responses to the questionnaire administered in this study sought to determine the if the CL leadership style that was more prevalent in the responses of TB principals, versus NTB principals.

### **Research Question**

This study seeks to show that principals of Torchbearer Schools transformed their school system into a network of unbiased, diverse adapting agents instead of establishing a school system set on accomplishing a fundamental vision. Therefore, the question is:

Q1: Was the pattern of complexity leadership (CL) behavior more prevalent in the leadership actions of more principals of Alabama's Torchbearer Schools than in the actions exhibited by non-Torchbearer principals?

The hypothesis for this research study contends that the patterns of leadership behaviors described in complexity leadership were more prevalent in the leadership behavior of more Torchbearer Principals than the leadership actions of non-Torchbearer principals.

### **Discussion of Statistical Findings**

The ten categories of leadership operations used in the analysis were: Project organization; Project structure and co-ordination; Resources, including finances; Stakeholders and interest parties; Leadership, teamwork, and decision making; Degree of learning; Cultural and social context; Risk (threats and opportunities; Degree of innovation; and Objectives and assessment of results. Each of the ten categories were composed of four management tasks. The forty Likert-style statements pertained to various leadership tasks performed by principals.

The results from a Paired t-Test found that in the comparison of the data collected from the two groups of principals, the majority of the responses showed no significant difference. This finding supports the null hypothesis that the patterns of leadership behavior proposed by CL were *not* more prevalent in the leadership behavior of more Torchbearer Principals than in the leadership patterns of non-Torchbearer Principals. The small sample size of this study could have bearing on this result.

Although the overall result of the analysis supports the null hypothesis three tasks were found to be significantly different which can be related to the views found in this research studies discussed in Chapter 2 of this study. Two tasks found to be significantly different in the category “Stakeholders and Interested Parties” supports the views posed by both research studies (Christie & Lingard, 2001; Harcourt-Heath, 2013) concerning the concept of networking and social interaction. As argued by Lazaridou (2015), the incorporation of the concepts adaptive interactive networking posed by complexity leadership can lead to the production of new knowledge, new

dynamics, and a paradigm shift, which results from the intense and focused interactions of individuals working together in a system (p. 19).

The tasks of “managing a wide range of stakeholders who had unknown interrelations” and “managing numerous high profile interested parties” calls for various degrees of social interaction and networking consisting of both formal and informal settings that was pointed out by Lazaridou (2015). These actions performed by the TB principals could be consider as actions of ‘interdependent agents who are bonded in a cooperative dynamic by a common goal, outlook, or need (Uhl-Bien, Marion, & McKelvey, 2007, p. 299).

In the category of “Project Structure,” the task of “managing project with well-structured and sequential phases with no overlap” correlates with views proposed by Christie and Lingard (2001) concerning the notion of cohesion and its ability to establish accountability, authority and a “central purpose” school structuring such as school mission or vision.

Lastly, the actions perceived by the responses of the TB principal in this study does reflect what Harcourt-Heath (2013) argues is necessary for successful leadership; “leadership traits” (2013, p. 4). It has been argued by this study and many researchers (Bass & Bass, 2008; Derue et al., 2011; McDowelle & Buckner, 2002) that leaders must possess some inborn personality traits in order to be effective. Silva (2015) and Avolio (2011) both agree that in order for any leadership style to be success in accomplishing set goals, inborn traits are necessary. Educational leaders seeking to promote positive academic success for their students like the Torchbearer principal discussed in this study must possess inborn traits such as courage, confidence, and compassion in order to accomplish the tasks of academic achievement and meeting federal educational mandates.

## **Significance of This Study**

This study presented several qualitative research studies that examined how the implementation of effective leadership of the school principals in schools facing challenging circumstances were successfully transformed from high-poverty, low-performing schools into high-poverty, high-performing schools the (Alansari, 2012; Carter, 2000; Christie & Lingard, 2001; Coleman, 2013; Dawson, 2015; Gill, 2013; Ross, 2013; Sullivan, 2013). Of these studies, Christie and Lingard (2001) investigated the academic success of schools such challenge school being achieved by school principals incorporating complexity leadership in their daily school operations.

The significance of this study is its attempt to present a quantitative study investigating the possibility of complexity leadership providing a successful leadership style for meeting the challenges faced in transforming high-poverty, low-performing schools into high-poverty, high-performance schools. The endeavor of this study somewhat corresponds to the research opportunity posed by Hartcourt-Heath (2013) the conclusion of her research study as follows:

Next steps would be to conduct research in schools that are already deemed to be successful, but not led intentionally according to the principles of complexity theory, to determine whether elements of the theory are identifiable. Comparisons could then be made with those schools that are successful and intentionally led in this way. Ultimately, examination of schools facing challenging circumstances and led intentionally following complexity theory principles would determine whether this approach is more widely applicable. (p. 361)

This study contributes to the vast existing body of research of educational leadership by attempting to provide a quantitative research study that gives effort toward providing information

on a leadership style, complexity leadership, that could possibly provide necessary skills and abilities needed to transform high-poverty, low-performance schools into schools that are academically successful and capable of complying to the federal educational laws and mandates enforced in the Alabama public school system.

Because the Alabama Torchbearer Award Program had deemed 68 Alabama public schools and their principals have been recognized as accomplishing this task, my study proposed that this feat was accomplished by those principals through the incorporation of trait/behavior abilities found in the complexity leadership style.

### **Limitation**

This study was limited to only sixteen principals (eight Torchbearer and eight non-Torchbearer) in the state of Alabama which limits generalizability. Another limitation was found in the fact that the perspective provided by both groups of principals was from a retrospective viewpoint.

### **Recommendations**

Further research regarding leadership behavior exhibited of principals presiding over high-poverty, low performance schools compared to principals of high-poverty, high-performance schools (although the Alabama Torchbearer Program no longer exists to recognize them, doesn't mean they don't exist) is suggestion to expand the assumptions provided in this study. Because of the small sample size, perhaps a study conducted with a larger selection of participants would yield a more accurate and viable outcome. Further research is also recommended, both qualitatively and quantitatively, concerning the implementation of complexity leadership in educational leadership.

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## APPENDIX A

### Principal Complex Dynamics Leadership Questionnaire

**Demographic Information:**

Please answer the following questions:

1. Gender:

Male 1	Female 2
--------	----------

2. Age:

3. Number of years as a principal:

4. Location of Torchbearer school:

Rural 1	City 2
---------	--------

5. Number of students attending designated school (approximately):

6. Classification of school:

Elementary 1	Middle School 2	High School 3
--------------	-----------------	---------------

7. What Grades:

Grade	to Grade
-------	----------

8. Number of students receiving free lunches (approximately):

9. Number of Teachers employed at school (approximately):

10. Teacher/Student Ratio (approximately):

 / 
**Leadership Questionnaire:**

The questionnaire is to describe your leadership style as you perceive it. Please answer all questions

The questionnaire 53 consists of descriptive and open-ended statements. For the Likert-style questions, please determine how frequently each statement fits you. For the discussion questions, please provide your truthful perspective.

The rating scale is as follows:

Strongly Agree	Agree	Disagree	Strongly Disagree
1	2	3	4

- Project Organization**

1. The majority of projects I managed had many interfaces across a diverse range of stakeholders.

1	2	3	4
---	---	---	---

2. The majority of projects I managed had simple hierarchical organizational structures.

1	2	3	4
---	---	---	---



3. The majority of projects I managed required undemanding and uniform direct communication to a small group of stakeholders.

1	2	3	4
---	---	---	---

4. The majority of projects I managed had few third party relationships working in partnership.

1	2	3	4
---	---	---	---

• **Project Structure and Co-ordination**

5. The majority of projects I managed had well-structured and sequential phases with no overlap

1	2	3	4
---	---	---	---

6. The majority of projects I managed had very few structures that require co-ordination

1	2	3	4
---	---	---	---

7. The majority of projects I managed had demand highly complex multidimensional reporting to a number of stakeholders

1	2	3	4
---	---	---	---

8. The majority of projects I managed had very elaborate and demanding co-ordination structures that require a high level of management

1	2	3	4
---	---	---	---

9. With 1 being seldom and 5 being often, how often did you collaborate with your district superintendent about academic issues?

1	2	3	4	5
---	---	---	---	---

10. With 1 being the lowest and 5 being the highest, how involved is your superintendent in the overall academic functioning of your school?

1	2	3	4	5
---	---	---	---	---

Elaborate:

--

• **Resources, including Finances**

11. The majority of projects I managed had many people with diverse ranges of skill

1	2	3	4
---	---	---	---

12. The majority of projects I managed involved large capital investments

1	2	3	4
---	---	---	---

13. The majority of projects I managed were funded from a number of stakeholders and many potential resources

1	2	3	4
---	---	---	---

14. The majority of projects I managed had a known and available pool of resources and funding

1	2	3	4
---	---	---	---



• **Stakeholders/Interest Parties**

15. The majority of projects I managed had stakeholders with comparable interests

1	2	3	4
---	---	---	---

16. The majority of projects I managed had numerous high profile interested parties

1	2	3	4
---	---	---	---

17. The majority of projects I managed had a wide range of stakeholders who had unknown interrelations

1	2	3	4
---	---	---	---

18. The majority of projects I managed had a few well-known stakeholders

1	2	3	4
---	---	---	---

• **Leadership, Teamwork and Decision Making**

19. The majority of projects I managed had a dynamic team structure with frequent movement of team members joining/leaving the project

1	2	3	4
---	---	---	---

20. The majority of projects I managed had many subordinates across a wide control span

1	2	3	4
---	---	---	---

21. The majority of projects I managed had many important decisions required during the execution of the project

1	2	3	4
---	---	---	---

22. The majority of projects I managed required a constant and uniform leadership style

1	2	3	4
---	---	---	---

23. With 1 being the lowest and 5 being the highest, to what degree do you believe that altruism/selflessness plays a part in team interaction?

1	2	3	4	5
---	---	---	---	---

Elaborate:

--

24. With 1 being the lowest and 5 being the highest, how important was your interaction with the teachers in your school?

1	2	3	4	5
---	---	---	---	---

25. How did this interaction affect the academic success of your school?

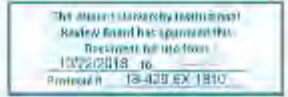
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26. With 1 being the lowest and 5 being the highest, to what degree did the participation and interaction of parents and the community influence project decisions?

1	2	3	4	5
---	---	---	---	---

Elaborate:

--





27. With 1 being the lowest and 5 being the highest, to what degree was adaptability incorporated into your decision-making process?

1	2	3	4	5
---	---	---	---	---

Explain:

--------------

• **Degree of Learning**

28. The majority of projects I managed incorporated innovative methods that promote different learning styles

1	2	3	4
---	---	---	---

29. The majority of projects I managed required advance training for learning new techniques for students' academic success

1	2	3	4
---	---	---	---

30. The majority of projects I managed included annual training to learn changes in federal and state mandates

1	2	3	4
---	---	---	---

31. The majority of projects I managed had required a small amount of training for students' academic achievement

1	2	3	4
---	---	---	---

32. With 1 being the lowest and 5 being the highest, to what degree did teacher/student interaction affect the learning process?

1	2	3	4	5
---	---	---	---	---

Elaborate:

--------------

33. With 1 being the lowest and 5 being the highest, how important was principal/teacher interaction in the learning process of students?

1	2	3	4	5
---	---	---	---	---

Elaborate:

--------------

• **Cultural and Social Context**

34. The majority of projects I managed were delivered across a wide geographical landscape

1	2	3	4
---	---	---	---

35. The majority of projects I managed were delivered into diverse cultural and social environments

1	2	3	4
---	---	---	---

36. The majority of projects I managed were delivered to a small managed social span

1	2	3	4
---	---	---	---

37. The majority of projects I managed were delivered into a uniform and well known cultural environment

1	2	3	4
---	---	---	---

38. What is your perception on how social interaction affects the learning process of students?

--

39. Do you believe that, as an educator, it is important to examine one's own beliefs and attitudes concerning diversity?

**Elaborate:**

--

40. With 1 being the lowest and 5 being the highest, to what degree do you believe that the practice of good teaching incorporates diverse cultures and experiences into classroom lessons and discussions?

1	2	3	4	5
---	---	---	---	---

**Explain your viewpoint:**

--

• **Risks (threats/opportunities)**

41. The majority of projects I managed had a high potential for risk with a large impact

1	2	3	4
---	---	---	---

42. The majority of projects I managed had highly predictable risks (threats/opportunities)

1	2	3	4
---	---	---	---

43. The majority of projects I managed had many options to address opportunities

1	2	3	4
---	---	---	---

44. The majority of projects I managed had limited options to address high potential threats

1	2	3	4
---	---	---	---

• **Degree of Innovation, General Conditions**

45. The majority of projects I managed require a repetitive, tried and tested approach

1	2	3	4
---	---	---	---

46. The majority of projects I managed involve a large scope of new development

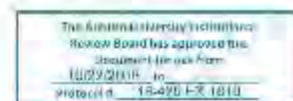
1	2	3	4
---	---	---	---

47. The majority of projects I managed had a significant impact on the public agenda (educational compliance)

1	2	3	4
---	---	---	---

48. The majority of projects I managed implement leading edge and unknown technology

1	2	3	4
---	---	---	---



49. With 1 being the lowest and 5 being the highest, how important was adaptability in the incorporation of innovative practices.

1	2	3	4	5
---	---	---	---	---

Explain:

• **Objectives/Assessment of Results**

50. The majority of projects I managed had transparent objectives and clear mandate

1	2	3	4
---	---	---	---

51. The majority of projects I managed had many critical success factors and key performance indicators

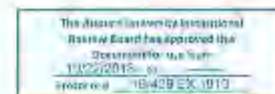
1	2	3	4
---	---	---	---

52. The majority of projects I managed had clearly defined and agreed objectives

1	2	3	4
---	---	---	---

53. The majority of projects I managed had many interdependent objectives

1	2	3	4
---	---	---	---



APPENDIX B  
IRB Approval Form

Auburn University Human Research Protection Program

EXEMPTION REVIEW APPLICATION

For information or help completing this form, contact: THE OFFICE OF RESEARCH COMPLIANCE,
Location: 115 Ramsay Hall Phone: 334-844-5966 Email: IRBAdmin@auburn.edu

Submit completed application and supporting material as one attachment to IRBsubmit@auburn.edu.

1. PROJECT IDENTIFICATION

Date 07/2019

a. Project Title Prevalence of Complex Dynamic Leadership (CDL) Traits Among Principals in Alabama Turnoverer Schools in Successfully implementing and Achieving No Child Left Behind Mandates

b. Principal Investigator DERE M. LEVENS Degree(s) Doctor of Philosophy
Rank/Title Ph.D Candidate Department/School Political Science
Phone Number 334-332-4448 AU Email dm0005@auburn.edu

Faculty Principal Investigator (required if PI is a student) Dr. Kaly Kravczyk
Title Faculty Advisor Department/School Department of Political Science
Phone Number 334-844-6460 AU Email kak003@auburn.edu

Dept Head Dr. Paul Harris Department/School Department of Political Science
Phone Number 334-844-6152 AU Email paul.harris@auburn.edu

c. Project Personnel (other PI) - Identify all individuals who will be involved with the conduct of the research and include their role on the project. Role may include design, recruitment, consent process, data collection, data analysis, and reporting. Attach a table if needed for additional personnel.

Personnel Name Degree (s)
Rank/Title Department/School
Role
AU affiliated? YES NO If no, name of home institution
Plan for IRB approval for non-AU affiliated personnel?

Personnel Name Degree (s)
Rank/Title Department/School
Role
AU affiliated? YES NO If no, name of home institution
Plan for IRB approval for non-AU affiliated personnel?

Personnel Name Degree (s)
Rank/Title Department/School
Role
AU affiliated? YES NO If no, name of home institution
Plan for IRB approval for non-AU affiliated personnel?

d. Training - Have all Key Personnel completed CITI human subjects training (including elective modules related to this research) within the last 3 years? YES NO

The Auburn University Institutional Review Board has approved this Document for use from 07/2/2019 to Protocol # 19-281 EX 1907

e. **Funding source** – Is this project funded by the investigator(s)?  YES  NO  
 Is this project funded by AU?  YES  NO If YES, identify source \_\_\_\_\_  
 Is this project funded by an external sponsor?  YES  No If YES, provide the name of the sponsor, type of sponsor (governmental, non-profit, corporate, other), and an identification number for the award.  
 Name \_\_\_\_\_ Type \_\_\_\_\_ Grant # \_\_\_\_\_

f. List other IRBs associated with this research and submit a copy of their approval and/or protocol:

**2. Mark the category or categories below that describe the proposed research:**

- 1. Research conducted in established or commonly accepted educational settings, involving normal educational practices. The research is not likely to adversely impact students' opportunity to learn or assessment of educators providing instruction. 104(d)(1)
- 2. Research only includes interactions involving educational tests, surveys, interviews, public observation if at least ONE of the following criteria. (The research includes data collection only; may include visual or auditory recording; may NOT include intervention and only includes interactions). **Mark the applicable sub-category below (i, ii, or iii).** 104(d)(2)
  - (i) Recorded information cannot readily identify the participant (directly or indirectly/linked); **OR**
    - surveys and interviews: no children;
    - educational tests or observation of public behavior: can only include children when investigators do not participate in activities being observed.
  - (ii) Any disclosures of responses outside would not reasonably place participant at risk; **OR**
  - (iii) Information is recorded with identifiers or code linked to identifiers and IRB conducts limited review; no children. **Requires limited review by the IRB.\***
- 3. Research involving Benign Behavioral Interventions (BBI)\*\* through verbal, written responses (including data entry or audiovisual recording) from adult subjects who prospectively agree and ONE of the following criteria is met. (This research does not include children and does not include medical interventions. Research cannot have deception unless the participant prospectively agrees that they will be unaware of or misled regarding the nature and purpose of the research). **Mark the applicable sub-category below (A, B, or C).** 104(d)(3)(i)
  - (A) Recorded information cannot readily identify the subject (directly or indirectly/linked); **OR**
  - (B) Any disclosure of responses outside of the research would not reasonably place subject at risk; **OR**
  - (C) Information is recorded with identifiers and cannot have deception unless participant prospectively agrees. **Requires limited review by the IRB.\***
- 4. Secondary research for which consent is not required: use of identifiable information or identifiable bio-specimen that have been or will be collected for some other 'primary' or 'initial' activity, if one of the following criteria is met. Allows retrospective and prospective secondary use. **Mark the applicable sub-category below (i, ii, iii, or iv).** 104(d)(4)
  - (i) Biospecimens or information are publicly available
  - (ii) Information recorded so subject cannot readily be identified, directly or indirectly/linked; investigator does not contact subjects and will not re-identify the subjects; **OR**

- (ii) Collection and analysis involving investigators use of identifiable health information when use is regulated by HIPAA "health care operations" or "research or "public health activities and purposes" (does not include biospecimens (only PHI and requires federal guidance on how to apply); OR
- (iv) Research information collected by or on behalf of federal government using government generated or collected information obtained for non-research activities.
- 5. Research and demonstration projects which are supported by a federal agency/department AND designed to study and which are designed to study, evaluate, or otherwise examine: (i) public benefit or service programs; (ii) procedures for obtaining benefits or services under those programs; (iii) possible changes in or alternatives to those programs or procedures; or (iv) possible changes in methods or levels of payment for benefits or services under those programs. (must be posted on a federal web site). 104(d)(5) (must be posted on a federal web site)
- 6. Taste and food quality evaluation and consumer acceptance studies. (i) if wholesome foods without additives are consumed or (ii) if a food is consumed that contains a food ingredient at or below the level and for a use found to be safe, or agricultural chemical or environmental contaminant at or below the level found to be safe, by the Food and Drug Administration or approved by the Environmental Protection Agency or the Food Safety and Inspection Service of the U.S. Department of Agriculture. The research does not involve prisoners as participants. 104(d)(6)

**New exemption categories 7 and 8: Both categories 7 and 8 require Broad Consent.** (Broad consent is a new type of informed consent provided under the Revised Common Rule pertaining to storage, maintenance, and secondary research with identifiable private information or identifiable biospecimens. Secondary research refers to research use of materials that are collected for either research studies distinct from the current secondary research proposal, or for materials that are collected for non-research purposes, such as materials that are left over from routine clinical diagnosis or treatments. Broad consent does not apply to research that collects information or biospecimens from individuals through direct interaction or intervention specifically for the purpose of the research.) **The Auburn University IRB has determined that as currently interpreted, Broad Consent is not feasible at Auburn and these 2 categories WILL NOT BE IMPLEMENTED at this time.**

**Limited IRB review** – the IRB Chairs or designated IRB reviewer reviews the protocol to ensure adequate provisions are in place to protect privacy and confidentiality.

**Category 3 – Benign Behavioral Interventions (BBI)** must be brief in duration, painless/harmless, not physically invasive, not likely to have a significant adverse lasting impact on participants, and it is unlikely participants will find the interventions offensive or embarrassing.

### 3. PROJECT SUMMARY

**a. Does the study target any special populations? (Mark applicable)**

- Minors (under 18)  YES  NO
- Pregnant women, fetuses, or any products of conception  YES  NO
- Prisoners or wards (unless incidental), not allowed for Exempt research  YES  NO
- Temporarily or permanently impaired  YES  NO

**b. Does the research pose more than minimal risk to participants?**  YES  NO

*Minimal risk means that the probability and magnitude of harm or discomfort anticipated in the research are not greater in and of themselves than those ordinarily encountered in daily life or during the performance of routine physical or psychological examinations or test. 42 CFR 46.102(i)*

**c. Does the study involve any of the following?**

- Procedures subject to FDA regulations (drugs, devices, etc.)  YES  NO
- Use of school records of identifiable students or information from instructors about specific students.  YES  NO
- Protected health or medical information when there is a direct or indirect link which could identify the participant.  YES  NO
- Collection of sensitive aspects of the participant's own behavior, such as illegal conduct, drug use, sexual behavior or alcohol use.  YES  NO
- Deception of participants  YES  NO

**4. Briefly describe the proposed research, including purpose, participant population, recruitment process, consent process, research procedures and methodology.**

The purpose of this study is to determine the prevalence of leadership behavior known as Complex Dynamic Leadership (CDL) traits among the principals of Alabama Torchbearer Schools that were successful in implementing and meeting the mandates of NCLB. The concept imposed by CDL is concerned less with the effects of hierarchical control in operational leadership as with how interaction in networks can lead to new patterns of behavior or innovative models of operation and information (Heifetz, 1994; Plowman et al., 2007; Uhl-Bien, Marion, & McKelvey, 2007; Brown, 2018). While traditional literature cites transformational leadership as being effective in producing system-wide change, recent conceptions from complexity dynamics leadership suggest a combination of traditional leadership traits employed across networks (CDL) may be more common. The research question proposed in this study is: "How prevalent is the CDL style among principals of Torchbearer Schools who were successful in implementing and achieving NCLB mandates?" The hypothesis for this study contends that the patterns of leadership behavior proposed by CDL are more prevalent in the leadership behavior of more Torchbearer Principals than the leadership patterns of transformational and other leadership styles. The research methodology for this study is quantitative using Paired Sample t-Test

**5. Waivers**

**Check any waivers that apply and describe how the project meets the criteria for the waiver. Provide the rationale for the waiver request.**

- Waiver of Consent (Including existing de-identified data)
- Waiver of Documentation of Consent (Use of Information Letter)
- Waiver of Parental Permission (for college students)

**All retrospective information will be de-identified.**



6. Describe how participants/data/specimens will be selected. If applicable, include gender, race, and ethnicity of the participant population.

The participants are eight principals who presided over Alabama's Torchbearer schools and eight principals who presided over public schools that were not Torchbearer schools but are located in the same school district as the Torchbearer schools. An Auburn Qualtrics online questionnaire will be use for collecting data.

7. Does the research involve deception?  YES  NO If YES, please provide the rationale for deception and describe the debriefing process.

**8. Describe why none of the research procedures would cause a participant either physical or psychological discomfort or be perceived as discomfort above and beyond what the person would experience in daily life.**

The questions asked in the online survey for this research is only concerned with the behavioral traits of the principals who participate in this study. The superintendents and the principals are provided with information prior to their participation in the study informing them that no physical or psychological discomfort or perceived discomfort would be experienced above that faced in daily life. The Superintendent Permission Form and the Principal Consent Form is attached that contains this information.

**9. Describe the provisions to maintain confidentiality of data, including collection, transmission, and storage.**

It is stated in the superintendents' permission form and the principals' consent form that any data obtained in connection with this study will remain anonymous. It is also expressed that the results of the study will only be shared with interested educators, policy makers, and faculty personnel of Public Administration/Policy at Auburn University and AUM. The participants have prior knowledge that any data collected through their participation will be used to fulfill doctoral dissertation requirements, presentations at professional meetings, and articles for professional journals.

- 10. Describe the provisions included in the research to protect the privacy interests of participants (e.g., others will not overhear conversations with potential participants, individuals will not be publicly identified or embarrassed).**

It is stated in the superintendents' permission form and the principals' consent form that any data obtained in connection with this study will remain anonymous. It is also expressed that the results of the study will only be shared with interested educators, policy makers, and faculty personnel of Public Administration/Policy at Auburn University and AUM. The participants have prior knowledge that any data collected through their participation will be used to fulfill doctoral dissertation requirements, presentations at professional meetings, and articles for professional journals.

- 11. Will the research involve interacting (communication or direct involvement) with participants?**  
 YES  NO If YES, describe the consent process and information to be presented to subjects. This includes identifying that the activities involve research; that participation is voluntary; describing the procedures to be performed; and the PI name and contact information.

12. Additional Information and/or attachments.

In the space below, provide any additional information you believe may help the IRB review of the proposed research. If attachments are included, list the attachments below. Attachments may include recruitment materials, consent documents, site permissions, IRB approvals from other institutions, etc.

Attachments:

1. Attach a copy of all "stamped" IRB-approved documents currently used. (information letters, consents)
2. Attach a copy of all revised documents (high-lighted revised version and clean revised version for the IRB approval stamp).
3. Modified Telephone script.
4. Modified Principal consent Form.
5. School districts to be contacted.

Principal Investigator's Signature

*Nana Lopez*

Date

*6/25/2019*

If PI is a student,

Faculty Principal Investigator's Signature

*[Signature]*

Date

*6/25/2019*

Department Head's Signature

*[Signature]*

Date

*6/25/2019*

APPENDIX C

Superintendent Letter of Permission



Letter of Permission

**(NOTE: DO NOT SIGN THIS DOCUMENT UNLESS AN IRB APPROVAL STAMP WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)**

**INFORMED CONSENT  
For a Research Study entitled**

*"Prevalence of Complex Dynamic Leadership (CDL) Traits among Principals in Alabama Torchbearer Schools in Successfully Implementing and Achieving No Child Left Behind Mandates."*

Dear Superintendent \_\_\_\_\_:

Because you presided over a public school in the state of Alabama during the time that a school in your school district was awarded the Alabama Torchbearer School Award, you are invited to participate in this research study. The study examines the leadership behavior of the school principals at the time of the notable educational achievement. The title of this research study is: "The Prevalence of Complex Dynamic Leadership (CDL) Traits among Principals in Alabama Torchbearer Schools in Successfully Implementing and Achieving No Child Left Behind Mandates." The study is being conducted by Dara Levens, a Ph.D. Candidate in the Public Administration and Policy Program at Auburn University under the direction of Dr. Kelly Krawczyk, an Associate Professor and PhD Program Director.

I am asking your permission to administer an online questionnaire through Auburn Qualtrics to the said principal(s) in your school district. With your permission, the principal(s) will be advised by you concerning this research study and the principal(s) telephone number(s) will be shared for purpose of being contacted by the Principal Investigator. There are no known discomforts or risks associated with this study.

There are no monetary benefits or compensation provided for being a participant in this study. However, by giving your permission, you will have the opportunity to contribute information that will provide insight into the views of Alabama principals concerning meeting federal educational mandates and assuring academic success for your school. Your participation will be truly appreciated and there is no cost to you as a participant in this study.

Your participation is completely voluntary. If you choose not to participate in this study, email: [dml0005@auburn.edu](mailto:dml0005@auburn.edu). Your decision concerning whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Public Administration and Policy, or Auburn University in Montgomery.

**All information will be classified as anonymous.** We will take great diligence to protect your privacy and the data provided by the principals in your school district. The results of the study will be shared with interested educators, policy makers, and faculty personnel of Public Administration/Policy at Auburn University and AUM. Information collected through your participation will be used to fulfill doctoral dissertation requirements, presentations at professional meetings, and articles for professional journals.

Yours consideration of my request will be greatly appreciated. **If you have questions about this study**, please contact Dara Levens at 334-332-4448, [dml0005@auburn.edu](mailto:dml0005@auburn.edu); or Dr. Kelly Krawczyk at 334-244-6460, [kak00037@auburn.edu](mailto:kak00037@auburn.edu). A copy of this document will be provided for you to keep.

**If you have questions concerning your rights as a research participant**, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone at (334) 844-5966 or by email at [hsubject@auburn.edu](mailto:hsubject@auburn.edu) or [IRBChair@auburn.edu](mailto:IRBChair@auburn.edu).

**HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.**

\_\_\_\_\_  
Superintendent's signature      Date

\_\_\_\_\_  
Investigator obtaining consent      Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Printed Name

The Auburn University Institutional Review Board has approved this Document for use from <u>07/01/2019</u> to: .....
Protocol #: <u>18-429 EX 1810</u>

APPENDIX D

Telephone Script 1 with Superintendents



## Telephone Script with Superintendents

Me: Hello/Good morning/Good afternoon Superintendent \_\_\_\_\_  
My name is Dara Levens and I am a doctoral student in the Public Administration and Policy Program at Auburn University. My research study focuses on the leadership behavior of the Alabama public school principals who presided over schools that were awarded the Alabama Torchbearer Award during the school terms from 2005-2013. One or more of these schools are in your district.  
Superintendent \_\_\_\_\_, I am sure that you have a busy schedule, but if you could spare me a few minutes of your time to tell you about my research study, I would be very appreciative.  
Response:(F) No, not a good time.  
Me: Can I call back at your convenience?

Response:(IF) Yes  
Me: Thank You! I won't take much of your time. The title of my research study is, "The Prevalence of Complex Dynamic Leadership (CDL) Traits among Principals in Alabama Torchbearer Schools in Successfully Implementing and Achieving No Child Left Behind Mandates."  
Me: With your permission, I would like to administer an online questionnaire through Auburn Qualtrics to the Torchbearer principal(s) in your school district to examine the leadership traits that led to the prestigious academic achievement of receiving the Torchbearer School Award. There are no known discomforts or risks associated with this study.  
There are no monetary benefits or compensation provided for being a participant in this study. However, by giving your permission, you will have the opportunity to contribute information that will provide insight for Alabama educators, educational law-makers, and constituencies concerning school leadership vital to meeting federal and state educational mandates and assuring academic success for our schools. Your participation will be truly appreciated and there is no cost to you as a participant in this study.  
Superintendent \_\_\_\_\_ do you agree to participate in this study?

Response: (IF Yes)  
Thank you so much. The school in your district is \_\_\_\_\_ Name of School \_\_\_\_\_ which was awarded the Torchbearer Award for the school terms of \_\_\_\_\_. The objective of my study is to obtain information from the principal that presided at this school at the time of the Torchbearer Award. I realize that it is possible that this principal no longer officiates in your district since several years has expired since the school term(s) mentioned. It would be so helpful if you could advise me if that principal is still at \_\_\_\_\_ School \_\_\_\_\_.

**(Principal is still there):** That's great to hear. To administer my research, I will need you to contact Principal \_\_\_\_\_ and advise him/her of my research study and get their consent to relate their phone number to me to arrange for me to administer the online questionnaire. I will



APPENDIX E

Telephone Script 2 with Superintendents

## Telephone Script for Superintendents

Hello/Good morning/Good afternoon Superintendent \_\_\_\_\_

My name is Dara Levens. I spoke with you last fall concerning my doctoral study at Auburn University that focused on the leadership behavior of the Alabama public school principals who presided over schools that were awarded the Alabama Torchbearer Award during the school terms from 2005-2013.

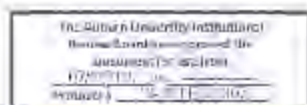
First, I want to thank you for granting me permission to contact Principal \_\_\_\_ about participating in my research study. The information obtained from his/her responses was very helpful to my research study. But upon analyzing the results of my investigation, it was pointed out to me by my chair, Dr Kraveczyk, that a clearer understanding of my research would be accomplished by having a principal from the same school district as the principal who presided over the Torchbearer school.

Superintendent \_\_\_\_\_, I would really appreciate your willingness to once again allow me to administer the same online questionnaire through Auburn Qualtrics to one of your school principals who presided over a school in your district during the time that Principal \_\_\_\_\_ was principal of \_\_\_\_\_ school.

As before, there are no known discomforts or risks associated with this study. There are no monetary benefits or compensation provided for being a participant in this study. However, by giving your permission, you will have the opportunity to contribute information that will provide insight for Alabama educators, educational law-makers, and constituencies concerning school leadership vital to meeting federal and state educational mandates and assuring academic success for our schools. Your participation will be truly appreciated and there is no cost to you as a participant in this study.

To administer my research, I will again need your signed consent giving me permission and I will need you to contact the principal and advise him/her of my research study and ask their consent to relate their phone number/email to me to obtain his/her consent and arrange the administering of the online questionnaire.

Thank you so much for your time. Good Bye.



## APPENDIX F

### Torchbearer Principal Informed Consent



**(NOTE: DO NOT SIGN THIS DOCUMENT UNLESS AN IRB APPROVAL STAMP  
WITH CURRENT DATES HAS BEEN APPLIED TO THIS DOCUMENT.)**

**PRINCIPALS INFORMED CONSENT**

**For a Research Study entitled**

*“The Prevalence of Complex Dynamic Leadership (CDL) Traits among Principals in Alabama Torchbearer Schools in Successfully Implementing and Achieving No Child Left Behind Mandates.”*

Dear Principal \_\_\_\_\_:

Because you presided over a public school in the state of Alabama that was awarded the Alabama Torchbearer School Award, you are invited to participate in this research study. The study examines the leadership behavior of the school principal at the time of the notable educational achievement. The title of this research study is: “The Prevalence of Complex Dynamic Leadership (CDL) Traits among Principals in Alabama Torchbearer Schools in Successfully Implementing and Achieving No Child Left Behind Mandates.” The study is being conducted by Dara Levens, a Ph.D. Candidate in the Public Administration and Policy Program at Auburn University under the direction of Dr. Linda Dennard, Professor of Ethics, Public Administration, and Policy.

If you choose to be a participant in this research study, you will be asked to complete and submit an anonymous online survey through Auburn Qualtrics. The total time commitment to completing the survey will be approximately 15-20 minutes. There are no known discomforts or risks associated with this study.

There are no monetary benefits or compensation provided for being a participant in this study. However, by completing and submitting this survey, you will have the opportunity to contribute information that will provide insight for Alabama educators, educational law-makers, and constituencies concerning school leadership vital to meeting federal and state educational mandates and assuring academic success for our schools. Your participation will be truly appreciated and there is no cost to you as a participant in this study.

If you change your mind about participating, you can withdraw at any time during the study. Your participation is completely voluntary. If you choose to withdraw, you can do so by not returning the survey. Your decision concerning whether or not to participate or to stop participating will not jeopardize your future relations with Auburn University, the Department of Public Administration and Policy, or Auburn University in Montgomery.

**Any data obtained in connection with this study will remain anonymous.** The results of the study will be shared with interested educators, policy makers, and faculty personnel of Public Administration/Policy at Auburn University and AUM. Data collected through your participation will be used to fulfill doctoral dissertation requirements, presentations at professional meetings, and articles for professional journals.





APPENDIX G

Non-Torchbearer Principal Informed Consent





If you choose to participate in this research study, you are asked to complete and return the survey form electronically to [dlevens@auburn.edu](mailto:dlevens@auburn.edu) within **10 school working days**.

**Yours consideration of my request will be greatly appreciated. If you have questions about this study**, please contact Dara Levens at 334-332-4448, [dml0005@auburn.edu](mailto:dml0005@auburn.edu); or Dr. Kelly Krawczyk at 334-244-6460, [kak00037@auburn.edu](mailto:kak00037@auburn.edu). A copy of this document will be provided for you to keep.

**If you have questions concerning your rights as a research participant**, you may contact the Auburn University Office of Human Subjects Research or the Institutional Review Board by phone at (334) 844-5966 or by email at [hsubject@auburn.edu](mailto:hsubject@auburn.edu) or [IRBChair@auburn.edu](mailto:IRBChair@auburn.edu).

**HAVING READ THE INFORMATION PROVIDED, YOU MUST DECIDE WHETHER OR NOT YOU WISH TO PARTICIPATE IN THIS RESEARCH STUDY. YOUR SIGNATURE INDICATES YOUR WILLINGNESS TO PARTICIPATE.**

\_\_\_\_\_  
Superintendent's signature      Date

\_\_\_\_\_  
Investigator obtaining consent      Date

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Printed Name

