

AN ILLUSIVE SEARCH: A STUDY INVESTIGATING  
THE LINK BETWEEN INSTUCTIONAL  
LEADERSHIP AND SCHOOL EFFECTIVENESS

by

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## **ABSTRACT**

The purpose of this study was to explore the perceived instructional leadership behaviors of principals in schools in Alabama and to investigate the relationship between instructional leadership and school effectiveness. This study determined the extent of the relationship between principals' perceptions of their instructional leadership practices, specifically the instructional leadership functions and dimensions identified by the Principal Instructional Management Rating Scale ([PIMRS] Hallinger, 1983/1990), and school effectiveness as described by the Alabama State Department of Education determinant of student achievement, the ACT Aspire.

Perceptions of principals were gathered from 94 principals in elementary, middle, and high schools in Alabama. This study used a non-experimental, descriptive, and cross-sectional research design that examined principals' leadership behaviors and determined the degree to which these could be linked with indicators of school effectiveness. This study sought to answer the following research questions: (1) To what extent do principals demonstrate instructional leadership behaviors characterized by PIMRS framework? (2) What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status or community setting? (3) What is the relationship between the instructional leadership behaviors of principals and the performance of schools? (4) Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by: (a) total of years of experience in educational leadership, (b) years

of experience as principal at the current school, (c) level of education, (d) the grade span of the school, (e) indicators of school socioeconomic status?

Findings indicated that a small, but significant positive relationship existed between the instructional leadership dimension Defining the School Mission and the proficiency rates of schools in both Reading and Mathematics. The school's socioeconomic context was a significant variable related student achievement as was the school's community setting. School principal's emphasis on instructional leadership varied by their experience both in terms of years of experience at the current school as principal and total years in educational leadership overall.

This study provides administrators and policy makers in Alabama with a confirmation of the widely held assumption that principals are difference makers in the achievement of schools. Further, this study adds to the body of literature linking specific instructional leadership behaviors and increased student achievement.

## **DEDICATION**

This research project is dedicated to my loving family: To my father whose advice was always encouraging; to my mother whose support made this journey possible; to my grandmother who first inspired me to learn; to my children who I learn from everyday; and lastly to my amazing wife who sacrificed more than anyone to help me see it through.

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## INTRODUCTION

An education leader promotes the success of every student by advocating nurturing, and sustaining a school culture and instructional program conducive to student learning and staff professional growth.

(*ISLLC 2008*, Council of Chief State School Officers, 2008)

“It is possible to be an effective teacher in a poorly led school but it’s not easy” (Darling-Hammond, 2013).

When asked about the changing role of school leadership in the 21<sup>st</sup> century, Leithwood and Fullan (2012) pointed to “the expectation that education leaders are ultimately responsible for how well students are doing and the extent to which achievement is improving” (p. 2). Others agreed that the dramatic shifts in the responsibilities of school leaders stemmed from the insistence of policymakers and politicians that educators be held accountable for student outcomes (Goldberg, 2004; Marks & Nance, 2007; Spillane & Kenney, 2012). Because of the general belief that there was a link between principal leadership behaviors and student achievement, and further because of the continued pressure to raise the level of student achievement and schools, principal effectiveness was the subject of significant recent research (Hattie 2009; LaPointe, Davis, & Cohen, 2007; Leithwood & Louis, 2012; Marzano, Waters, and McNulty, 2005). The press for accountability in U.S. education, which dates back at least to the publication of *A Nation at Risk* (1983), may have reached its zenith with No Child Left Behind (No Child Left Behind [NCLB], 2001) and the Race to the Top initiative (Cuban, 2004; Darling-Hammond, 2006; Mehta, 2013; McNeil & Kline, 2011). In the era of accountability, which featured external accountability based on test performance (Lee, 2008), principals were viewed

as “educational visionaries and change agents, instructional leaders, curriculum and assessment experts, budget analysts, facility managers, special program administrators, and community builders” (Davis, Darling-Hammond, LaPointe, & Meyerson, 2005). Of interest to many educational leadership researchers was the central role of school principals in the era of accountability (Crum & Sherman, 2008; Hallinger, 2005; Hazi & Arredondo Rucinski, 2009; Horng & Loeb, 2010).

In the context of local schools and districts, principals are at the center of reform efforts and initiatives aimed at improvement (Tucker & Coddling, 2002). While it is commonly accepted that the principals’ influence on student achievement is largely indirect (Blase & Blase, 1999; Bell, Bolam, & Cubilo, 2003; Hallinger & Heck, 1996; Leithwood, 1994), researchers have found “profound effects” and a “highly significant role” of principals in terms of improving student learning (Leithwood & Louis, 2012; Marzano, Walters, & McNulty, 2005). In addition, both empirical and theoretical educational leadership studies have positioned instructional leadership as central to the principal’s role (Crum & Sherman, 2008; Horng & Loeb, 2010; Marks & Printy, 2003; Neumerski, 2012; Spillane & Seashore, 2002). Although teachers, supervisors, and central office administrators are able to exhibit instructional leadership behaviors, principals are viewed as the foundation for instructional leadership at the school level (Sergiovanni, 1998; Zepeda, 2013).

Early research into the quality of schools and equity of educational outcomes raised the alarming question did schools matter in the education of students (Coleman, 1966; Jencks et al., 1972). As the search began for qualities that distinguished effective schools in the late 1970s and early 1980s, it became apparent that good schools were not created by accident, and schools that were effective in the education of the urban poor shared tangible and indispensable

characteristics (Arredondo & Rasp, Jr., 1984; Edmonds, 1979). While researchers agreed that effective schools featured a principal that was a strong instructional leader, they did not always agree on a definition or the characteristics that embodied instructional leadership (Quinn, 2002). The formative years of school improvement efforts in the early 1980s situated the effective school principal as one who set high standards for teachers and students, monitored student achievement data, and assumed responsibility for student learning (Brookover & Lezotte, 1979). In the years following, Hallinger (1983) and others began investigating principal behaviors that showed discernible effects on the productivity of schools. The research from the decade of the 1980s suggested that effective instructional leaders: (a) developed a clear school mission, (b) systematically monitored student progress, (c) actively coordinated the curriculum, (d) protected instructional time from interruptions, and (e) maintained high standards for teachers and students (Hallinger & Murphy, 1985; Rowan, Bossert, & Dwyer, 1983).

With the advent of democratic school restructuring in the 1990s, scholars and practitioners began to express dissatisfaction with the instructional leadership model, which many believed relied too heavily on the principal as the source of expertise, power, and authority (Hallinger, 2003). As a result, new leadership models such as shared leadership, distributed leadership, and transformational leadership emerged. Of these, transformational leadership has been subjected to the greatest amount of scholarly investigation (Leithwood, 1994; Leithwood & Jantzi, 2006; Sergiovanni, 1990). Transformational leadership models conceptualized leadership as a quality of the organization rather than belonging to a single individual, accounting for multiple sources of leadership (Hallinger, 2003). According to Avolio and Yammarino (2012), transformational leaders focused on objectives that transcended the immediate needs of the group. An aim of transformational leadership was to generate second-order effects such as

increasing the capacity of others in the school to produce first-order effects on learning (Burns, 1978; Marks & Louis, 1999). While transformational leadership concentrated on renewing the organizational culture and empowering personnel, it lacked an explicit focus on curriculum and instruction (Hallinger & Leithwood, 1998). With the passage of NCLB and its expectation that all students would reach proficiency, many researchers began describing ways that instructional leadership and transformational leadership could be connected and practiced together to the benefit of schools and students (Cotton, 2003; Marks & Printy, 2003; Waters, Marzano, & McNulty, 2003). A related body of research, professional learning communities, shared the same goal of uniting a strong instructional focus with collective and collegial reflection (Fisher, Everlove, & Frey, 2009).

In 1994, the National Policy Board for Educational Administration in collaboration with the Council of Chief State School Officers created the Interstate School Leaders Licensure Consortium (ISLLC) and charged them with developing a set of standards for school leaders. With the goal of developing a new vision of school leadership for the 21st century, the ISLLC standards were premised on the fact that leaders must be focused and dedicated to ensuring that each child has the ability to succeed and reach his or her potential regardless of environmental and/or residential circumstances (Murphy, 2003). The ISLLC standards were adopted in most states and have been incorporated into the Alabama Standards for Instructional Leadership (Murphy, Yff, & Shipman, 2000; Southern Regional Education Board, 2010).

Together the ISLLC standards and Alabama Standards for Instructional Leadership (ASIL) form the basis of the professional learning and evaluation system for school principals in Alabama, LEADAlabama (Alabama State Department of Education [ALSDE], 2013b). As a part of Alabama's educational reform initiative PLAN 2020, school leaders are appraised based on

(a) the school's academic performance in terms of overall proficiency and longitudinal growth; (b) measures of school effectiveness including attendance and graduation rates, and (c) their growth in effectiveness relative to the ISLLC and ASIL standards (ALSDE, 2013a). While LEADAlabama is currently a formative system of evaluation concerned with professional growth, the Alabama State Department of Education has indicated that the processes will transition to a summative measurement ultimately affecting employment decisions for principals (ALSDE, 2013a).

### **Statement of the Problem**

The primary responsibility of school principals is to facilitate effective teaching and learning with the overarching mission of improving student achievement. This responsibility occurs at a time in U.S. public education where the numbers of at-risk students make up a higher fraction than in the past, the educational standards and expectations are more challenging, and the press for accountability has surpassed most previous reform efforts. Although researchers agree that influences from school principals are powerful in the educational attainment of students, the empirical base is limited and contradictory. While research gaps exist in the leadership literature regarding the effects of principals and the achievement of their students, this is gap further exacerbated by the evolving conceptualization of instructional leadership echoed by the ISLLC standards and the level to which students are expected to perform on the Common Core State Standards.

### **Purpose of the Study**

The purpose of this study was to develop an understanding of the relative impact of principal instructional leadership on student achievement as measured by standardized high-stakes tests in public schools in Alabama. The method of analysis was quantitative, with survey data collected from principals in elementary, middle, and high schools. This study explored the

instructional leadership behaviors of principals using an assessment of principal effectiveness, the Principal Instructional Management Rating Scale ([PIMRS] Hallinger, 1983/1990; Hallinger & Murphy, 1985), and the achievement of students in grades 3-8 on the ACT Aspire, which are considered next generation Common Core-aligned high-stakes tests in the areas of Reading and Mathematics. The PIMRS survey was provided to public school principals in the state of Alabama. This survey collected data about how principals perceive their instructional leadership skills according to the framework established by Hallinger and Murphy (1985). A demographic section was added to the survey to ascertain such variables as level of principal educational attainment and years of experience. School-level variables to include socioeconomic status, grade span, and community setting were also included.

By measuring the relationship between specific skills of instructional leadership and school effectiveness, school leaders at the local and district level can identify which leadership practices hold a promise of positively affecting student achievement and other variables associated with achievement. This knowledge can in turn inform decisions involving professional learning activities and the recruitment and placement of principals. Both growth in performance in terms of principal effectiveness and school effectiveness are central elements of Alabama's accountability plan for schools (ALSDE, 2013a). The researcher hopes that this study will add to the body of literature linking principal leadership and school effectiveness.

### **Theoretical Framework**

A review of the literature combined with an investigation of empirical evidence suggests a significant correlation exists between instructional leadership behaviors of the school principal and student achievement (Goldring et al., 2009; Hattie, 2009; Leithwood & Louis, 2012; Marzano, Waters & McNulty, 2005; Robinson, Lloyd, & Rowe, 2008). Nettles and Herrington (2007) noted that although similarities existed between the various conceptualizations of

instructional leadership, a “consensus on the definition of effective school leadership is far from being reached” (p. 726). The authors conceded, however, that seven identifiers form a commonly held belief in the research literature about effective instructional leadership including (a) providing a safe and orderly environment that allows for effective teaching and learning, (b) establishing a clear mission and vision, (c) garnering community and stakeholder involvement, (d) monitoring school progress, (e) maintaining a school-wide focus on instruction, (f) setting and communicating high expectations for student performance, and (g) providing extensive support and professional development opportunities (Nettles & Herrington, 2007).

Both Cotton (2003) and Marzano, Waters, and McNulty (2005) identified exhaustive lists of leadership responsibilities that have been shown to positively affect student achievement, and other researchers developed conceptual models and frameworks of principal instructional leadership (Ebmeier, 1992; Hallinger & Murphy, 1985; Leithwood, 1987). A search of ProQuest indicated that theoretical perspectives anchoring most doctoral dissertations for the past 30 years on instructional leadership and student achievement is that based on the work of Hallinger (2010). The Principal Instructional Management Rating Scale ([PIMRS] Hallinger, 1983/1990) is one of the most widely used measures of instructional leadership and according to Goldring et al. (2012) is seminal in its definition of instructional leadership.

This study selected the conceptual framework of instructional leadership that undergirds the PIMRS. Embedded in this theory are three vital dimensions of highly effective leadership related to student learning and achievement: Defines the School Mission, Manages the Instructional Program, and Develops a Positive School Learning Climate (Hallinger & Murphy, 1985). The PIMRS Framework identified instructional leadership behaviors found in the literature known to be effective, and in the last three decades, the framework and the PIMRS

instrument have maintained high levels of usage in instructional leadership research. According to Hallinger, Wang, and Chen (2013), the PIMRS has been used in over 200 studies conducted in 26 different countries.

Within the three dimensions of the instructional leadership role are 10 instructional leadership functions. Two functions, frames the school's goals and communicates the school's goals, comprised the dimension Defines the School Mission. Incorporated in the Manages the Instructional Program dimension are: supervises and evaluates instruction, coordinates the curriculum, and monitors student progress. This dimension focuses on the role of the principal in the technical core of school leadership. The Develops a Positive School Learning Climate dimension, which contained elements of transformational leadership (Hallinger, Wang, & Chen, 2013), was comprised of several functions: protects instructional time, promotes professional development, maintains high visibility, provides incentives for teachers, and provides incentives for student learning.

### **Research Questions**

There were four research questions related to the link between principal instructional leadership and school effectiveness.

1. To what extent do principals demonstrate instructional leadership behaviors characterized by PIMRS framework?
2. What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status or community setting?
3. What is the relationship between the instructional leadership behaviors of principals and the performance of schools?
4. Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by:

- 4.1: Total of years of experience in educational leadership,
- 4.2: Years of experience as principal at the current school,
- 4.3: Level of education,
- 4.4: The grade span of the school,
- 4.5: Indicators of school socioeconomic status?

## **Methodology**

The method of analysis was quantitative, with survey data collected from principals in elementary, middle, and high schools. This study explored the instructional leadership behaviors of principals using a reliable and valid assessment of principal effectiveness, the PIMRS, and the effectiveness of schools characterized achievement of students on the ACT Aspire. The PIMRS was provided to over 1,000 principals representing 110 school systems across all Alabama State Board of Education Districts. This survey collected data about how principals perceive their instructional leadership skills according to PIMRS framework, and the school achievement and demographic information was also self-reported in the survey questionnaire.

Research question one primarily included descriptive analysis, which was useful because the PIMRS has been used in over 200 other studies including numerous examples dissertation level research. The PIMRS has also been widely studied in terms of its reliability and validity (Hallinger, 2013). Question two investigated differences in school performance among levels of SES and community setting using two-way ANOVA. Question three addressed the research problem central to this study, and the statistical method involved correlational and regression analysis. Question four utilized ANOVA.

## **Limitations**

There were limitations in this study that had the potential to impact the quality of the findings. The population of the study was limited to schools in Alabama. The process used to select participants was that of purposive sampling, as nearly all principals in the state of Alabama were contacted either by U.S. Postal Mail or electronic mail to participate. Another limitation of the study was that it used self-assessments from principals and self-reporting of school-level indicators including student achievement and socioeconomic status. The researcher assumed that the participants reflected honestly and accurately in their responses. Care was given to protect the anonymity and confidentiality of the responses.

## **Delimitations**

In terms of school effectiveness, cross-sectional data in the form of the ACT Aspire was used. The ALSDE has released minimum proficiency scores and statewide averages related to school performance, and data at the school level is expected to be made public during the data collection phase of this study.

## **Key Terms**

*Accountability* - A system that allows the public to understand how well their schools are working and to provide information to policymakers on the changes that are needed to make the schools more effective and to continually improve all students' educational opportunities (Perie, Park, & Klau, 2007, p. 4)

*ACT Aspire* – Common-core aligned summative assessments given in grades 3-8. The ACT Aspire features subtests in English, reading, mathematics, and science (ACT, Inc., 2014a).

*LEADAlabama* – The formative system of supervision and evaluation for school leaders in Alabama.

*Principal Instructional Management Rating Scale (PIMRS)* – Initially developed during Hallinger’s (1983) dissertation research, the PIMRS measures principal instructional leadership behaviors according to the framework envisioned by Hallinger and Murphy (1985).

*PLAN 2020* – The state of Alabama’s education reform plan and waiver from No Child Left Behind.

## **Summary**

Largely overlooked in the reform efforts of the past two decades, principals are now seen as central to the mission of creating schools that promote effective teaching and learning for all students (Hallinger, 2005; Grissom & Loeb, 2011). Of the influences directed at school effectiveness, effective leadership from school principals is second only to classroom teachers (Leithwood & Louis, 2012). This chapter provided an introduction to how principals potentially affect school effectiveness through instructional leadership, and more specifically through the PIMRS Framework (Hallinger & Murphy, 1985). In this study, principals were asked to reflect on their instructional leadership behaviors as measured by the PIMRS, and these results were analyzed to find any relationships with student achievement scores on the ACT Aspire, a new measure of effectiveness in Alabama schools. This study is useful for investigating principal effectiveness within the confines of Alabama’s PLAN 2020.

## **REVIEW OF THE LITERATURE**

Surrounding the discussion about improving our nation's schools, is the question of how can policy, standards, and accountability positively influence classroom teaching, and what effects do such influences have on student achievement? While researchers, practitioners, and politicians may debate the quality of education students are receiving in our schools, what is agreeable is the belief in the contributions of leadership to the implementation of initiatives aimed at improving the quality of schools (Louis, Leithwood, Walhstrom, & Anderson, 2010). Leithwood and Jantzi (2006) identified "a compelling, although still modest body of evidence now demonstrates the significant effects of such leadership on school conditions and students' learning" (p. 201). Although there is little disagreement that principals have an impact on schools, both the nature and degree of this effect continue to be unresolved, but as Hallinger and Heck (2011) asserted, educational research is making important progress in adding to the knowledge of how leadership contributes to school improvement and student learning.

This chapter is primarily concerned with exploring school leadership practices that directly or indirectly foster the improvement of educational processes and student learning. The review of past and current literature will first set the principal as a key educational input within the landscape of school accountability. It will then frame principal-effectiveness from a theoretical perspective by outlining relevant studies that have contributed to the understanding of leadership in schools. The literature will then define leadership behaviors, specifically those

identified with the various iterations of instruction leadership that will be used in reference to this research design.

## **School Reform**

### **The Coleman Report**

A century after the creation of the U.S. Department of Education and one year after the U.S. Congress passed the Elementary and Secondary Education Act of 1965, James Coleman and colleagues conducted and published a study entitled *Equality of Educational Opportunity* (1966), more commonly known as the Coleman Report. The landmark Coleman Report, which drew from data collected from over 600,000 students and 60,000 educators, was intended to examine the extent of racial and ethnic discrimination in schools and to assess the degree of funding inequities across the nation. Its inception was in response to the Civil Rights Act of 1964 which required the Commissioner of the then Office of Education to conduct a survey “concerning the lack of availability of equal educational opportunities for individuals by reason of race, color, religion, or national origin in public educational institutions at all levels” (Coleman, 1966, p. iii).

The 737-page Coleman Report’s essential claim was that a student’s background and socioeconomic status were much more important than differences in school resources in determining educational outcomes (Jimenez-Castellanos, 2012). Coleman (1966) indicated that schools were not able to overcome poverty, community attitudes, and low educational levels of parents. The Coleman Report further asserted that when the socioeconomic status of students was statistically controlled, school differences accounted for only a small fraction of differences in pupil achievement. Differences in curriculum and facilities among schools did not contribute to variation in student achievement, but the report did identify two areas that were associated with higher student achievement: teacher quality and the educational aspirations of other students in the school. The variables associated with teacher quality that predicted higher student

achievement were the teacher's performance on a 30-question vocabulary test and the educational level of the teacher's mother. With regards to student's aspirations, the presence of encyclopedia in the home and the desire to go to college were the significant variables that indicated higher levels of educational aspiration.

Perhaps the most influential claim in the Coleman Report was the contention that black students who attended majority white schools had a greater sense of conviction and personal control regarding their education than black students that attended predominantly black schools. This attitude towards schooling for black students had a stronger relationship to achievement than all other school factors combined, and the effect was directly proportional to the percentage of whites in the school. Although the report was widely cited as a support for forced busing during segregation in the early 1970s (Kahlenberg, 2001), Coleman (1979) later reflected that the Coleman Report was not written with the intent to inform matters of significant public policy. He discredited busing stating that subsequent studies in desegregated districts showed "considerably less achievement benefits for black children than was evident in our data" (p. 51).

The Coleman Report was met with a strong academic and political backlash (Bowles & Levin, 1968; Cain & Watts, 1970; Carver, 1975; Dyer, 1968). In particular Bowles and Levin (1968), severely critiqued Coleman's methodology including the overrepresentation of suburban schools and an underrepresentation of schools in large cities. Bowles and Levin (1968) pointed to statistical flaws in the research and analysis, as well as did Cain and Watts (1968) who stated that the report had such serious methodological shortcomings that it offered little guidance for policy implications. Carver (1975) decried the use of norm-referenced aptitude tests as the source of measurement of academic differences between schools. Carver argued that if the individuals responsible wanted to compare school differences, then measurements of the proportion of

students who mastered a certain standard would be more beneficial. Dyer (1968), in his analysis stated:

The very great importance of the Coleman Report is that it has highlighted the problems, the possibilities, and the need for an evaluation system that will be capable of informing educational practitioners and policy makers about what is actually going on out there in their schools and what might be tried to improve the situation (School factors and equal educational opportunity, pp. 55-56).

### **The Effective Schools Movement**

Stemming from Dyer's (1968) call for action, educational researchers in the decades of the 1970s and 1980s responded to the findings of the Coleman Report with studies that refuted the notion that low academic achievement derived principally from inherent disabilities characterizing the urban poor. Weber (1971) focused on the characteristics of four inner-city schools in which reading achievement was equal or higher than the national norm and far exceeded the average performance of inner-city schools. All four schools had "strong leadership" by clearly identifiable individuals – in three cases these individuals were principals. All four schools had high expectations with regard to the potential of their children, and the school leaders and staff had an intense focus on achievement and the students' acquisition of early reading skills.

Writing in 1975, Klitgaard and Hall remarked, "Surprisingly little research has addressed the question of unusually effective schools" (p. 92). In their study, Klitgaard and Hall (1975) advocated for sophisticated and robust statistical analysis of school achievement results with the intent of identifying outliers on achievement scores that could not be explained by non-school factors such as socioeconomic status. The researchers used large data files from several years of achievement scores from Michigan State and New York City. In their findings, Klitgaard and

Hall (1975) established support for the existence of schools that were able to counteract the effects of socioeconomic status and minority enrollment.

Brookover and Lezotte (1979) published a study that reinforced the findings of Weber (1971) and Klitgard and Hall (1975). Using longitudinal achievement data from the Michigan Department of Education, Brookover and Lezotte studied six elementary schools that were identified as consistent in the improvement of students' achievement and two elementary schools that were consistently in decline. The schools were visited by interviewers who administered questionnaires and conducted personal interviews with members of the school staff. The interviews and the questionnaires were designed to illustrate differences between the improving and declining schools, and to examine whether changes in student achievement over time were related to parallel changes in the structure and climate of the schools. The study produced several major findings that are synthesized here: (a) principals of improving schools are much more likely to assume responsibility for teaching basic reading and math skills; (b) principals of improving schools are more likely to be instructional leaders, more assertive in their leadership role, and assume responsibility for the evaluation of the students' achievement; (c) teachers in improving schools emphasize the importance of basic reading and mathematics objectives; (d) teachers in improving schools have higher expectations with regard to the educational accomplishments of their students; (e) teachers in improving schools accept the concept of accountability and understand the role of state assessments as one indication of their effectiveness; (f) teachers and principals in improving schools hold a shared belief that all of their students can master basic goals and objectives.

One of the first researchers to gain popularity in the search for effective schools in the late 1970s and early 1980s was Ronald R. Edmonds (Wimpelberg, Teddlie, & Stringfield, 1989).

Although his career was abbreviated by his untimely death in 1983, Edmonds is generally attributed as the founder of the Effective Schools Movement (Kellison, 2001). Through his research at the Harvard Graduate School of Education Center for Urban Studies, he was able to dispel the notion that educational outcomes in schools were irreversibly linked to family background. Edmonds (1979) stated, “All children are eminently educable and that the behavior of the school is critical in determining the quality of that education” (p. 20). A vocal proponent of integration of schools, Edmonds (1982) initially identified five characteristics of schools that were effective in bringing equal numbers of its highest and lowest social classes to minimum levels of mastery. Based on his work and that of others (Brophy & Good, 1970; Weber, 1971), the characteristics of an effective school were: (a) the principal’s leadership and attention to the quality of instruction; (b) a pervasive and broadly understood instructional focus; (c) an orderly, safe climate conducive to teaching and learning; (d) teacher expectations that all students are expected to obtain at least minimum mastery; and (e) the use of measures of pupil achievement as the basis for program evaluation.

One of the issues that continued to challenge policymakers and educators was that although researchers could identify effective schools, it was difficult to understand the school improvement processes that these schools took to become effective schools. Even in the midst of this uncertainty, in the early years of the 1980s, a majority of states implemented school improvement programs that reflected elements of the Effective Schools literature (Odden & Dougherty, 1982; Lezotte & Bancroft, 1985). While simultaneously praising Effective Schools research for its (a) intuitive logic and appeal, (b) offer of hope for urban schools, and (c) acceptance from policymakers and practitioners, educational researchers were also critical of

some of the most commonly touted findings (Bickel, 1983; Rowan, Bossert, & Dwyer, 1983; Purkey & Smith, 1983).

Bickel (1983) insisted that it was the overt enthusiasm from practitioners that should make the research community “doubly cautious” about the claims of effective schools. Bickel stated that Edmonds’ (1979) original propositions and Lezzote’s (1979) *Correlates of Effective Schools* appealed to educators who were fatigued from the policy fallout and public scrutiny that resulted from the Coleman Report and other politically motivated attacks on inner city schools (Averch, Carroll, Donaldson, Kiesling, & Pincus, 1972; Jencks, et al., 1972). Rowan et al. (1983) argued that the narrow focus encompassed by the effective schools movement (i.e., students’ achievement on standardized tests of basic reading and math skills) was insufficient in describing the wide variety of outcomes and others measures of organizational and instructional effectiveness of schools. Rowan and his colleagues (1983) further asserted that this narrow focus possibly misled those concerned with school improvement efforts to assume that the identified factors of effective schools had a causal relationship with higher levels of student achievement. While admitting that the methodological flaws should not entirely discredit the search for and identification of effective schools, Purkey and Smith (1983) critiqued the notable work in the Effective Schools Movement by stating, “The inherent weakness of the case study approach and the small samples seem a weak reed to base a movement of school improvement” (p. 435).

Despite criticism from academic circles, the Effective Schools Movement was widely used to guide school improvement efforts throughout the 1980s and early 1990s, and the characteristics of effective schools originally espoused by Edmonds (1979) became the language of school improvement and school reform (Taylor, 2002). Although the 1970s and 1980s did not produce a significant amount of research that directly linked leadership and school improvement

(Seashore, 2009), Hallinger (2005) credited the Effective Schools Movement for the institutionalization of the term *instructional leadership* and the widespread belief that leadership from principals was instrumental in creating effective schools. While the Effective Schools research revealed relatively little about the role of the principal in the school improvement process, Seashore (2009) suggested that it did open up additional lines of inquiry and avenues that “expanded rapidly, culminating in a more robust field” (p. 131). Of interest in this chapter is the emergence from the Effective Schools research of the principal as the school’s instructional leader and the conceptualization of *instructional leadership* articulated by Hallinger and Murphy (1985, 1986a, 1986b, 1987).

### **A Nation at Risk**

In 1983, *A Nation at Risk: The Imperative for Educational Reform (NAR)* was published by the National Commission on Excellence in Education (NCEE). The appearance of the report prompted widespread public debate on the quality of U.S. schools that “catapulted education near to the top of the national political agenda, helping to pave the way for a further extension of the federal role in the nation’s school districts” (Davies, 2007, p. 5). Notable for its sensationalistic language and Cold War political overtones (Guthrie & Springer, 2004; Tanner, 1984), *NAR* was one of the most widely read reports on education ever published in the U.S. (Goldberg, 1984). Memorable for its inditement of schools: “A rising tide of mediocrity that threatens our very future” (NCEE, 1983), *NAR* benefited from a well-executed marketing campaign and its unequivocal message (Goldberg, 1984; Johanningmeier, 2010).

Of the wide array of findings and indicators of risk in *NAR*, the NCEE (1983) reported heavily on the failures of U.S. secondary schools to prepare students adequately for higher education or careers in the military, business or industry. Generally *NAR* critiqued (a) high school curricula that lacked standardization, high expectations, and relevance; (b) high school

diploma requirements that required minimum competency in academic subjects; (c) comparatively less amounts and quality of time spent in schools; (d) and a teaching workforce that was underpaid, poorly qualified, and in a state of shortage.

Unlike the Coleman Report and the research from the Effective Schools Movement, the NCEE (1983) issued five specific recommendations and highly prescribed implementation steps to produce lasting educational reform. The first four recommendations that the Commission released dealt with the glaring issues revealed in their findings (curriculum, time, expectations, and teaching). The fifth recommendation concerned the place of leadership in carrying out the reforms. The NCEE recommended that “citizens across the Nation hold educators and elected officials responsible for providing the leadership necessary to achieve these reforms” (p. 40). When referring to school principals, NCEE stated that although managerial and supervisory skills were necessary for implementing the reforms desired in *NAR*, the crucial role for these individuals would be their effective leadership ability. While *NAR* did not explicitly explain what constitutes leadership in schools, it did highlight its importance for school success and demanded accountability from leaders for results (Levine, 2005).

Historical reflection on *NAR* is decidedly mixed and with little consensus with the exception that the NCEE (1983) report ushered in a new era of federal involvement in schools, student achievement testing, standards, and accountability (Bell, 1993; Bennett, 1988; Crosby, 1993; Davies, 2007; Tanner, 1984; U.S. Department of Education, 2008). Educational historians have bemused the political wranglings and aftermath concerning *NAR*, as President Reagan campaigned on a commitment to abolish the U.S. Department of Education and significantly diminish the federal role in public education (Bell, 1993). In terms of achieving its stated goals, former U.S. Secretary of Education Terrel Bell (1993) who was the progenitor of *NAR* stated,

“Education is now a major, high-priority national concern, as well as a state and local responsibility” (p. 595). However, when confronted with student achievement and other indicators of academic excellence, Bell (1993) later admitted that the initiatives championed in the *NAR* failed to come anywhere close to meeting expectations. William Bennett who succeeded Bell as U.S. Secretary of Education in a report on the fifth anniversary of *NAR* stated, “Gains in student learning are slight and the average level of student skill and knowledge remains unacceptably low” (Bennett, 1988, p. 24). U.S. Secretary of Education Margaret Spellings used the occasion of the twenty-fifth anniversary of *NAR* to reflect on the progress of U.S. schools since its release. The report stated, “Our performance at the high school level is as alarming as it was at the time of *A Nation at Risk*, if not worse” (U.S. Department of Education, 2008, p. 10).

### **No Child Left Behind**

The No Child Left Behind Act of 2001, signed into law by President George W. Bush on January 8, 2002, built firmly on the foundation laid by the centerpiece of the Clinton administration’s education reform platform, Goals 2000 (Cohen , 2002). Signed into law in 1994, Goals 2000: Educate America Act, established national educational goals in areas of school readiness, high school graduation, student achievement, and teacher education, among others. Goals 2000, which owed its legacy to *A Nation at Risk*, created the framework for standard-based educational reform at the state level and ushered in a new era of federal involvement in education policy and accountability (Schwartz, Robinson, Kirst, & Kirp, 2000; Superfine, 2005). The main purpose of Goals 2000 was to encourage and leverage reform at the state and local levels through financial grants; however, due to the political climate in the mid 1990s, much of language in Goals 2000 indicated that the reform efforts were voluntary (Porter, 1995). With the premise that students would reach higher levels of academic achievement when more was

expected of them, Goals 2000 provided grants to state and local educational agencies that voluntarily developed plans for rigorous standards-based reform.

Goals 2000 was one aspect of a multipronged strategy to stimulate systemic standards-based reform. While Goals 2000 mirrored President George H. W. Bush's and the National Governors Association's direction for education reform from the Charlottesville Educational Summit in 1989, the political climate of the mid 1990s coupled with a shift in balance in the U.S. Congress after the 1994 midterm elections ultimately weakened Goal 2000's success in terms of widespread educational reform (Ravitch, 1996; Superfine, 2005). The Republican majority attacked the call for rigorous national content standards, and some conservative states refused to accept grants from Goals 2000 including Alabama<sup>1</sup> (Alabama State Department of Education [ALSDE], 1996; Lawton, 1996). Despite its relatively modest funding and political backlash from those who eschewed a federal role in public education, virtually every state in the union developed academic standards in the core academic subjects; assessments that measured progress against those standards; and accountability systems that provided annual public reports on school performance (Schwartz, et al, 2000).

No Child Left Behind's (NCLB) sweeping calls for testing, intervention in persistently low-performing schools, and investment in teacher quality made it the most ambitious legislation on K–12 schooling in American history and resulted in unprecedented federal expansion and oversight of student achievement (Heck, 2006). Hailed as a “major breakthrough” and having a “noble agenda,” NCLB was equally vilified in educational and political circles (Darling-Hammond, 2007). Calling for all students in U.S. public schools to be proficient in reading and mathematics by the 2013 – 2014 school year, NCLB created a nationwide system of

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<sup>1</sup> The Alabama State Department of Education accepted *Goals 2000* funds following 1997, but only to support educational technology initiatives (ALSDE, 1996).

accountability and greatly expanded the federal role in a policy area in which states had previously enjoyed relatively unchallenged autonomy (Shelly, 2012). The law also linked federal dollars to specific performance goals in an attempt to strengthen the educational quality of programs and opportunities for students. NCLB resulted in increased governmental oversight toward those school districts that received federal funds intended to assist low-income students, and the impetus towards implementation of NCLB mandates was primarily related to the potential loss of federal aid for failure to comply (Hershberg, 2005).

Echoing the sentiments of the Coleman Report, *A Nation at Risk*, and Goals 2000, NCLB lamented the performance of public schools as Bush (2001) stated, “We have a genuine national crisis.” NCLB mandated criterion-referenced testing of reading and mathematics in grades three through eight. Schools, districts, and state education agencies were measured against adequate yearly progress (AYP) to be achieved on annual measurable objectives (AMO). The 1,000-page law gave the individual states the responsibility to establish content standards in reading and mathematics, create curriculum-aligned standardized tests, and set their own goals with the intent of reaching 100% proficiency by 2014. NCLB featured systematic punitive measures for schools and districts not reaching AYP by: (a) labeling schools as failing; (b) allowing students to transfer from schools not making AYP; (c) increasing the oversight towards the use of NCLB funds; and (d) in extreme cases, mandating the removal of the school faculty and leadership, or closing the school altogether (Darling-Hammond, 2007).

Of the controversial issues surrounding NCLB, the most critical was the notion of AYP (Heck, 2006; Porter, Linn, & Trimble, 2005; Wiley, Mathis, & Garcia, 2005). While the goal of AYP was deceptively simple – schools must bring all students incrementally up to state standards by 2014 – in reality the disconnect between the broad ideas of NCLB and the narrow

nature of AYP meant that the reform effort was limited to the extent to which it promoted a real improvement in the education and achievement of the students (Brown & Clift, 2010). What further complicated AYP was that schools and districts were responsible for the achievement of all student subgroups including those students who were identified as learning disabled, impoverished, or limited in their English proficiency (Lauren & Gaddis, 2012).

AYP required all students not only to meet proficiency each year, but the definition of proficiency increased each subsequent year ultimately resulting in 100% of students performing at grade level. Linn (2003) asserted that there was little or no scientific evidence that the growth assumptions necessary to attain, maintain and sustain AYP year after year could be accomplished. In 2010-2011, an estimated 48% of the nation's schools failed to achieve their AYP goals (Center on Education Policy, 2012). While states varied widely in their individual application of NCLB's requirements of content standards, standardized testing, and AMOs, the percentage of schools labeled as failing was expected to increase to 82% by 2013 (Duncan, *Winning the future with education: Responsibility, reform, and results*, 2011).

There is no lack of scholarship concerning NCLB; a search of SAGE Journals retrieved over 4,000 entries, and a Google Scholar search found over 19,000 results since 2009. The failure or success of NCLB and AYP as educational reform has been debated since its inception with decidedly negative opinions often divided along political lines (Apple, 2007; Au, 2009; Duncan, 2011; Giroux, 2009; Hursh, 2007; Ladson-Billings, 2008; Spellings, 2007). A recent report from the National Center for Education Statistics (NCES) revealed that although elementary students have made progress in reading and math since 1971 on the National Assessment of Educational Progress (NAEP), levels of achievement for high school students has remained unchanged since 1971 (NCES, 2012). The NCES report further stated that achievement

gaps between black and white students have not changed between the years of 2008 – 2012. Mathis, Fleming, and Lecker (2005) found no statistical relationship between schools' NAEP results and their AYP determinations. What were clear in the agreement of those in the field were the role of leadership on student achievement and the importance of the principal in the era of NCLB accountability (Hattie, 2009; Heck, 2006; Leithwood et al., 2004; Marzano et al., 2005).

### **Race to the Top / A Blueprint for Reform**

Representing the largest competitive federal grant campaign aimed at education in U.S. history, Race to the Top (RTT) was an attempt to circumvent the perceived failings of NCLB (McGuinn, 2012). Fundamentally it attempted to reinvigorate reform at the state level and provided structure and capacity for states to implement innovations effectively. With an intention to lay the groundwork for the reauthorization of the Elementary and Secondary Education Act, President Obama and Secretary Duncan announced more than \$4.35 Billion of promised funds that would be awarded to states through a multi-step and competitive process (U.S. Department of Education [USDE], 2009). RTT signaled the Obama administration's agenda for educational reform that emphasized (a) standards and testing, (b) recruitment and retention of effective teachers, (c) improvement of low-performing schools, and (d) the establishment of viable data systems for tracking student achievement and teacher effectiveness (Nicholson-Crotty & Staley, 2012). Secretary Duncan's decision to utilize competitive grants rather than a formula grant process to allocate money to states was a significant shift in the context of federal education policy.

RTT was designed to "support investments in innovative strategies that are most likely to lead to improved results for students, long-term gains in schools and school system capacity, and increased productivity and effectiveness" (USDE, 2009, p.1). The RTT strategy toward initiating

federal reform was purposefully contrasted with NCLB's reliance on coercive federal mandates and the compliance culture that it fostered at the state level (McGuinn, 2012). Using the flaws and failings of NCLB as an example, President Obama and Secretary Duncan sought to drive reform indirectly through the grant-in-aid system (Shelly, 2008).

With RTT, however, state applications were graded on a 500-point scale according to their compatibility with four Obama administration priorities: (a) developing common standards and assessments; (b) improving teacher training, evaluation, and retention policies; (c) creating better data systems; and (d) adopting preferred school-turnaround strategies such as charter schools (USDE, 2009). Mathis (2011) argued that RTT elements were based on economic market ideologies stating, "The proposals for competing for limited funds, charter schools, and hard-edged accountability would all support this perspective" (p. 2). Onosko (2011) agreed by stating that RTT profoundly increased standardization, centralization, and test-based accountability.

In all, 46 states applied for RTT funds with 21 and Washington, DC receiving funds (USDE, 2011). The State of Alabama submitted two applications for RTT funds and finished last or near the bottom in scoring. While Alabama's applications were competitive in terms of having rigorous content standards and STEM (science, technology, engineering, mathematics) initiatives, they ranked last in the areas of teacher and school leader performance and accountability (USDE, 2010a). According to the U.S. Department of Education, Alabama's plan regarding school leader preparation, recruitment, and evaluation received little or no support from the RTT technical reviewers. Of the chief reasons behind the lack of support, the reviewers identified that the planned evaluation system for principals in Alabama did not include measures of student growth and was not tied to employment or compensation decisions.

According to McGuinn (2012), RTT along with the Obama administration's ESEA reauthorization plan, *A Blueprint for Reform* (USDE, 2010b), reflected a genuine ambivalence about the appropriate balance between federal mandates and state discretion in education. Calling his plan for reauthorization of the ESEA, "an outline for a re-envisioned federal role in education" (p. 2), the *Blueprint* incorporated and extended the reforms initiated in RTT. In June 2013, the Republican-led U.S. House of Representatives passed The Student Success Act, which provided an alternative plan for the reauthorization of the ESEA and contained "several provisions to rein in the Secretary of Education's authority and prevent future federal overreach" (Kline, 2013, para. X). Because of the inability of the Congress and the White House to agree on a "responsible bill," President Obama and Secretary Duncan in 2011 acted to allow States to submit individual waivers to seek flexibility and opt out of several of the requirements of NCLB including AYP (USDE, 2012). All but two states applied for NCLB waivers and forty-two have been approved including Alabama's request, PLAN 2020 (ALSDE, 2013a).

### **PLAN 2020**

Hailed as the strategic plan for education in Alabama with the goal of "preparing all students to be successful in college and/or career upon graduation from high school," PLAN 2020 was approved as Alabama's waiver from NCLB on June 21, 2013 (ALSDE, 2013a). The respite from the accountability standards in NCLB was granted to Alabama based on its commitment to four criteria: (a) demonstration of college and career ready expectations for all students; (b) development of a system of differentiated recognition, accountability, and support for Title I schools and districts; (c) development and implementation of a teacher and principal evaluation system that supports student achievement; and (d) an assurance to reduce administrative burdens on schools and districts. PLAN 2020 was approved for flexibility from the U.S. Department of Education for the 2013-2014 and 2014-2015 school year.

PLAN 2020's two-year limited status was due to the fact that Alabama had not "formally adopted a method for including student growth as a significant factor in its teacher and principal evaluation and support systems" (Duncan, 2013a, para. 7). Secondly, Alabama had yet to define its performance index as to what constituted proficient performance on high stakes measures of student achievement. The NCLB waiver can be extended to subsequent school years once Alabama reaches compliance with the recommendations from the U.S. Department of Education. With regards to setting performance indexes, Alabama became the first state in the U.S. to select an aligned "suite of assessments" encompassing grades 3 – 12 designed and developed by ACT, Inc. (ACT, Inc., 2012; ALSDE, 2013c). ACT, Inc., based in Iowa City, Iowa, is the developer of the ubiquitous college-entrance exam, the ACT, which is administered to 1.6 million high school graduates every year (ACT, Inc., 2013). In recent years, ACT has developed a College and Career Readiness System that provides a sizable array of curriculum-based assessments in grades 3-8 known as the ACT Aspire designed to measure proficiency towards college readiness and progress over time. The system has components to assess English, math, reading, and science skills, as well as behavioral aspects and career interests (ACT, Inc., 2012). According to the stipulations in the NCLB flexibility waiver, the Alabama State Department of Education will spend the 2013 – 2014 school year analyzing student achievement data from the previous year's pilot of the summative ACT assessments to determine proficiency levels and student growth levels (ALSDE, 2013a).

**Alabama College and Career Ready Standards.** Another centerpiece of Alabama's PLAN 2020 are the Alabama College and Career Ready Standards. The College and Career Ready Standards in English and mathematics (CCRS) represent Alabama's commitment to the Common Core State Standards Initiative (ALSDE, 2014a). Although the Alabama State Board of

Education withdrew their involvement in the consortium that developed the Common Core Standards in November of 2013, the Alabama CCRS remain fully aligned with the Common Core with a small percentage of Alabama specific content included (ALSDE, n.d.). Under mounting political pressure from the conservative supermajorities in the Alabama State Legislature (Reed, 2014), the Alabama State Board of Education further distanced itself from the Common Core Initiative in January of 2014 by revising the Alabama mathematics and English standards. The Board stated, “The revised standards adopted today were based on input from Alabama educators and professionals without input or permission sought nor needed from any outside source, including the U.S. Department of Education” (ALSDE, 2014b). Although not specifically required by the U.S. Department of Education for flexibility from NCLB, the Common Core Initiative is heavily encouraged in both the RTT competitive grant process and the *Blueprint for Reform* (Onosko, 2011). Supported by the National Governors Association and the Council of Chief State School Officers, the Common Core Standards have been adopted by 46 states and Washington, DC (National Governors Association, 2013).

While the Alabama State Department of Education has not released the final details of how the effectiveness of schools will be judged, the preliminary PLAN 2020 documents reveal that schools will be accountable for: (a) student achievement; (b) reducing gaps in student achievement among subgroups (black, Hispanic, poverty, limited English proficient, and special education); (c) growth in student achievement; (d) student attendance; (e) teacher and leader effectiveness; and (f) graduation rate for high schools. What is notable regarding PLAN 2020’s accountability model for schools is that the measures of teacher and leader effectiveness are weighted greater than any other component, and growth in student achievement is weighted equal to or greater than cross-sectional student achievement.

PLAN 2020 contains numerous other goals and objectives for schools and districts including reducing the amount of truancies; reducing the number of school-level disciplinary infractions, and reducing the number of failures in the 9<sup>th</sup> grade of high school. With regards to goals concerning educational leadership, PLAN 2020 specifically recommends increasing the percentages of schools “led by a well-prepared, resourced, supported, and effective leader” (ALSDE, 2012). Effective educational leadership for principals will be measured by LEADAlabama, the prescribed formative evaluation system for administrators in Alabama (ALSDE, 2013b).

### **Instructional Leadership**

Nearly 35 years ago, Edmonds groundbreaking study provided a research base for what many assumed intuitively: strong instructional leadership is closely associated with effective schools (Edmonds, 1979). Although some educational researchers have discounted the effects of principal leadership on student achievement (Witziers, Bosker, & Kruger, 2003), instructional leadership provided by school principals has been identified as a significant factor to higher student achievement (Hallinger & Heck, 1996; Louis et al., 2010; Shatzer et al., 2013; Smith & Andrews 1989; Spiro, 2013; Supovitz, Sirinides, & May, 2009; Valentine & Prater, 2011; Waters, Marzano, & McNulty, 2003). According to Leithwood and colleagues (2004), leadership is second only to classroom instruction as an influence on student learning.

Although a key finding from the Effective Schools Movement centered on strong instructional leadership, what did not emerge was a consensus as to precisely what instructional leaders did to make the school effective (Rowan, Bossert, & Dwyer, 1983). While a large number of studies from the past three decades linked superior school leadership with higher student outcomes (Hallinger & Heck, 1996; Marzano, Waters, & McNulty, 2005; Leithwood & Louis, 2012), the complexity surrounding the work of principals and the indirect influence of

principals complicated the investigation of behaviors, factors, and qualities needed for effective leadership (Marks & Printy, 2003; Robinson, 2006).

### **Theories of Leadership**

A recent comprehensive review of the leadership literature identified 17 models or approaches to leadership that featured extensive empirical and conceptual scholarship (Yammarino, Dionne, Chun, & Dansereau, 2005). Marzano et al. (2005) asserted that leadership theories in non-school contexts have been influential in guiding school leaders, and Leithwood and Louis (2012) lend support to this claim as many of the well known models developed specifically for use in schools bear resemblance to those in other contexts. Examples of leadership theories that have been particularly attractive in school contexts are included below.

**Contingent leadership.** The model predicts that two main factors determine a leader effectiveness: the leader's task or relationship orientation, and the leader's situational favorability (Yammarino et al., 2005). This approach to leadership assumes that there are variations in the contexts for leadership and what is important is how leaders respond to the unique organizational problems they face (Leithwood & Duke, 1998).

**Participative leadership.** In the case of this form of leadership, authority and influence are potentially available to any stakeholder in the school based on his or her expert knowledge and critical role in implementing decisions (Hoy & Tarter, 2007). Participative leadership is concerned with how leaders involve others in organizational decisions and is grouped around the notions of improving decision quality, improving decision commitment, reducing decision costs and time, and increasing subordinate development (Yammarino et al., 2005).

**Distributed Leadership.** Spillane and his colleagues (Spillane, Halverson, & Diamond, 2001, 2004) contend that leadership practice is not simply a function of an individual leader's ability, skill, charisma, and cognition. Leadership practice is framed from the view of task or

activity, and emerges in and through the interaction of leaders, followers, and constituting elements of the situation.

**Collaborative Leadership.** Researchers Hallinger and Heck (Hallinger & Heck, 2010; Heck & Hallinger, 2010) offered a model for collaborative leadership that focused on strategic school-wide actions directed toward improvement in student learning. Four assumptions framed this approach including that (a) the practice of leadership involves developing a shared vision, (b) leadership in schools tends to be distributed among a variety of people in different roles, (c) leadership should facilitate conditions that support effective teaching and learning and build capacity for professional learning, and (d) leadership that increases the school's capacity for improving teachers' instructional expertise will affect student outcomes positively.

**Transformational Leadership.** While earlier work exists (i.e., Burns, 1978), Leithwood (1992, 1994) built upon the work of Bass (1985) and developed the transformational leadership model in school contexts. This model focused on the nature of leader-follower relationships and the ways leaders exercise influence of their colleagues. Transformational leadership emphasizes (a) communicating a compelling vision, (b) projecting self-confidence, (c) modeling idealized behavior, (d) conveying high performance expectations, (e) expressing confidence in followers' abilities, and (f) emphasizing collective purpose (Leithwood & Jantzi, 2006).

By far the most common and popular leadership model over the last three decades examined in the educational leadership literature has been *instructional leadership* (Leithwood & Louis, 2012; Marzano, Waters, & McNulty, 2005; Murphy, 1988). The traditional instructional leadership literature emphasized the principals' role in facilitating teaching and learning and generally concluded that a strong, directive principal, focused on curriculum and instruction, was essential for effective schools (Grissom & Loeb, 2011; Hallinger, 2005; Horng & Loeb, 2010). A

multitude of definitions exist for instructional leadership. Table 2.1 displays some of the prominently accepted descriptions for instructional leadership.

*Table 1 Brief Review of Instructional Leadership*

Descriptions	Author(s)
“Typically focuses on the behaviors of teachers as they engage in activities directly affecting the growth of students”	Leithwood & Duke, 1998, p. 47
“Leaders’ influence is targeted at student learning via teachers”	Bush & Glover, 2003, p. 12
“Refers to those principals who have their major focus on creating a learning climate free of disruption: a system of clear teaching objectives, and higher teacher expectations for teachers and students”	Hattie, 2009, p. 83
“Assistance for the enhancement of teaching and learning”	Glickman, Gordon, & Ross-Gordon, 2014, p. 9
“Creatively managing all of their resources – people, time, and money – to support school improvement while leading learning experiences focused on improving student achievement through improved instructional practices”	Lewis, Rice, & Rice, 2011, p. 3
“Involves the identification, acquisition, allocation, coordination, and use of the social, material, and cultural resources necessary to establish the conditions for the possibility of teaching and learning”	Spillane, Halverson, & Diamond, 2004, p. 11
“The effort to improve teaching and learning for PK–12 students by managing effectively, addressing the challenges of diversity, guiding teacher learning, and fostering organizational learning”	Brazer & Bauer, 2013, p. 650
“It is the primary role of the principal”	Rigby, 2013, p. 8

Several prominent models of instructional leadership have been proposed (Andrews & Soder, 1987; Bossert, Dwyer, Rowan, & Lee, 1982; Hallinger & Murphy, 1985; Hattie, 2009; Smith & Andrews, 1989; Waters, Marzano, & McNulty, 2003). While variety exists in the notable instructional leadership models, Hallinger (2005) asserted that a broad understanding of the research literature centered on the following prescriptive features of leadership: (a) creating a

shared sense of purpose in the school, including clear goals focused on student learning; (b) fostering the continuous improvement of the school through cyclical school development planning that involves a wide range of stakeholders; (c) developing a climate of high expectations and a school culture aimed at innovation and improvement of teaching and learning; (d) coordinating the curriculum and monitoring student learning outcomes; (e) shaping the reward structure of the school to reflect the school's mission; (f) organizing and monitoring a wide range of activities aimed at the continuous development of staff; and (g) being a visible presence in the school, modeling the desired values of the school's culture (p. 13).

Nettles and Herrington (2007) in their review of the effects of school leadership noted that although similarities exist between the various constructs of instructional leadership, a “consensus on the definition of effective school leadership is far from being reached” (p. 726). The authors conceded that seven identifiers form a commonly held belief in the research literature about effective leadership including (a) providing a safe and orderly environment that allows for effective teaching and learning, (b) establishing a clear mission and vision, (c) garnering community and stakeholder involvement, (d) monitoring school progress, (e) maintaining a schoolwide focus on instruction, (f) setting and communicating high expectations for student performance, and (g) providing extensive support and professional development opportunities (Nettles & Herrington, 2007).

Over the last three decades, a prevalent model of instructional leadership utilized in dissertation research and refereed journal research is the framework developed by Hallinger and Murphy (1985, see Table 2.2). Originally developed during Hallinger's doctoral research at Stanford University in 1982, the conceptual framework proposes three dimensions of the instructional leadership role: Defining the School's Mission, Managing the Instructional

Program, and Promoting a Positive School Learning Climate (Hallinger, 2011). These three dimensions are broken down into ten functions of instructional leadership. Hallinger and Murphy’s model of instructional leadership was incorporated into the Principal Instructional Management Rating Scale (PIMRS), and according to Brown and Chai (2012) is the most well-known tool for assessing school leadership. Goldring et al. (2009) assert the PIMRS was based in the best empirical research in the area of school leadership at the time of its creation, and Condon and Clifford (2012) in their review of principal performance instruments found the PIMRS featured high levels of content and construct validity.

*Table 2 PIMRS Framework*

Leadership Dimensions	Constituent Subscale Functions
Defining the School Mission	Framing school goals Communicating school goals
Managing the Instructional Program	Supervising and evaluating instruction Monitoring student progress Protecting instructional time
Promoting a Positive Learning Climate	Promoting professional development Maintaining high visibility Providing incentives for teachers Providing incentives for learning

**Alabama Standards for Instructional Leaders.** Alabama Governor Robert Riley and State Superintendent Joseph Morton convened the Governor’s Congress on School Leadership in November 2004. The Governor’s Congress created five task forces, including the task force on Standards for Preparing and Developing Principals as Instructional Leaders. This group consulted research from Leithwood et al. (2004) as well as existing standards for instructional leaders, such as those established by the ISLLC, the Southern Association of Colleges and

Schools, the Southern Regional Education Board (SREB), and from 22 states (Governor's Congress on School Leadership, 2005). The result was the Alabama Standards for Instructional Leaders (ASIL), a set of eight standards developed by the Governor's Congress and adopted by the Alabama State Board of Education in May of 2005. A comparison between the ASIL and the *ISLLC 2008* Standards reveals an unmistakable paradigm shift in "the focus from a view of principals as managers and administrators to a definition of principals as instructional leaders" (SREB, 2010). The eight standards comprising the ASIL are: (a) Planning for Continuous Improvement, (b) Teaching and Learning, (c) Human Resources Development, (d) Diversity, (e) Community and Stakeholder Relationships, (f) Technology, (g) Management of the Learning Organization, and (h) Ethics.

The Governor's Congress also expanded the standards by creating the Alabama Continuum of Instructional Leadership Development (ACILD). The ACILD includes 23 indicators, which describe leadership practices for each standard across a continuum of five practice levels: Pre-Service Leadership, Developing Leadership, Collaborative Leadership, Accomplished Leadership, and Distinguished Leadership.

In the 2012–2013 school year, the Alabama State Department of Education implemented LEADAlabama as the evaluation program for educational leaders including central office administrators, principals, assistant principals, and all other specialty area administrators (ALSDE, 2013b). LEADAlabama assesses an educational leader's progress along the ACILD. LEADAlabama is an online process that consists of a self-assessment, ongoing collaborative dialogue between evaluator and leader, professional learning plan, and evidence collection. LEADAlabama also required principals to participate in the VAL-ED 360-degree principal assessment (Porter et al., 2010) for the 2013-2014 school year, but the ALSDE waived this

element in the 2014-2015 school year. In addition as the source for leader evaluation in Alabama schools and districts, the ACILD is intended as the basis of instructional leadership preparation programs across the state (ALSDE, 2012).

Although use of LEADAlabama is currently formative and does not contain provisions for the use of student achievement data, PLAN 2020 contains language that indicates that beginning in 2014-2015, LEADAlabama will contain measures of student growth, student achievement data that addresses gaps between subgroups, teacher growth, leader professional growth, and professionalism (ALSDE, 2013a). According to PLAN 2020, the State Department will study the usage of student achievement data and will also include findings from the Bill and Melinda Gates Foundation program and the Measures of Effective Teaching Project (Kane & Staiger, 2012). With the additional measures considered and appraised in a pilot phase, LEADAlabama will transition from a formative, professional growth process to a summative educational leader evaluation tool designed to “support the diagnosis of weaknesses in teacher and leader practice and measures needed to ensure improvement” (ALSDE, 2013a, p. 105).

### **Leadership and School Effectiveness**

Does leadership matter for effective schools? As witnessed in the previous review, this is a question that has intrigued educational leadership researchers for more than 30 years. In the following section, findings from recognizable and prevalent meta-analyses from the refereed journal literature and the commercial educational leadership market are reviewed. Also included in this review is a synthesis of meta-analytic data regarding leadership (Hattie, 2009) and a large-scale, longitudinal study of leadership and student learning (Leithwood & Louis, 2012).

Investigations of meta-analysis were chosen because of the inherent statistical power in combining several studies to develop a single conclusion. These conclusions are statistically

stronger than the analysis of any single study, due to increased numbers of subjects and greater diversity among subjects. According to Robinson, Lloyd, and Rowe (2008), meta-analysis allows for the exploration of the results of quantitative studies so the relationship between two constructs can be aggregated with the goal of estimating the average magnitude of the impact of one on the other. Writing in 1976, Glass, who developed the technique of meta-analysis, said this:

Meta-analysis refers to the analysis of analyses. I use it to refer to the statistical analysis of a large collection of results from individual studies for the purpose of integrating the findings. It connotes a rigorous alternative to the casual, narrative discussions of research studies which typify our attempts to make sense of the rapidly expanding research literature. (p. 3)

### **An Elusive Search**

Witziers, Bosker, and Krüger (2003) conducted a meta-analysis of 61 multinational studies that explored of the direct effects of leadership on student outcomes. The authors narrowed their field to studies published in peer-reviewed journals and conference papers within the years of 1986 to 1996. Further, studies were limited to those that featured a “clear conceptualization” of educational leadership and a reliable and valid measurement of educational leadership (Witziers et al., 2003). The authors solely examined studies that featured student achievement as the variable related to leadership. Studies that could not fit into the leadership framework developed by Hallinger and Murphy (1985) were excluded, and Witziers et al. used the framework to estimate effect sizes regarding the following leadership behaviors: (a) defining and communicating mission, (b) supervising and evaluating curriculum, (c) monitoring student progress, (d) coordinating and managing curriculum, (e) visibility, (f) promoting school improvement and professional development, and (g) achievement orientation.

Witziers et al. (2003) utilized Fisher's Z transformation ( $Z_r$ ) of the correlation coefficient ( $r$ ) to determine effect sizes of educational leadership. For small correlation coefficients (less than .35), the difference between the  $Z_r$  and  $r$  is relatively small. Based on their meta-analysis, the results suggested that school leadership has a small, positive and significant effect on student outcomes. During the data analysis, the authors found significant discrepancies between their international data and that of U.S. studies, and completed a second analysis removing 25 of the studies from the Netherlands. As a result, the effect size of leadership on student outcomes was .11 using the composite variables of leadership. The results concerning specific leadership behaviors from the Hallinger and Murphy (1985) framework showed that effect sizes were small, but that some leadership behaviors had a significant ( $p < .10$ ) and positive relationship with student outcomes. These were: supervision and evaluation ( $Z_r = .02$ ), monitoring ( $Z_r = .07$ ), visibility ( $Z_r = .07$ ), and defining and communicating mission ( $Z_r = .19$ ).

In their summary, Witziers et al. (2003) stated, "A small effect may still be very relevant" (p. 415). The authors also reflected that their conceptualization of education leadership and the usage of direct effects centered on student achievement may have contributed to the "inconclusive" results. Finally Witziers et al. made the following suggestions: leadership effects should focus on longitudinal student outcome data, improvement is needed in methodologies to investigate the relationship between leadership and student outcomes, and more research is needed on the indirect effect of leadership.

### **School Leadership that Works**

Marzano, Waters, and McNulty (2005) presented a meta-analysis of 69 studies from the years 1978 to 2001 that explored school leadership as practiced by principals and student achievement. Marzano et al. relied heavily on unpublished research for their meta-analysis with more than 70% of the studies coming from doctoral dissertations. The sample, which included

2,802 schools and an estimated 14,000 teachers and over 1,400,000 students, was the result of mainly convenience and purposeful sampling. In their findings, the authors computed the mean correlation between leadership behavior of the principal and average academic achievement of the students to be .25.

Based on their meta-analysis, Marzano et al (2003) stated, “Principals can have a profound effect of the achievement of students in their schools” (p. 38). The authors also devoted considerable space to address the disparities between their findings and those of Witziers et al. (2003). In their critique, Marzano and his colleagues (2003) stated that the substantial differences between the two studies were understood by differences in using international sources, methods that controlled for conceptual and statistical outliers, and the use of the attenuation theory which was applied when studies used different measurements of the same construct (pp. 32-33). The leadership framework utilized in the meta-analysis is the balanced leadership framework that featured 21 “responsibilities” of leadership (Waters, Marzano, & McNulty, 2003).

### **Differential Effects of Leadership**

Writing in 2008, Robinson, Lloyd, and Rowe attempted to reconcile the vast differences found in the work of Witziers et al. (2003) and Marzano et al. (2005). Stating that the purpose of their study was to “address the paradoxical differences between the qualitative and quantitative evidence on leadership impacts” (p. 637), Robinson and colleagues examined 27 studies that provided evidence about the links between leadership and student outcomes. These studies were all peer-reviewed and were published between 1978 and 2006. Only 22 of the selected studies could be used to determine effect sizes, and unlike Witziers et al. (2003), Robinson et al (2008) did not use an established model of instructional leadership to frame their design. Instead, the researchers listed and coded all of the separate survey items used in the 22 studies and formed dimensions of leadership using qualitative analysis.

Robinson et al. (2008) reported effects sizes for instructional leadership and transformational leadership. Overall, the effect size (reported as  $z$ ) for instructional leadership was .42 and the effect size for transformational leadership was .11. The authors found individual effect sizes for five dimensions of leadership revealed in the qualitative analysis. In their closing commentary, the authors claim, “The closer educational leaders get to the core business of teaching and learning, the more likely they are to have a positive impact on students’ outcomes” (p. 664). Also, as a parting note, Robinson et al. (2008), supported the Marzano et al. (2003) study while cautioning that while Marzano and his colleagues used primarily unpublished evidence, their conclusions were “comparable.”

### **Visible Leadership**

One of the seminal volumes in educational research over the past few years is *Visible Learning* by John Hattie (2009). According to Google Scholar, it has been cited over 2,000 times since its publication. Hattie used the technique of synthesizing multiple meta-analyses to determine effect sizes (Cohen’s  $d$ ) on academic achievement of various policies, programs, strategies, and characteristics of schools and classrooms. In terms of his synthesis of the effects from principals and leadership, Hattie (2009) used 11 meta-analyses that comprised a total of over 450 unique studies.

In his synthesis, Hattie (2009) indicated that the important moderator regarding the effects of leaderships lies with the type of leadership practiced by the principal. Of the meta-analyses Hattie selected, most dealt with instructional leadership, transformational leadership, or both. Instructional leadership practices – where principals “promote challenging goals, and then establish safe environments for teachers to critique, question, and support other teachers” (p. 83) – had the most effect on student outcomes. The overall effect size for principal and school leadership was .36, which according to Hattie is near the *hinge point* of .40, but nonetheless

below average in terms of all the synthesized meta-analyses aimed a school improvement. Hattie's hinge point is the level "where the effects of the innovation enhance achievement in such a way that we can notice real-world differences." (2009, p. 17) According to Cohen (1992) an effect size of .36 is equidistant between small and medium effects. Converting the effect size (*d*) to a correlation coefficient (*r*), reveals a value of .18 which is slightly higher than Witziers et al. (2003), but less than Marzano et al. (2005).

### **Linking Leadership to Learning**

In what the authors referred to as "one of the most ambitious studies of educational leadership and its contribution to student learning in the English-speaking world" (p. xxiii), Leithwood and Louis (2012), with the help of several other notable researchers, presented compelling evidence to what Witziers et al. (2003) called the elusive search. While Leithwood and Louis did not use meta-analytic strategies, they collected large amounts of data over five years from 180 schools, 8,391 teachers, and 471 school administrators. The authors used a leadership framework that espoused a broader definition than that of hierarchical or institutional roles, and one that envisioned leadership having indirect and collective effects on student learning (Leithwood et al., 2004).

Leithwood and Louis (2012) began by stating, "To learn how leadership contributes to student learning, we must ask how leadership affects instruction" (p. 27). These contributors assumed that the effects of principal leadership on achievement were largely indirect, and operated through other variables. The authors posited that high levels of instructional leadership would affect the teachers instructional practices – more specifically the teacher's focused instructional practices, which are conceptualized as: (a) teachers enable students to construct their own knowledge, (b) classroom disruptions are minimized, (c) the teacher assumes most students are capable of managing their own learning, (d) the teacher emphasizes deep core

knowledge of subject, and (e) a rapid instructional pace. The authors further theorized that shared leadership, or the degree to which teachers participate in school-wide decision making, would also be a mediating variable associated with student achievement.

Based on their findings, neither instructional leadership practices nor shared leadership had significant correlations with student achievement (Leithwood & Louis, 2012). Instructional leadership did have a significant correlation (.31) with focused instruction, which in turn had the highest levels of association with student achievement (.269). Shared leadership had high levels of correlation (.597) with professional communities. Professional community described the (a) shared values, (b) common focus and collective responsibility for student learning, (c) reflective dialogue about improvement, and (d) purposeful sharing of practices that is distributed throughout the school. Professional community had the highest levels of correlation with focused instruction (.510).

### **Summary**

Although the call for strong school leadership began decades before No Child Left Behind, the push for higher standards and greater accountability with the pressures of improving test scores, ensuring the learning of all children, and refining teachers' skills has placed the school principal as the pivotal position in the learning organization. It is ironic, however, that in the midst of the era of accountability and culpability, many politicians, academicians and members of the public wonder if schools make a difference, much less the leadership. The review presented here comprehensively supports the view that leadership – especially those forms that are focused on instructional improvement – is necessary for effective schools.

We live in a time where principals who are unable to marshal the collective instructional forces in a school to improve the learning outcomes of our most disadvantaged students will be publically excoriated and fired. It is critical for educational leadership researchers to gain

knowledge of what types of leadership models, behaviors, and conceptualizations have lasting effects on student achievement. There has been considerable work in this area of the last 30 years, and the research is nearing the point where we understand the pathways that leadership takes as it effects student outcomes, and how the power of leadership is multiplied as it is shared and distributed throughout the school. Yet in some ways as Glass (1979) stated, “We find ourselves in the mildly embarrassing position of knowing less than we have proven” (p. 8).

## **METHODOLOGY**

The purpose of this study was to explore the perceived instructional leadership behaviors of principals in schools in Alabama and to investigate the relationship between instructional leadership and school effectiveness. This study determined the extent of the relationship between principals' perceptions of their instructional leadership practices, specifically the instructional leadership functions and dimensions identified by Hallinger and Murphy (1985), and school effectiveness as described by the Alabama State Department of Education (ALSDE) determinant of student achievement, the ACT Aspire (ACT, Inc., 2014a; ALSDE, 2013d).

### **Research Questions**

To accomplish the purposes of this study, four research questions were addressed:

1. To what extent do principals demonstrate instructional leadership behaviors characterized by PIMRS framework?
2. What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status or community setting?
3. What is the relationship between the instructional leadership behaviors of principals and the performance of schools?
4. Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by:
  - 4.1: Total of years of experience in educational leadership,
  - 4.2: Years of experience as principal at the current school,
  - 4.3: Level of education,

4.4: The grade span of the school,

4.5: Indicators of school socioeconomic status?

### **Research Design**

This study used a non-experimental, descriptive, and cross-sectional research design that examined principals' leadership behaviors and determined the degree to which these can be linked with indicators of school effectiveness. Survey research was chosen because of its capability to allow researchers to draw inferences from sample results (Visser, Krosnick, & Lavrakas, 2000). This study used the Principal Instructional Management Rating Scale ([PIMRS] Hallinger, 1983/1990) as a measure of instructional leadership effectiveness, and a measure of school-level student achievement, the ACT Aspire (ALSDE, 2013d). Usage of the ACT Aspire as the measure of student achievement is an integral element of Alabama's request for flexibility from No Child Left Behind, PLAN 2020, because of its alignment to the Common Core and ability to produce growth scores (ALSDE, 2013a). The ACT Aspire replaced the Alabama Reading and Math Test for the 2013-2014 school year.

### **Population and Sample**

The Alabama State Department of Education website ([www.alsde.edu](http://www.alsde.edu)) was used to identify all public schools in Alabama, a population that consists of 1,494 schools. The unit of analysis in this study was the school principal. For the purposes of this study, only schools that contained a grade that administered the ACT Aspire were included, a total of 1,026 schools.

School principals in Alabama receive their licensure and certificate from the Alabama State Department of Education and following the formal adoption of the Alabama Standards for Instructional Leaders in 2005, principals may only earn a professional leadership certificate in Instructional Leadership (ALSDE, 2012). The Instructional Leadership certificate requires three years of successful experience in schools (to include at least one year of full-time teaching),

completion of a Master's degree level Instructional Leadership program at an Alabama university, and the requirements of the Alabama Educator Certification Testing Program (AECTP). The AECTP requires school leaders to pass the Praxis test in educational leadership. The State Department also awards a certificate in Instructional Leadership to those individuals who complete an approved 6<sup>th</sup>-year program or Educational Specialist degree from an approved Alabama university.

Purposive sampling of all school principals was chosen to access a large number of participants. In this study, 1,026 public school principals across the state of Alabama were selected to participate. Of those not selected, either the school did not contain a grade that featured ACT Aspire test data, or accurate email contact information was unavailable.

The selected principals were emailed with information regarding the study and notice that they would receive an anonymous questionnaire investigating the perceptions of instructional leadership behaviors and school level indicators (See Appendix A). Principals were given the option to complete a mailed survey or online survey through the survey distributor Qualtrics.

### **Instrumentation**

The Principal Instructional Management Rating Scale (PIMRS) was used to collect quantitative data about the self-perceptions of instructional leadership behaviors of principals (Hallinger, 2005; Hallinger & Murphy, 1985; Hallinger & Heck, 1996). According to the Hallinger (2010), the PIMRS was the most frequently used assessment of principal behaviors in empirical studies, and its framework guided the Consortium involved in the development of the *ISLLC* Standards (Murphy, 2003). Permission to use the PIMRS was obtained from Hallinger on November 22, 2014 (see Appendix B).

The PIMRS was designed to provide a summary of the effectiveness of a principal's instructional leadership behaviors both as an evaluative instrument and for use in scholarly

research. The survey was originally composed of 72 items categorized into three broad dimensions arranged around 11 instructional leadership function subscales. Subsequent revisions by the original author have resulted in the current form of the PIMRS that featured 50 items (See Appendix C). The PIMRS produced a profile of a principal's instructional behavior centered around ten subscales. Each subscale featured five behaviorally-anchored stems. According to Hallinger and Murphy (1985), the subscales combined to form three overall dimensions of leadership. The dimensions and subscales were:

**Defines the School Mission:** (1) frame the school goals, (2) communicate the school goals;

**Manages the Instructional Program:** (3) supervise and evaluate instruction, (4) coordinate the curriculum, (5) monitor student progress; and

**Develops a Positive Learning Climate:** (6) protect instructional time, (7) maintain high visibility, (8) provide incentives for teachers, (9) promote professional development, and (10) provide incentives for student learning.

Hallinger and Murphy (1985) noted that the PIMRS was a behaviorally-anchored rating scale that required the participants to identify the frequency they performed the 50 specific instructional leadership behaviors. Survey respondents were asked, "To what extent do you ...?" for each of 50 leadership behaviors. The ratings were based on a 5-point Likert-type scale (1 = Almost Never, 2 = Seldom, 3 = Sometimes, 4 = Frequently, and 5 = Almost Always). Figure 3.1 illustrates a sample of the PIMRS survey.

Figure 1 PIMRS sample

To what extent do you . . . ?		<i>Almost Never</i>	<i>Seldom</i>	<i>Sometimes</i>	<i>Frequently</i>	<i>Almost Always</i>
		1	2	3	4	5
<b>I. FRAME THE SCHOOL GOALS</b>						
1	Develop a focused set of annual school-wide goals	1	2	3	4	5
2	Frame the school's goals in terms of staff responsibilities for meeting them	1	2	3	4	5
3	Use needs assessment or other formal and informal methods to secure staff input on goal development	1	2	3	4	5
4	Use data on student performance when developing the school's academic goals	1	2	3	4	5
5	Develop goals that are easily understood and used by teachers in the school	1	2	3	4	5

Three forms of the PIMRS have been developed and tested: a principal self-assessment, a teacher form (both short and long), and a supervisor form (Hallinger, 1990). For the purposes of this study, only the principal form version 2.1 was used. Questions designed to obtain demographic information and other school-level indicators comprised the first part of the survey followed by the second part that contained the 50 statements regarding principals' perceptions of their instructional leadership behaviors.

### Validity and Reliability

Previous studies utilizing the PIMRS have focused on the internal consistency approach related to reliability (Hallinger, Wang, & Chen, 2013). Hallinger, Wang, and Chen (2013) completed a meta-analysis of the reliability of the PIMRS from more than 43 studies comprised of 2,508 principals. In their findings, the generalization reliability estimate for the whole scale was .96. Reliability estimates for the three dimensions similarly were high: .88 for Defines the School Mission, .91 for Manages the Instructional Program, and .93 for Develops a Positive Learning Climate. The ten leadership functions featured lower reliability estimates ranging from .74 to .85. According to the authors, the reliability estimates for the whole scale and dimensions were sufficient for principal evaluation, but the ten leadership functions only met the standard for use in research and principal needs assessment (Hallinger, Wang, & Chen, 2013).

The internal consistency coefficients obtained in this study were consistent and compared favorably with the internal consistency coefficients found in Hallinger et al.'s (2013) meta-analysis of over 2,508 principals. The reliability coefficients for all ten subscales were above the acceptable range (.70), while alpha for four subscales were good (.80) (George & Mallery, 2003). Reliability coefficients for the subscales ranged from a high of .84 (coordinating the curriculum, promoting professional development) to a low of .69 (maintaining high visibility). Reliability estimates for the instructional leadership dimensions were in the excellent range, as was the whole scale (.96). Table 3.1 displays the reliability estimates from the meta-analysis more than 2,500 principals and those from the current study of 94 principals.

*Table 3 Reliability Estimates for Instructional Leadership Behaviors*

Variable	Items	Hallinger et al. (2013) $\alpha$	Current Study $\alpha$
Whole Scale	50	.96	.94
<b>Defines School Mission</b>	<b>10</b>	<b>.88</b>	<b>.83</b>
Frame the School Goals	5	.85	.81
Communicates the School Goals	5	.79	.75
<b>Manages the Instructional Program</b>	<b>15</b>	<b>.91</b>	<b>.88</b>
Supervises Instruction	5	.80	.76
Coordinates the Curriculum	5	.83	.84
Monitors Student Progress	5	.82	.75
<b>Develops a Positive Learning Climate</b>	<b>25</b>	<b>.93</b>	<b>.90</b>
Protects Instructional Time	5	.80	.70
Maintains High Visibility	5	.78	.69
Incentives for Teachers	5	.74	.79
Promotes Professional Develop	5	.82	.83
Incentives for Learning	5	.80	.83

Initial studies were conducted regarding levels of validity of PIMRS during its development phase (Hallinger, 1983). Hallinger found in the original study that the PIMRS had been validated by the following criteria: content validity, discriminant validity, and construct

validity. Notably, Hallinger and Murphy (1985) found that the PIMRS met high standards for content validity and construct validity. According to authors, all ten subscales met the criteria for content and construct validity. More recently Hallinger et al. (2013) conducted an exhaustive study of the PIMRS that examined its psychometric properties in the following areas: (a) the theoretical internal validity using subscale inter-correlations and Rasch analysis; (b) the practical internal validity using content validity, school document analysis and differential item functioning; and (c) the theoretical external validity using criterion-related validity (concurrent validity) and multitrait-multimethod analysis. In brief, Hallinger et al. (2013) found that while the PIMRS was developed in 1983, current methods of validation were consistent with the historical validation testing.

### **School Effectiveness**

The ACT Aspire proficiency rates in Reading and Mathematics constituted the measures of student achievement that will be used in this study. Proficiency rates were defined as the percentage of students who scored at or above the minimum proficiency score for each subtest in Reading and Mathematics at the elementary level (grades 3-6) and at the middle school level (grades 7-8).

Unlike most high-stakes tests used by state education agencies, the Aspire used a common scale for the entire range of tests in grades three through eight (ACT, Inc., 2014b). For each subtest, the ACT has developed longitudinal, vertical scale scores to facilitate measures of student growth over time and to summarize the achievement of students from multiple grades. Raw scores on the ACT Aspire are computed using the sum of points an examinee earns across multiple-choice, technology-enhanced, and constructed-response items on the test. Conceivably, elementary age students could take the Aspire on grade level or on higher or lower grade levels and produce similar scores on the longitudinal scale. The vertical score scale is an inherent

feature of the ACT Aspire to assist schools and districts in gaining understanding about student growth and value-added measures at the teacher and school level. Table 3.2 displays the vertical score scale and the minimum proficiency score for Reading and Math tests in grades 3-8.

*Table 4 ACT Aspire Score Scales for Reading and Math*

Grade	Reading			Math		
	Low	High	Proficiency	Low	High	Proficiency
3	400	429	415	400	434	413
4	400	431	417	400	440	416
5	400	434	420	400	446	418
6	400	436	421	400	451	420
7	400	438	423	400	453	422
8	400	440	424	400	456	425

### **Validity and Reliability**

Three large-scale studies were conducted in the spring of 2013 to develop the score scales, norms, and other reporting features of the ACT Aspire. Additionally, these studies also generated reliability and validity tests of the Aspire. Although the studies featured a national sample of more than 80,000 students, the students in the State of Alabama comprised upwards of 80% of the national sample. Of the 23 other states represented in the norming studies, most had a representation of less than 2% of the total number of students (ACT, Inc., 2014b).

With regards to reliability, the ACT Aspire conducted tests of internal consistency both for the norming study in the spring of 2013 and for the full administration of the Aspire in the spring of 2014. Students from the State of Alabama similarly comprised the vast majority of participants in the Spring 2014 Aspire administration. Reported as Cronbach’s alpha, the Aspire Reading test featured reliability estimates from .77 - .87 across grade levels 3-8. The Aspire

Mathematics test, however, in both the norming study and full administration reported reliability estimates in the .55 - .77. Reliability estimates were quite low in grades 4-7 (ACT, Inc., 2014b).

Evidence supporting the convergent validity of the ACT Aspire is limited (ACT, Inc., 2014b). Two convergent validity studies have been reported: one related to the existing family of ACT derived tests (ACT Explore / Plan), and another comparing student performance to the Alabama Reading and Mathematics Plus test (ARMT+). Using disattenuated correlations, the relationship between the ACT Aspire and other ACT tests was moderate to strong (.76 - .92). Using the multitrait-multimethod matrix, ACT Aspire researchers found that the assessments may have been systematically different in ways that led to stronger relationships among scores within each assessment compared to between the assessments. Comparisons between the ACT Aspire and the ARMT+ produced similar moderate to strong positive correlation coefficients across grades and subjects. The multitrait-multimethod matrix, however, supported the argument that ARMT+ and ACT Aspire are not the same and likely measure different constructs within the broad domain of academic achievement in each subject area (ACT, Inc., 2014b).

## **Variables**

The PIMRS contained a total of 10 subscales of leadership effectiveness and 3 overall leadership dimension scales. The PIMRS was not designed to produce an overall composite score of instructional leadership. According to Hallinger (email communication, 2015), comparisons using the three dimensions of instructional leadership represent the best use of the PIMRS.

The school and principal information demographic section of the survey also produced variables in the form of the (a) schools' socioeconomic status as measured by the percentage of students receiving free and reduced lunch, (b) the community setting of the school, (c) the principals' years of experience in the school and in leadership overall, (d) and the principal's

level of educational attainment.

For each school in the sample, principals self-reported the percentage of students scoring at or above the proficiency score on the ACT Aspire Reading and Math tests. Because the ACT Aspire uses a common longitudinal scale across grade levels, comparisons can be made using different grade arrangements.

### **Data Analysis**

The data collected for this study were statistically analyzed using SPSS Statistics (ver. 22). A data set was created by recording each principal's individual responses for the demographic section and the 50-item PIMRS. SPSS was used to create means for each of the ten subscale scores and the three overall leadership dimension scores for each principal. Procedures for calculating the subscales and dimension scores were obtained from the *PIMRS Manual, Ver. 2.2* (Hallinger, 1999). The data set included each school's self-reported proficiency rates on the ACT Aspire Reading and Math tests. The data also contained information concerning the principals' years of experience in educational leadership, the principals' years of experience at the current school, and the principals' level of education.

Descriptive research was used in question one to determine the extent of leadership behaviors in the sample. Means and standard deviations were determined for the ten PIMRS subscales and overall leadership dimensions. In question two, a two-way ANOVA was conducted to test differences in test scores among high, medium, and low SES schools and urban, rural, and suburban community settings. Tests for interactions and post hoc comparisons were conducted. Question three used hierarchical multiple linear regression to determine the significance of behaviors in the three instructional leadership dimensions of principals and proficiency rates on the ACT Aspire. In research question four, the independent variables of grade span of the school and levels of principal of education were considered categorical. With

regards to years of experience, categorical groups were designated to determine differences among factor levels. The principals' self-perceptions of the instructional leadership dimensions were the dependent variables. One-way ANOVAs were conducted to test for differences among the factor groups. Table 3.3 contains an illustration of the research questions, the variables, and the type of statistical procedure proposed.

*Table 5 Data Management Plan*

<b>Research Question</b>	<b>Measure(s)</b>	<b>Independent Variable</b>	<b>Dependent Variable</b>	<b>Projected Analysis</b>
1	<b>PIMRS</b> <ul style="list-style-type: none"> <li>• Function subscales</li> <li>• Leadership Dimensions</li> </ul>	*	*	<b>Descriptive</b>
2	<b>Student Achievement</b> <ul style="list-style-type: none"> <li>• ACT Aspire Reading</li> <li>• ACT Aspire Mathematics</li> </ul> <b>Principal Questionnaire</b> <ul style="list-style-type: none"> <li>• School-level SES</li> <li>• Community Setting</li> </ul>	School SES <ul style="list-style-type: none"> <li>• High</li> <li>• Medium</li> <li>• Low</li> </ul> Community Setting <ul style="list-style-type: none"> <li>• Urban</li> <li>• Rural</li> <li>• Suburban</li> </ul>	Aspire proficiency rates in Reading & Math	<b>Two-way ANOVA</b>
3	<b>PIMRS</b> <ul style="list-style-type: none"> <li>• Leadership Dimensions</li> </ul> <b>Student Achievement</b> <ul style="list-style-type: none"> <li>• ACT Aspire Reading</li> <li>• ACT Aspire Math</li> </ul> <b>Principal Questionnaire</b> <ul style="list-style-type: none"> <li>• School-level SES</li> </ul>	Defining the School Mission Managing the Instructional Program Promoting a Positive Learning Climate School SES (% of Free / Reduced Lunch)	Aspire proficiency rates in Reading & Math	<b>Multiple Hierarchical Linear Regression</b>

	<b>PIMRS</b> <ul style="list-style-type: none"> <li>Leadership Dimensions</li> </ul>	<ul style="list-style-type: none"> <li>Years of Experience</li> <li>Years of Experience at the school</li> <li>Level of education</li> <li>Grade Span</li> </ul>	<b>PIMRS</b> Leadership Dimensions	<b>One-Way ANOVA</b>
4	<b>Principal Questionnaire</b> <ul style="list-style-type: none"> <li>Principal demographics</li> <li>School Demographics</li> </ul>			

### **Ethical Considerations**

This study complies with the expectations and policies from the University of Alabama Institutional Review Board (See Appendix D). Informed consent was given to all participants (See Appendix E). The privacy of individuals and their anonymity and security of the data was enforced throughout the research study.

### **Summary**

There is widespread agreement that highly effective principals are difference makers in the achievement of their students. The influence of principals toward achievement, while indirect, is second in strength only to the classroom teacher. The need for and influence of highly effective principals is more pronounced in schools with the greatest challenges. The role of principals in closing achievement gaps and raising achievement for all students is an important facet of educational leadership research, and the purpose of this study is to add to that body of knowledge. It is important to assess the extent to which instructional leadership behaviors exist and how these behaviors contribute to school effectiveness.

This research study included a quantitative, cross-sectional design using an assessment of instructional leadership called the Principal Instructional Management Rating Scale. This study investigated differences in the self-perceptions of leadership behaviors among principals, and determined associations between specific leadership behaviors and school effectiveness as measured by a new summative assessment of student achievement, the ACT Aspire. Data were

collected from a population of 1,026 principals. Descriptive and inferential statistics were computed.

## **FINDINGS**

This study examined the relationship between self-perceived instructional leadership behaviors of principals in public schools in Alabama and student achievement. The Principal Instructional Management Rating Scale ([PIMRS] Hallinger, 1983/1990) was used to develop profiles of each principal's instructional leadership, and the ACT Aspire was used as the measure of student achievement. In addition, this study further investigated whether multiple demographic variables including the principals' years of experience as an instructional leader or levels of educational attainment had any moderating effects on the self-perceived instructional leadership behaviors. School-level indicators including socioeconomic status of the student population, the community setting, and the grade span of the school were included as variables pertaining to student achievement and instructional leadership.

Following a general description of the participants, Chapter 4 will be arranged so as to respond to the following research questions:

1. To what extent do principals demonstrate instructional leadership behaviors characterized by PIMRS framework?
2. What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status or community setting?
3. What is the relationship between the instructional leadership behaviors of principals and the performance of schools?
4. Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by:

- 4.1: Total of years of experience in educational leadership,
- 4.2: Years of experience as principal at the current school,
- 4.3: Level of education,
- 4.4: The grade span of the school,
- 4.5: Indicators of school socioeconomic status?

*Table 6 Principal Demographic Summary*

Variables	Elementary School <i>n</i>	Middle School <i>n</i>	High School <i>n</i>
<b>School Size</b>			
150- 449 students	29	5	3
450-699 students	17	10	5
700-999 students	8	4	2
1000-1499 students	0	2	3
1500-2000 students	0	0	2
<b>Total</b>	<b>57</b>	<b>21</b>	<b>16</b>
<b>Community</b>			
Urban	14	6	5
Rural	21	7	9
Suburban	19	6	2
<b>Socioeconomic Status</b>			
High SES	9	4	3
Mid SES	18	10	6
Low SES	25	6	6
Mean Free & Reduced % ( <i>SD</i> )	64.3% (24.80)	56.0% (24.09)	63.4% (31.77)
<b>Experience in Educational Leadership</b>			
1 to 5 years	10	2	0
6 to 17 years	34	14	13

18 to 25 years	7	3	1
26 to 40 years	4	1	2
Mean ( <i>SD</i> )	12.18 (7.6)	12.76 (7.4)	12.81 (8.0)
<b>Experience as Principal in Current School</b>			
1 to 5 years	46	13	12
6 to 12 years	6	6	3
13 to 25 years	3	1	1
Mean ( <i>SD</i> )	3.8 (3.8)	5.48 (4.9)	4.75 (4.24)
<b>Degree Earned</b>			
Master's	23	5	5
Ed. S.	22	8	9
Ed. D. / Ph. D.	11	7	1

### Participants

Ninety-four public school principals responded to the research study invitation either by mail or email. Principals were asked to self-report their schools' student achievement data as reported by proficiency rates in Reading and Math on the ACT Aspire. Table 4.1 presents a summary of the demographic information provided by principals.

**School Size.** The majority of principals in this study led in schools of fewer than 700 students. More than 85% of elementary school principals worked in buildings with less than 700 students, and 71% of middle schools and 53% of high schools reported less than 700 students.

**Community.** In general, the distribution of school between urban, rural, and suburban communities was evenly split; however, high school principals reported 56.3% as being from a rural area.

**Experience in Educational Leadership.** Principals were asked to include time spent as principal, assistant principal, or other school- or district-level leadership role. A majority of all school groupings reported having at least six years in an educational leadership role. High school principals reported 100% having a minimum of 6 years of leadership experience. When

comparing means, all three grade span grouping featured similar years of experience in educational leadership: middle school = 12.8 (7.4), high school = 12.8 (8.0), and elementary school = 12.2 (7.6).

**Experience in the Current School.** Most principals in the sample were in their first five years in the current school. Principals who had completed 3 or fewer years comprised 58.5% and 78% reported completing 5 or fewer years in the current school. All grade span divisions reported relatively few principals who had remained in the same school for more than 13 years. The mean for years of experience in the current school among all principals was 4.3 (4.2), with elementary principals reporting the fewest years in the current school with 3.8 (3.8). Middle school principals reported the highest mean for years in the current school with 5.48 (4.9).

**Degrees Earned.** Over 70% of those who classified themselves as middle or high school principals listed earned degrees beyond the Master's. Elementary and middle school principals reported having earned doctorate degrees at a higher rate than high school principals. In general, middle school principals reported overall highest levels of education and elementary principals reported the lowest.

**Socioeconomic Status.** The principals in this sample reported a relatively high percentage schools that were considered low SES. Typically, schools that featured a percentage of free & reduced lunch of 50% or greater are entitled to school-wide federal funding under NCLB. Only 16 schools in this sample reported a free and reduced population of less than 50%. The overall mean for the percentage of students who received free and in the sample was 62.27 ( $SD = 25.9$ ). According to information retrieved from the ALSDE website, the statewide percentage of students receiving free and reduced lunch was 60.73. Elementary schools reported

the lowest SES ( $M = 64.3$ ,  $SD = 24.8$ ), and middle schools reported the highest SES ( $M = 56.0$ ,  $SD = 24.1$ ).

**Summary.** The 94 participants in this sample were elementary, middle, and high school principals from across the State of Alabama. Of the sample, only 13.2% reported having less than 5 years of educational leadership experience, and 63.7% reported having obtained an advanced degree.

### **Analysis and Findings for Research Questions**

In this section, data are reported regarding the instructional leadership profiles developed from the PIMRS questionnaire data. In this descriptive section, the analysis primarily focuses on the group profile. The PIMRS data do not provide a measure of the effectiveness of principals' behavior, but report the self-perceived frequency of the instructional leadership behaviors. Possible responses ranged from 1 to 5 on a Likert-type response scale as indicated in Table 4.2. The PIMRS reports ten subscales of instructional leadership functions and three overall leadership dimensions.

*Table 7 Leadership Frequency Descriptors on the Five-Point Likert Scale*

Descriptor (Anchor)	Scale Value
Almost Never	1
Seldom	2
Sometimes	3
Frequently	4
Almost Always	5

## **Research Question 1**

*To what extent do principals demonstrate instructional leadership behaviors characterized by PIMRS framework?*

Table 4.3 presents the means and standard deviations for the ten instructional leadership subscales. This depiction displays an overall strong profile of principal leadership, which is not surprising considering the levels of experience and education reported by the sample. The standard deviations indicate a sizable amount of variation among the frequencies of behaviors practiced by the principals.

**Defining the School's Mission.** The principals reported frequent use of the two functions within this dimension. Their mean rating for framing goals was 4.5 and 4.1 for communicating goals. The principals in this sample used student data to develop annual school goals at high levels. While most principals shared the goals with their faculty members, there was great variability among the principals who created visual statements of the goals in their schools or shared the goals directly with their students. Table 4.4 represents a summary of mean and standard deviation for this leadership dimension.

*Table 8 Instructional Leadership Subscale Ratings of Principals*

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Subscale	<i>M</i>	<i>SD</i>
Framing goals	4.5	.5
Communicating goals	4.1	.6
Supervising and evaluating instruction	4.1	.5
Coordinating the curriculum	4.3	.6
Monitoring student progress	4.2	.5
Protecting instructional time	4.2	.5
Promoting professional development	4.4	.5
Maintaining high visibility	3.9	.6
Providing incentives for teachers	3.8	.7
Providing incentives for learning	4.0	.7

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(*N* = 94)

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*Table 9 Defining the School Mission Dimension*

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Descriptive Statistics	
Mean	4.33
Standard Deviation	.477

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**Managing the Instructional Program.** An unsurprising finding related to the Management of the Instructional Program was that the behaviors directly tied to student testing rated the highest. Specifically, the anchor stem, “Draw upon the results of school-wide testing when making curricular decisions,” rated 4.53. Principals were also highly involved with the school-level test data both from a curriculum standpoint and related to the effectiveness of

instruction. Most principals engaged in formal and informal observations of teaching practice, and most reported that they provided feedback in terms of strengths and weaknesses of teachers. Principals were also active participants in communicating the responsibility of the coordination of the curriculum to their assistant principals and teacher leaders. The lowest rated stem echoed the previous dimension; whereas principals were highly concerned with the performance of their students, they less frequently communicated these results to the students. Although there was much variability among schools, principals were more interested in test score data than actual student work projects. Table 4.5 summarizes the mean and standard deviation related to the Management of the Instructional Program.

*Table 10 Managing the Instructional Program Dimension*

Descriptive Statistics	
Mean	4.22
Standard Deviation	.45

**Promoting a Positive Learning Climate.** Representing behaviors mostly reflective of transformational leadership, principals in the Positive Learning Climate Dimension reported lower scores than both Defining School Mission mean (4.33) and Managing Instructional Program mean (4.22). This was due possibly to the slightly anachronistic nature of some behavioral anchors such as, “Cover classes until a late or substitute teacher arrives,” and “Tutor students or provide direct instruction to students,” both of which scored below the Positive Learning Climate dimension mean of 4.09. Principals in this sample were highly involved with both in school and extracurricular activities. A large percentage of principals engaged in informal talks with teachers during recess or break times and encouraged the use of new instructional techniques and skills. Principals were also highly active in supporting their teachers’ positive

contributions to the school, but most did this in a private or informal setting as opposed to in written memos. The summary data for the Positive Learning Climate is presented in Table 4.6.

*Table 11 Promoting a Positive Learning Climate Dimension*

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Descriptive Statistics	
Mean	4.09
Standard Deviation	.46

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### **Research Question 2**

*What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status and / or community setting?*

**Reading.** A two-way ANOVA was conducted to test for the main effects of the schools' socioeconomic status and community setting related to the proficiency rate on the ACT Aspire Reading test and to determine if an interaction existed between the two main effects. The levels regarding socioeconomic status were described as follows: High (0 -30% Free and Reduced Lunch), Middle (31-70% Free and Reduced Lunch), and Low (Greater than 70% Free and Reduced Lunch). Community settings were self-reported in the following categories: Urban, Rural, and Suburban. Descriptive statistics for Reading are displayed in Table 4.7.

Table 12 Reading Proficiency Rates (SES & Community Setting)

SES Category	Community	<i>M</i>	<i>SD</i>	<i>N</i>
HIGH (0-30%)	Rural	93.0	.	1
	Suburban	64.5	12.5	12
	Total	66.7	14.3	13
MID (31-70%)	Urban	47.4	6.6	5
	Rural	48.3	18.2	22
	Suburban	44.6	11.0	5
	Total	47.5	15.7	32
LOW (71-100%)	Urban	24.0	14.4	12
	Rural	32.9	12.0	10
	Suburban	30.5	22.0	7
	Total	28.6	15.8	29
Total	Urban	30.8	16.6	17
	Rural	45.0	19.6	33
	Suburban	50.5	21.3	24
	Total	43.5	20.6	74

The ACT Aspire proficiency rate was normally distributed for all group combinations of community settings and level of socioeconomic status, as assessed by Shapiro-Wilk's test ( $p > .05$ ). The homogeneity of variances of the dependent variable in all group combinations of the two independent variables was tested. There was homogeneity of variances, as assessed by Levine's Test of Homogeneity of Variance,  $F(7, 66) = 1.494, p = .185$ . Independence of observations was a feature of the cross-sectional research design, and through the random assignment of subjects.

When testing for between-subject effects, there was not a statistically significant interaction between level of socioeconomic status and community setting on ACT Reading

proficiency rates,  $F(3,66) = 1.033, p = .384$ . Differences in Aspire Reading proficiency rates were tested using main effect for level of socioeconomic status collapsed across community settings. There was a statistically significant difference in reading achievement scores between those in low, middle, and high socioeconomic schools,  $(F2, 66) = 18.332, p < .001$ , partial  $\eta^2 = .364$ . The main effect for community setting was not statistically significant in the two-way ANOVA,  $F(2, 66) = 1.980, p = .146$ , partial  $\eta^2 = .057$ .

During post hoc testing, the Tukey test produced statistically significant comparisons between all three levels of socioeconomic status and reading achievement ( $p = .001$ ). Table 4.8 displays all possible comparisons.

*Table 13 Tukey HSD Multiple Comparisons - SES & Reading Proficiency*

(I) SES Level	(J) SES Level	Mean Difference (I-J)	Sig.
<i>HIGH</i>	MID	19.17	.001
	LOW	38.11	.000
MID	HIGH	-19.17	.001
	LOW	18.93	.000
LOW	HIGH	-38.11	.000
	MID	-18.93	.000

**Math.** A two-way ANOVA was conducted regarding differences in math proficiency rates between levels of socioeconomic status and community setting. The ACT Aspire Math proficiency rate was normally distributed for all group combinations of community settings and level of socioeconomic status, as assessed by Shapiro-Wilk's test ( $p > .05$ ). The homogeneity of variances of the dependent variable in all group combinations of the two independent variables was tested. There was homogeneity of variances, as assessed by Levine's Test of Homogeneity of Variance,  $F(7, 66) = .912, p = .503$ . Independence of observations was a feature of the cross-

sectional research design, and was met through random assignments of subjects. Descriptive statistics for Math are displayed in Table 4.9.

*Table 14 Descriptive Statistics - Math Proficiency Rates (SES & Community Setting)*

SES Level	Community	<i>M</i>	<i>SD</i>	<i>N</i>
HIGH	Rural	92.0	.	1
	Suburban	66.4	13.3	12
	Total	68.3	14.6	13
MID	Urban	53.0	11.4	5
	Rural	45.0	18.8	22
	Suburban	48.4	20.3	5
	Total	46.7	17.8	32
LOW	Urban	26.6	14.4	12
	Rural	33.3	12.0	10
	Suburban	37.1	22.4	7
	Total	31.4	16.0	29
Total	Urban	34.4	18.8	17
	Rural	42.8	19.5	33
	Suburban	54.1	21.4	24
	Total	44.5	20.9	74

Similarly to the Reading ANOVA, the interaction term was not statistically significant,  $F(2, 66) = 1.603, p = .197$ . There was a statistically significant difference in math achievement between those in low, middle, and high socioeconomic schools,  $F(2, 66) = 14.514, p = <.001$ , partial  $\eta^2 = .305$ . Conversely, the main effect for community setting was not statistically significant,  $F(2, 66) = .440, p = .646$ , partial  $\eta^2 = .013$ .

During post hoc testing, the Tukey test produced statistically significant comparisons between all three levels of socioeconomic status and math proficiency rates ( $p < .001$ ). Table 4.10 displays all possible comparisons.

*Table 15 Tukey HSD Multiple Comparisons - SES & Math Proficiency*

(I) SES Level	(J) SES Level	Mean Difference (I-J)	Sig.
HIGH	MID	21.6	.001
	LOW	36.9	.000
MID	HIGH	-21.6	.001
	LOW	15.2	.002
LOW	HIGH	-36.9	.000
	MID	-15.2	.002

### **Research Question 3**

*What is the relationship between the instructional leadership behaviors of principals and the performance of schools?*

In this study, because of the known effects of socioeconomic status directed towards school achievement, hierarchical linear modeling was used to explore how much extra variation could be explained by the addition of the instructional leadership variables, and to help understand whether each additional indicator of instructional leadership had a particularly important role in explaining the variance of the ACT Aspire results.

Prior to analyzing linear regressions to predict student achievement from instructional leadership characteristics, the assumptions of linear regression were tested. Scatterplots of the bivariate associations for each predictor variables and the dependent variable were examined to test for linearity. These plots did not reveal evidence of curvilinear relationships, and assumptions of the linearity between variables were met. Collinearity was tested using Tolerance

and VIF statistics. All variables were within acceptable ranges with regards to multicollinearity. The histogram and Normal P-P plot of the standardized residuals revealed a normal distribution and no extreme outliers. A scatterplot of the standardized residuals and predicted values showed that the variance of the residuals did not increase or decrease across the predicted values, thus confirming the assumption of homoscedasticity. To further confirm the presence of outliers, both the standardized and student deleted residuals were examined for values above  $\pm$  three standard deviations. No cases were found to be extreme. High leverage points and highly influential cases were also examined in SPSS, with none revealed.

Correlation analysis was conducted to investigate the relationships between the instructional leadership dimensions and school achievement. Table 4.11 displays the Pearson product-moment correlations for the main variables associated with Research Question 3.

*Table 16 Pearson Correlations for Main Study Variables*

	Aspire Reading	Aspire Math	SES	DSM	MIP	PLC
Aspire Reading	1					
Aspire Math	.822**	1				
SES	-.655**	-.631**	1			
DSM	.246*	.245*	-.049	1		
MIP	.273*	.222*	-.146	.634**	1	
PLC	-.161	.034	.037	.454**	.544**	1

**Note.** SES = socioeconomic status, DSM = Defining School Mission, MIP = Managing the Instructional Program, PLC = Promoting Learning Climate

\*\* significant at the 0.01 level (2-tailed)

\* significant at the 0.05 level (2-tailed)

As expected, an increase in the percentage of students receiving free and reduced lunch was strongly correlated with a decrease in the percentage of students proficient in Reading,  $r(73) = -.655, p < .001$ . The same was apparent for math ( $r = -.631$ ). Defining the School Mission ( $r = .246$ ) and Managing the Instructional Program ( $r = .273$ ) were both positively correlated at small, but significant levels ( $p < .05$ ) for reading and similarly for math.

**Regression.** There were four regression models evaluated in terms of what they added to the prediction of the dependent variable (as assessed by the change in  $R^2$ ). Each of the four models was compared separately with each dependent variable (reading and math proficiency). Table 4.12 describes each model in terms of the variables entered. Table 4.13 displays the model summary for Reading.

*Table 17 Hierarchical Multiple Regression Models*

Model	Independent Variables in each model	Dependent Variable
1	School Socioeconomic Status (SES)	Aspire Reading / Math Proficiency
2	SES + Defining School Mission (DSM)	
3	SES + DSM + Managing Instructional Program (MIP)	
4	SES + DSM + MIP + Promoting Learning Culture	

Table 18 Regression Model Summary - Reading

	<i>R</i>	<i>R</i> <sup>2</sup>	Adj <i>R</i> <sup>2</sup>	<i>R</i> <sup>2</sup> Change	<i>F</i> Change	Sig.
1	.655	.429	.421	.429	54.781	.000
2	.689	.475	.461	.047	6.402	.014
3	.691	.478	.456	.002	.337	.563
4	.694	.482	.453	.004	.393	.444

The addition of Defining School Mission to the prediction of Aspire Reading Proficiency (Model 2), led to a statistically significant increase in *R*<sup>2</sup> of .047, *F* (1, 72) = 6.402, *p* = .014. Model 3 that included the addition of Managing the Instructional Program resulted in changes in the *R*<sup>2</sup> that were not statistically significant (*p* = .563). Model 4 did not explain any additional significant variability (*p* = .444).

Model 2 was selected as the final model with respect to the levels of significance with the *R*<sup>2</sup> change. School-level socioeconomic status and the principals' frequency of behaviors associated with Defining the School Mission significantly predicted ACT Aspire Reading Proficiency, *F*(2, 72) = 32.618, *p* < .001. The results of the regression analysis suggest that when controlling for SES, there is a positive relationship between Defining the School Mission and Reading proficiency rates. Regression coefficients and standard errors can be found in Table 4.14.

Table 19 Summary of Regression Analysis - Reading

Variable	<i>B</i>	<i>SE<sub>B</sub></i>	$\beta$
Intercept	44.731	17.521	
Socioeconomic Status	-19.100	2.541	-.643**
Defining School Mission	9.423	3.724	.216*

\*\*  $p < .001$ , \* $p < .05$

Regression analysis involving Math proficiency rates and dimensions of instructional leadership provided similar results to those involving reading. Model 2 produced a significant change in  $R^2$  of .044,  $F(1, 72) = 5.627$ ,  $p = .020$ . Model 3 and 4 did not add any significant changes to the  $R^2$ . School-level socioeconomic status and the principals' frequency of behaviors associated with Defining the School Mission significantly predicted ACT Aspire Math Proficiency,  $F(2, 72) = 28.543$ ,  $p < .001$ . The results of the regression analysis suggest that when controlling for SES, there is a positive relationship between Defining the School Mission and Math proficiency rates. Table 4.15 displays the model summary for Math. Table 4.16 displays the regression coefficients and standard errors.

Table 20 Regression Model - Math

	<i>R</i>	$R^2$	Adj $R^2$	$R^2$ Change	<i>F</i> Change	Sig.
1	.631	.399	.390	.390	48.392	.000
2	.665	.442	.427	.044	5.627	.020
3	.666	.443	.420	.001	.129	.720
4	.667	.444	.413	.001	.131	.718

*Table 21 Summary of Regression Analysis - Math*

Variable	<i>B</i>	<i>SE<sub>B</sub></i>	$\beta$
Intercept	46.081	17.586	
Socioeconomic Status	-17.928	2.551	-.620**
Defining School Mission	9.423	3.738	.209*

\*\*  $p < .001$ , \* $p < .05$

#### **Research Question 4**

*Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by years of experience, years of experience at the school, level of education, the grade span of the school, or indicators of school socioeconomic status?*

To answer Research Question 4, one-way analysis of variance (ANOVA) was used to determine whether there were any statistically significant differences between the means of the independent groups present in the sample. Of the three overall instructional leadership dimensions, only Defining the School Mission (DSM) was found to have statistical significance related to school achievement. DSM is comprised of two leadership subscales: Framing the School Goals and Communicating the School Goals. The emphasis on shaping the school mission around academic goals is supported extensively in the literature (Hallinger & Heck, 1996; Leithwood et al., 2004; Marks & Printy, 2003; Robinson et al., 2008), and as such this dimension will serve as the dependent variable related to the categorical independent variables central to Research Question 4.

**Experience.** Four categories of years of experience were used in this ANOVA. One case was determined to be an extreme outlier as assessed by inspection of a boxplot for values greater than three box-lengths from the edge of the box. The ANOVA was applied with the outlier

included and with the outlier excluded. There was no change in the omnibus model with regards to the calculated probability value; however, there were improvements in the post hoc analysis. For the purposes of this analysis, the extreme outlier was discarded. Descriptive statistics are presented in Table 4.17. The frequency of behaviors associated with Defining the School Mission increased from the 1-5 years ( $M = 4.00, SD = 0.51$ ), to 6-17 years ( $M = 4.39, SD = .42$ ), to 18-25 ( $M = 4.47, SD = .26$ ) to 26-40 years ( $M = 4.56, SD = .44$ ) of total experience in educational leadership groups, in that order.

There was homogeneity of variances, as assessed by Levene's test for equality of variances,  $F(3, 86) = 1.616, p = .192$ . The frequency of behaviors associated with Defining the School Mission was statistically significantly different for different levels of experience in educational leadership,  $F(3, 86) = 3.812, p = .013$ , partial  $\eta^2 = .117$ . Tukey post hoc analysis revealed that the mean increase from 1 – 5 years to 6 – 17 years experience was statistically significant ( $p = .023$ ), the mean increase from 1 – 5 to 18 – 25 years of experience was statistically significant ( $p = .041$ ), as well as the increase from 1 – 5 years to 26 – 40 years experience ( $p = .032$ ). There were no other possible group comparisons that were statistically significant.

*Table 22 Descriptive Statistics Related to Defining the School Mission and Experience*

Experience	<i>M</i>	<i>SD</i>	<i>N</i>
1 – 5 years	4.00	.51	12
6 – 17 years	4.39	.42	60
18 – 25 years	4.47	.26	11
26 – 40 years	4.55	.43	7
Total	4.36	.44	90

**Principal Experience.** For this independent variable, principals were grouped into two groups: new principals (1 – 3 years,  $n = 55$ ) and experienced principals (more than 3 years,  $n = 36$ ). The experience as principal was constrained to the current school setting. A one-way ANOVA was conducted to determine if the frequency of behaviors associated with Defining the School Mission was different for new or experienced principals. There were two extreme outliers, as assessed by boxplot and studentized residuals that were removed from the ANOVA. There was homogeneity of variances, as assessed by Levene's test of homogeneity of variances,  $F(1, 89) = 2.046, p = .156$ . The frequency of behaviors associated with Defining the School Mission was statistically significantly different between new and experienced principals,  $F(1, 89) = 6.767, p = .011, \text{partial } \eta^2 = .071$ . Defining the School Mission increased from new principals ( $M = 4.25, SD = 0.46$ ) to experienced principals ( $M = 4.50, SD = 0.36$ ).

**Education.** In this study, three levels of education were considered: Master's, Educational Specialist, and Doctorate (Ed.D. or Ph.D). There were no statistically significant differences in the frequency of behaviors associated with Defining the School Mission between the different levels of education,  $F(2, 90) = .772, p = .465, \eta^2 = .017$ .

**Socioeconomic Status.** Schools in this study were grouped into three groups regarding their percentages of students receiving free and reduced lunch. High SES schools had fewer than 30% of their students receiving free and reduced lunch, and low SES schools had greater than 70% of their students receiving free and reduced lunch. Schools comprised of 31 – 70% of students receiving free and reduced lunch were considered middle in terms of SES. There were no statistically significant differences in the frequency of behaviors associated with Defining the School Mission between the different levels of SES groups,  $F(2, 87) = .091, p = .913, \eta^2 = .002$ .

**Grade Span.** In this study, principals self-reported the grade span of their schools as high school, middle school, or elementary school. There were no statistically significant differences in the frequency of behaviors associated with Defining the School Mission between the different grade span groups,  $F(2, 90) = .142, p = .868, \eta^2 = .018$ .

### **Summary**

Chapter 4 presented the data, analyses, and results derived from this study. The study examined the performance of schools in Alabama using a contemporary measure of summative assessment, the ACT Aspire, and what relationships existed between school performance and the instructional leadership behaviors of the school principals. This study also explored the effects of school socioeconomic status directed at school achievement, and if other demographic variables related to the school contributed to differences in performance. Finally, this study explored what variables contributed to principals' usage of the instructional leadership behaviors. Chapter 5 will summarize and discuss the findings, and will present recommendations for further research aimed at the link between instructional leadership and school performance.

## **SUMMARY, DISCUSSION, AND RECOMMENDATIONS**

This chapter presents a summary of the study, a discussion of the results and conclusions drawn from the data presented in Chapter 4, restates the research problem, and reviews the major methods used in the study. The discussion of the results describes how the findings fit into the body of literature reviewed. Implications for practice and recommendations and further research are included.

PLAN 2020, Alabama's waiver from No Child Left Behind, calls for the ambitious goal of having every school "led by a well-prepared, resourced, supported, and effective leader" (ALSDE, 2013a). The primary responsibility of school principals is to facilitate effective teaching and learning with the overarching mission of improving student achievement. This responsibility occurs at a time in Alabama public education where the numbers of at-risk students make up a higher percentage than in the past, the educational standards and expectations are more challenging, and the press for accountability has surpassed previous reform efforts. Although researchers agree that influences from school principals are powerful in the educational attainment of students, the empirical base is limited and often contradictory. While research gaps exist in the educational leadership literature regarding the effects of principals and the achievement of their students, this gap is further exacerbated by the evolving conceptualization of instructional leadership and the level to which students are expected to perform on the Alabama College and Career Ready Standards.

The purpose of this study was to develop an understanding of the relative impact of principal instructional leadership on student achievement as measured by standardized high-

stakes tests in public schools in Alabama. This study explored the instructional leadership behaviors of principals using an assessment of principal effectiveness, the Principal Instructional Management Rating Scale ([PIMRS] Hallinger, 1983/1990), and the proficiency rates in grades 3-8 on the ACT Aspire, which are Common Core-aligned high-stakes tests in Alabama in the areas of reading and mathematics. By exploring the relationship between specific skills of instructional leadership and student achievement, school leaders at the local and district level can identify which leadership practices hold a promise of positively affecting student achievement.

The major research questions were:

1. To what extent do principals demonstrate instructional leadership behaviors characterized by the PIMRS framework?
2. What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status or community setting?
3. What is the relationship between the instructional leadership behaviors of principals and the performance of schools?
4. Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by:
  - 4.1: Total of years of experience in educational leadership,
  - 4.2: Years of experience as principal at the current school,
  - 4.3: Level of education,
  - 4.4: The grade span of the school,
  - 4.5: Indicators of school socioeconomic status?

## Summary of Methodology

The method of analysis was quantitative, with survey data collected from 94 principals distributed among elementary, middle, and high schools. The PIMRS was provided to principals in the state of Alabama through either a mailed or online survey. This survey collected data about how principals perceive their instructional leadership skills according to the framework established by Hallinger and Murphy (1985). A demographic section was added to the survey to capture such variables as level of principal educational attainment and years of leadership experience – both as the school principal and total years in educational administration (e.g., assistant principal). School-level variables to include socioeconomic status, grade span, and community setting were also requested. Principals were asked to self-report their school’s performance on the ACT Aspire in Reading and Math.

The quantitative analysis included descriptive research related to principal instructional leadership; two-way ANOVAs to test differences in test scores with regards to levels of socioeconomic status and community setting; hierarchical multiple linear regression to test the significance of instructional leadership related to proficiency rates on the ACT Aspire reading and math tests, and finally one-way ANOVAs to test differences in the instructional leadership behaviors of principals with regards to levels of experience, education, and school demographic indicators.

## Summary of Findings

**RQ1:** *To what extent do principals demonstrate instructional leadership behaviors characterized by PIMRS framework?*

Principals were asked to rate the frequency of their behaviors on a 5-point Likert-type scale: 1 – *almost never*, 2 – *seldom*, 3 – *sometimes*, 4 – *frequently*, 5 – *almost always*. The PIMRS subscale variables were (a) framing goals, (b) communicating goals, (c) supervising and

evaluating instruction, (d) coordinating the curriculum, (e) monitoring student progress, (f) protecting instructional time, (g) promoting professional development, (h) maintaining high visibility, (i) providing incentives for teachers, and (j) providing incentives for learning. Of the subscales, the highest means were for framing goals ( $M = 4.5, SD = .50$ ), promoting professional development ( $M = 4.5, SD = .51$ ), and coordinating the curriculum ( $M = 4.3, SD = .57$ ). The lowest means were provides incentives for learning ( $M = 4.0, SD = .71$ ), maintaining high visibility ( $M = 3.9, SD = .64$ ), and provides incentives for teachers ( $M = 3.8, SD = .68$ ).

The PIMRS also generated three overall scores for the broadly defined instructional leadership dimensions according to the framework in Table 5.1.

*Table 23 PIMRS Framework*

Leadership Dimensions	Constituent Subscale Functions
Defining the School Mission	Framing school goals Communicating school goals
Managing the Instructional Program	Supervising and evaluating instruction Monitoring student progress Protecting instructional time
Promoting a Positive Learning Climate	Promoting professional development Maintaining high visibility Providing incentives for teachers Providing incentives for learning

Among the three dimensions of instructional leadership, Defining the School Mission rated highest for the principals in the sample ( $M = 4.33, SD = .48$ ) The mean for Managing the Instructional Program ( $M = 4.22, SD = .45$ ) was lower when compared to Defining the School Mission. Nearly one-third of principals reported as being between the *sometimes* and *frequently* range for this dimension. The lowest rated dimensions of instructional leadership for principals

in this sample was Promoting a Positive Learning Environment ( $M = 4.09$ ,  $SD = .46$ ).

**Discussion.** Principals in the sample were highly involved with setting clear and measurable school-wide academic goals. Principals worked with their teachers to develop goals that focused on the academic progress of students, and took the responsibility to ensure that the goals were widely understood and sustained throughout the school community. Leadership directed at creating goal-oriented and academically-focused schools is widely supported in the literature that formed the theoretical perspective in this study (Edmonds, 1979; Hallinger & Heck, 1996; Leithwood & Louis, 2012; Marzano, Waters, & McNulty, 2005). Hallinger and Heck (1996) maintained that establishing and communicating the school's central purpose was the most significant path leaders could take to impact student learning. Analogously, the findings from this study supported this aspect of the instructional leadership research. Principals placed more emphasis on improving the technical core in schools, or activities aimed at improvement of classroom instruction and student learning.

Principals were also highly involved with the supervising and monitoring of teaching and learning in the school. Principals used student achievement data to make curriculum decisions and to measure school-wide progress. Student achievement data from a variety of contexts were used to form opinions about teacher effectiveness. An interesting finding in this sample was the relatively lower frequency of behaviors that involved direct sharing of progress, both individually and collectively, with students. Results from this study supported assertions from Robinson et al. (2008) that found significant support for instructional leadership involving the coordination of curriculum and the evaluation of teaching.

Principals were engaged in formal and informal activities related to professional development and continuous improvement efforts. Conversely, principals reported less activity

with regards to incentivizing teaching and even fewer reports of providing incentives to students for learning. Hout and Elliott (2011), in a large-scale study of incentives and test-based accountability, found that incentive programs resulted in modest gains in student achievement in particular when aligned with other complementary strategies aimed at the improvement of teaching and learning.

**RQ2:** *What are the levels of performance of schools as indicated by their ACT Aspire achievement data, and do these vary by socioeconomic status and/or community setting?*

**Reading.** The mean proficiency rate for all schools in the sample in the area of Reading was 42.84 ( $SD = 21.6$ ). Middle schools reported higher proficiency rates ( $M = 54.35$ ,  $SD = 21.06$ ) than did elementary schools ( $M = 39.68$ ,  $SD = 21.48$ ) in the areas of reading. The minimum score for proficiency in reading on the ACT Aspire is at approximately the 65<sup>th</sup> percentile (ACT, Inc., 2015b).

**Math.** Schools in the sample performed similarly on the ACT Math test as less than half of students were considered proficient ( $M = 44.13$ ,  $SD = 20.80$ ). The difference between elementary ( $M = 46.08$ ,  $SD = 20.56$ ) and middle schools ( $M = 43.95$ ,  $SD = 22.60$ ) on the ACT Aspire Math was not as pronounced as the Reading scores, but were still reflective of the minimum proficiency score, which is approximately at the 65<sup>th</sup> percentile.

**SES & Community.** Results of the two-way ANOVAs indicated that there were statistically significant differences in both Reading and Math proficiency rates between levels of socioeconomic status (SES). Community setting, identified as urban, rural, and suburban, did not combine significantly as an interaction with SES and was also not statistically significant as a main effect. Post hoc analysis revealed significant differences between all levels of SES for both reading and math proficiency rates. Statistically significant differences also existed between

urban and suburban groups for both reading and math proficiency rates. In all, community setting and SES contributed an estimated 48% of the variance in ACT Aspire proficiency rates.

**Discussion.** The ACT Aspire uses a common scale across all testing grades with increasingly higher proficiency scores for each subsequent grade in elementary and middle school. Using proficiency scores set at or above the 65<sup>th</sup> percentile is an unexpected feature of the ACT Aspire. In general, the schools in this sample mirrored the statewide results from the 2013-2014 administration of the ACT Aspire in grades 3-8. As recently as the 2012-2013 school year, Alabama students were approximately 90% proficient in Reading and Math on the Alabama Reading and Math Test (ALSDE, 2015). According to the Alabama State Department of Education, the disparity in the level of rigor between the ARMT and the Aspire is reflective of Alabama's new common-core derived College and Career Readiness Standards (ALSDE, 2014a).

A recent meta-analysis of the research between the years of 1990 and 2000 involving socioeconomic status and academic achievement (Sirin, 2005) confirmed what Coleman and his colleagues (1966) suspected in the early years of effective schools research, that the economic context was key to understanding school success. Siren (2005) found that the average effect size for SES was .67 in relationship to achievement, and the effect was greater for direct measurements of achievement such as subject-oriented tests. According to information obtained from the ALSDE, approximately 75% of schools in Alabama receive Title I funding to offset the percentage of students receiving federally subsidized lunch, and the overall percentage statewide of student receiving free & reduced lunch is 63%.

The statewide proficiency rate on the ACT Aspire Reading subtest for elementary grades (3-6) was 37%. The statewide proficiency rate in math for the same grade span was 45%. Middle

school students (grades 7-8) scored considerably lower in math at a 30% proficiency rate and slightly higher in reading at a 42% proficiency rate.

The elementary school principals in this study reported similar rates of proficiency in math and reading to the statewide population. The self-reported math proficiency for elementary principals in this sample was 46% ( $SD = .21$ ), and the self-reported reading proficiency was 40% ( $SD = .21$ ). The middle school sample, which also included high schools that contained an 8<sup>th</sup> grade, reported higher percentages of proficiency than the statewide population. The math proficiency was 40% ( $SD = .21$ ) and the reading proficiency was 49% ( $SD = .21$ ) for middle school principals in this study.

The results on the inaugural administration of ACT Aspire surprised many educators in Alabama, and at least one school system petitioned the Alabama State Department of Education for relief of the PLAN 2020 requirement for their continued use (Womack, 2015). According to Duncan (2013b), NCLB “unintentionally encouraged” state agencies to lower their standards in attempts to keep schools progressing towards Adequate Yearly Progress. While Alabama’s Aspire results did not reflect schools’ previous performance on the ARMT, they are slightly better than Alabama’s performance on the NAEP, in which 31% of students were proficient in Reading and 20% were proficient in Math (NCES, 2013).

**RQ3:** *What is the relationship between the instructional leadership behaviors of principals and the performance of schools?*

Hierarchical linear regression analysis was used in Research Question 3 to understand the influence of instructional leadership as related to ACT Aspire performance while controlling for the confounding variable school-level socioeconomic status. There was a strong, negative correlation between SES and Reading ( $r = -.685, p < .001$ ) and Math ( $r = -.631, p < .001$ ). There

was a small, but statistically significant positive relationship between Reading and Defining the School Mission ( $r = .246, p = .05$ ) and similarly for Math ( $r = .245, p = .05$ ). While Promoting a Positive Learning Climate was not statistically significant related to ACT Aspire proficiency rates, Managing the Instructional Program reported small, but significant correlations in Reading ( $r = .273, p = .05$ ) and math ( $r = .272, p = .05$ ).

In the multiple regression analysis, after controlling for SES, only Defining the School Mission leadership dimension resulted in a significant  $R^2$  change. Although the change in  $R^2$  was small for both reading (4.7%) and math (4.4%), it was significant at the  $\alpha = .05$  level.

**Discussion.** This study seems to confirm claims made by prominent scholars in the field that effective instructional leadership has a small, but significant relationship to student achievement (Leithwood & Louis, 2012; Marzano, Waters, & McNulty, 2005; Robinson, Lloyd, & Rowe, 2008; Witziers, Bosker, & Kruger, 2003). The instructional leadership practices that appeared to make a difference in this study were those directed at the improvement of teaching and learning, and those that kept an acute focus on student achievement data.

**RQ4:** *Do the perceptions of principals regarding instructional leadership behaviors characterized by the PIMRS framework vary by years of experience, years of experience at the school, level of education, the grade span of the school, or indicators of school socioeconomic status?*

One-way ANOVAs were conducted for each of the demographics variables and the instructional leadership dimension of Defining the School Mission (DSM).

**Experience.** DSM was statistically significantly different for levels of educational administrative experience ( $p < .05$ ). There was a gradual increase in the frequency of these behaviors over time, and Tukey post hoc analysis indicated statistically significant pairwise

comparisons between 1 – 5 years of experience and all other levels.

**Principal Experience.** The one-way ANOVA compared DSM between new principals in their current school (1 – 3 years experience) to experience principals (greater than 3 years experience). Principals' functioning was higher from 4.25 to 4.50 between the new and experienced group, and the change was statistically significant ( $p < .001$ ). None of the other variables (levels of education, socioeconomic level of the school, and grade span) were statistically significantly different in the one-way ANOVA analysis.

**Discussion.** Findings related to this question appear to corroborate what may be known intuitively about principal experience. Over time, a principal would be expected to learn about school operations, the effectiveness of various teachers, and other school specific factors, and such learning would presumably improve job performance (Branch, Hanushek, & Rivkin, 2009). This finding revealed an area thin in the research literature but did confirm an earlier study that measured attributes of principals in New York over a 20-year period. Principal effectiveness was moderated by years of experience, and the differences were more pronounced during the first few years of the principalship (Clark, Martorell, & Rockoff, 2009). This study also adds to the literature associated with developing the quality and quantity of potential school principals. Pounder and Crow (2005) recommended a redefinition of the assistant principal role into a more comprehensive training ground with a shared instructional leadership. This study seemed to suggest that principals with more years of experience in a leadership role prior to assuming the principalship were more focused on their instructional leadership responsibilities.

### **Limitations**

The sample size in this study was the first limitation that affected its generalizability. The return rate was approximately 9% as 94 principals responded either by postal mail or online. The researcher attempted to counter the effects of nonresponse bias by giving principals multiple

opportunities to participate, both in mailed surveys and through electronic means. Although the size of schools and distribution of poverty among the sample mirrors to a large degree the overall representation of schools in the statewide population, it cannot be stated with certainty that the percentage of respondents is reflective of schools and principals in Alabama.

There were validity concerns with the use of self-reported data. While self-reported data may present an advantage of capturing phenomenological data in a way that would be otherwise unobtainable, the respondents may not have accurate self-perceptions of their instructional leadership behaviors. This is an inherent strength of the PIMRS instrument because it requires principals to respond regarding the frequency of their instructional leadership behaviors, not their self-assessed effectiveness. The researcher assumed that principals would respond accurately and honestly about the profile of their instructional leadership and concerning their schools' demographic and achievement information.

The use of cross-sectional student achievement data, and in particular the usage of a new high-stakes test further complicate this study's utility in exploring the effects of principal leadership. While the self-reported achievement scores from principals in the sample parallel the overall achievement of schools in Alabama, the generalizability of this study may be negatively affected.

### **Recommendations for Professional Practice**

At its inception, the researcher hoped that this study would add to the research linking principal leadership and student achievement, particularly in the context of high-stakes accountability. An aim was to also provide a profile of instructional leadership practices of Alabama principals, and to examine the implications of the paradigm shift related to PLAN 2020, Common Core State Standards, and the new portfolio of assessments for Alabama students. While this study substantiates the widely held belief that principals exert a small but

significant influence on the achievement of students, it also outlines an impetus for research and practice in Alabama schools.

Much is to be learned about the ACT Aspire. While it establishes a new baseline of performance for students in Alabama, the usage of the ACT Aspire brings about certain questions. By the test developers' admission, the ACT Aspire Math test in the early grades does not meet accepted standards of reliability (ACT, Inc., 2015b). Another issue complicating the Aspire's usage as a summative measure of achievement is the lack of a true national norming sample (ACT, Inc., 2015a). Both of these concerns when coupled with minimum proficiency scores nearly a full standard deviation above the average, potentially create a barrage of apprehension considering PLAN 2020's accountability system that holds schools, principals, and teachers responsible for student achievement. It is evident from the statewide results and those in this study that the instructional practices, curriculum and standards, and depth of knowledge required to be successful on the ACT Aspire far outweigh what was previously expected before the adoption of the Alabama College and Career Ready Standards.

An important finding in this study regarding the overall effectiveness of principal leadership concerns the effect of experience both in terms of experience in the school and total years of experience in educational administration. Based on what was learned in the study, schools with challenging circumstances such as high percentages of poverty or histories of poor academic performance should be staffed with principals with considerable experience either in an assistant principal or similar role, or successful principal experience in another school. Because the effectiveness of principals seems to increase with time spent in the school, school districts should endeavor to create incentive programs or other supports designed to prevent situations of rapid principal succession in hard to staff schools. This study may also call into

question school district practices that promote the movement of effective principals within a district.

As previously stated, Defining the School Mission with its constituent elements (Framing and Communicating the School Goals) was revealed in the analysis to be a significant contributor to student achievement. Marzano et al. (2005) similarly found that principals who established clear goals and kept them in the forefront of the school's attention were able to make a difference in the achievement of their students. Effective instructional leadership that emphasizes establishing and sustaining clear academic goals that feature high expectations for all students is supported comprehensively in the literature (Brookover & Lezotte, 1979; Heck, 1992; Leithwood & Louis, 2012; Murphy et al. 2006; Weber, 1971). As a consequence of the findings of this study and the supporting knowledge in the area of instructional leadership, principals and other educational leaders should be encouraged that skills, practices, and behaviors directed towards Defining the School Mission hold promise of effecting positive outcomes related to school achievement.

### **Recommendations for Further Research**

A question that arose during this study was the adequacy of the understanding of socioeconomic status (SES), and the impact of low SES on student achievement – particularly achievement measured by standardized tests. Typically researchers have used the percentage of students receiving free and reduced lunch or normative values of poverty indicated by the school zone census data. Both of these may ignore the complex nature of poverty, how it intersects with Race, and how it manifests with regards to barriers to student learning. It is clear from this study that new understandings are needed with regards to pedagogical approaches, systems of support, intervention methods, and professional development pointed at the gap in achievement between students of poverty in Alabama. Considerable research has been accomplished in the areas of

Professional Learning Communities (Arredondo Rucinski & Bauch, 2006) and Academic Optimism (Hoy, Tarter, & Hoy, 2006) specific to Alabama schools (Bevel, 2010; Cassity, 2012; Dean, 2011; Poovey, 2012).

This study confirmed the assumption established by the pioneers of instructional leadership research, the notion that the principal could be a difference maker in the achievement for his or her students (Edmonds, 1979). While a consensus exists that strong instructional leadership is essential for a school to be successful, the conceptualization narrowly defined in this study only in terms of behaviors intended to improve classroom instruction may be unlikely to result in the type of increased student learning expected in PLAN 2020. This study tested a direct-effects model of instructional leadership and student achievement. Most researchers in the field of instructional leadership recognize that instructional leadership operates indirectly through a mediated-effects model (Hallinger & Murphy, 2013). This study did not provide an avenue to explore the mechanisms of how principals affect teachers, school structures and processes, and school culture.

## **Conclusions**

Thomas Jefferson and John Adams Elementary Schools have been acknowledged in the State of Alabama for their consistent and stellar academic achievements for the past several years. Both have been recognized by the State Department of Education, received the U.S. Department of Education Blue Ribbon Award, and generally been the model of success for urban and rural schools in poverty. By previous standards that included the Alabama Reading and Math Test, 100% of students at both schools met or exceeded proficiency annually. Using the ACT Aspire results from the 2013-2014 school year, both scored near the bottom third of all schools in Alabama and their proficiency rates were 15-20% below the averages in their own districts. The Alabama State School Superintendent recently had this to say in a press release, “Some

interpret the results of the ACT Aspire as a drop in scores. It is not a drop, but rather a shift in measurement” (ALSDE, 2014c).

Schools like Thomas Jefferson and John Adams and the approximately 560 other elementary schools in Alabama that had less than 50% of their students reach proficiency did not become failing schools overnight. More likely, they have outstanding teachers and effective leaders, but have fallen victim to the unintended consequences of No Child Left Behind: standards and measures of student learning that are beneath what is expected in 21<sup>st</sup> Century schools. Of the conclusions that can be drawn from Thomas Jefferson and John Adams Elementary Schools, the researcher is reminded of this quotation from Edmonds:

We can, whenever and wherever we choose, successfully teach all children whose schooling is of interest to us. We already know more than we need to do that.

(1979, p. 23)

By exploring what specific instructional leadership behaviors contributed to student achievement, and what relationships existed between principal characteristics and leadership behaviors, this study added to the body of literature supporting the role of instructional leadership as a difference maker in schools. Whether we know *more* as Edmonds contended, is a matter of debate. The search remains elusive.

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## **APPENDIX A – PRINCIPAL QUESTIONNAIRE**

**Principal Questionnaire**

*Thank you for completing this data collection instrument. This data is collected anonymously. Please do not put any personally identifiable information on the questionnaire.*

**Grade Span of School:**

- Elementary School
- Middle School / Jr. High
- High School
- Unit School / Combined Campus
- Other \_\_\_\_\_

**Student Enrollment during the 2013-2014**

**School Year:** \_\_\_\_\_

**Classification of School Community:**

- Urban
- Rural
- Suburban

**Approximate Combined Free & Reduced Lunch Percentage of the School for 2013-2014:**

\_\_\_\_\_

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**School Achievement Data:**

ACT Aspire (if applicable) - Please choose the highest grade tested in your school on the ACT Aspire from 2013-2014.

Percentage of students scoring at the **Ready (+ Exceeding if applicable)** level in:

Reading \_\_\_\_\_

Mathematics \_\_\_\_\_

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**School Principal Information:**

Total years of experience in educational administration: \_\_\_\_\_  
(include time spent as an assistant principal, central office employee, or other leadership role)

Total years of experience in your current school as principal: \_\_\_\_\_

Highest degree received in instructional leadership, administration, or curriculum: \_\_\_\_\_  
(Master's, Ed.S., Ed.D, or Ph.D.)

**Please complete the included Principal Instructional Management Rating Scale.**

**Please return this document and the completed PIMRS in the self-addressed, stamped envelope.**

## **APPENDIX B – PIMRS PERMISSION**

Dr. Philip Hallinger  
7250 Golf Pointe Way  
Sarasota, FL 34243  
hallinger@gmail.com

November 25, 2014

Stewart Thorson

Dear Stewart:

As copyright holder and publisher, you have my permission as publisher to use the *Principal Instructional Management Rating Scale (PIMRS)* in your research study. In using the scale, you may make unlimited copies of any of the three forms of the PIMRS.

Please note the following conditions of use:

1. This authorization extends only to the use of the PIMRS for research purposes, not for general school district use of the instrument for evaluation or staff development purposes.
2. This is a single-use purchase for the author's graduate research, thereby requiring purchase of additional rights for use in any future research.
3. The user agrees to send a soft copy (pdf) of the *completed study* to the publisher upon completion of the research.
4. The user agrees to send a soft copy of the *data set* and coding instructions to the publisher upon completion of the research in order to enable further instrument development.
5. The user has permission to make minor adaptations to scale as necessary for the research.
6. If the instrument is translated, the user will supply a copy of the translated version.

Please be advised that a separate *permission to publish* letter, usually required by universities, will be sent after the publisher receives a soft copy of the completed study.

Sincerely,

Professor Philip Hallinger

[www.philiphallinger.com](http://www.philiphallinger.com)

**APPENDIX C – THE PRINCIPAL INSTRUCTIONAL MANAGEMENT RATING  
SCALE**

## THE PRINCIPAL INSTRUCTIONAL MANAGEMENT RATING SCALE

*The PIMRS is copyrighted and may not be reproduced without the written permission of the author, Dr. Philip Hallinger.*

This survey is designed to provide a profile of your leadership. It consists of 50 behavioral statements that describe principal job practices and behaviors. You are asked to consider each question in terms of your leadership over the past school year.

Read each statement carefully. Then circle the number that best fits the specific job behavior or practice as you conducted it during the past school year. For the response to each statement:

- 5 represents *Almost Always*
- 4 represents *Frequently*
- 3 represents *Sometimes*
- 2 represents *Seldom*
- 1 represents *Almost Never*

In some cases, these responses may seem awkward; use your judgment in selecting the most appropriate response to such questions. Please circle only one number per question. Try to answer every question.

### To what extent do you . . . ?

*Almost Never  
Seldom  
Sometimes  
Frequently  
Almost Always*

#### I. FRAME THE SCHOOL GOALS

1	Develop a focused set of annual school-wide goals	1	2	3	4	5
2	Frame the school's goals in terms of staff responsibilities for meeting them	1	2	3	4	5
3	Use needs assessment or other formal and informal methods to secure staff input on goal development	1	2	3	4	5
4	Use data on student performance when developing the school's academic goals	1	2	3	4	5
5	Develop goals that are easily understood and used by teachers in the school	1	2	3	4	5

#### II. COMMUNICATE THE SCHOOL GOALS

6	Communicate the school's mission effectively to members of the school community	1	2	3	4	5
7	Discuss the school's academic goals with teachers at faculty meetings	1	2	3	4	5
8	Refer to the school's academic goals when making curricular decisions with teachers	1	2	3	4	5
9	Ensure that the school's academic goals are reflected in highly visible displays in the school (e.g., posters or bulletin boards emphasizing academic progress)	1	2	3	4	5
10	Refer to the school's goals or mission in forums with students (e.g., in assemblies or discussions)	1	2	3	4	5

#### III. SUPERVISE & EVALUATE INSTRUCTION

11	Ensure that the classroom priorities of teachers are consistent with the goals and direction of the school	1	2	3	4	5
12	Review student work products when evaluating classroom instruction	1	2	3	4	5
13	Conduct informal observations in classrooms on a regular basis (informal observations are unscheduled, last at least 5 minutes, and may or may not involve written feedback or a formal conference)	1	2	3	4	5
14	Point out specific strengths in teacher's instructional practices in post-observation feedback (e.g., in conferences or written evaluation)	1	2	3	4	5
15	Point out specific weaknesses in teacher's instructional practices in post-observation feedback (e.g., in conferences or written feedback)	1	2	3	4	5

#### IV. COORDINATE THE CURRICULUM

16	Make clear who is responsible for coordinating the curriculum across grade levels (e.g., the principal, assistant principal, or teacher-leaders)	1	2	3	4	5
17	Draw upon the results of school-wide testing when making curricular decisions	1	2	3	4	5

18	Monitor the classroom curriculum to see that it covers the school's curricular objectives	1	2	3	4	5
19	Assess the overlap between the school's curricular objectives and the school's achievement tests	1	2	3	4	5
20	Participate actively in the review of curricular materials	1	2	3	4	5

**V. MONITOR STUDENT PROGRESS**

21	Meet individually with teachers to discuss student progress	1	2	3	4	5
22	Discuss academic performance results with the faculty to identify curricular strengths and weaknesses	1	2	3	4	5
23	Use test results and other performance measures to assess progress toward school goals	1	2	3	4	5
24	Inform teachers of the school's performance results in written form (e.g., in a memo or newsletter)	1	2	3	4	5
25	Inform students of the school's academic progress	1	2	3	4	5

**VI. PROTECT INSTRUCTIONAL TIME**

26	Limit interruptions of instructional time by public address announcements	1	2	3	4	5
27	Ensure that students are not called to the office during instructional time	1	2	3	4	5
28	Ensure that tardy and truant students suffer specific consequences for missing instructional time	1	2	3	4	5
29	Encourage teachers to use instructional time for teaching and practicing new skills and concepts	1	2	3	4	5
30	Limit the intrusion of extra- and co-curricular activities on instructional time	1	2	3	4	5

**VII. MAINTAIN HIGH VISIBILITY**

31	Take time to talk informally with students and teachers during recess and breaks	1	2	3	4	5
32	Visit classrooms to discuss school issues with teachers and students	1	2	3	4	5
33	Attend / participate in extra- and co-curricular activities	1	2	3	4	5
34	Cover classes for teachers until a late or substitute teacher arrives	1	2	3	4	5
35	Tutor students or provide direct instruction to classes	1	2	3	4	5

**VIII. PROVIDE INCENTIVES FOR TEACHERS**

36	Reinforce superior performance by teachers in staff meetings, newsletters, and/or memos	1	2	3	4	5
37	Compliment teachers privately for their efforts or performance	1	2	3	4	5
38	Acknowledge teacher's exceptional performance by writing memos for their personnel files	1	2	3	4	5
39	Reward special efforts by teachers with opportunities for professional recognition	1	2	3	4	5
40	Create professional growth opportunities for teachers as a reward for special contributions to the school	1	2	3	4	5

**IX. PROMOTE PROFESSIONAL DEVELOPMENT**

41	Ensure that inservice activities attended by staff are consistent with the school's goals	1	2	3	4	5
42	Actively support the use in the classroom of skills acquired during inservice training	1	2	3	4	5
43	Obtain the participation of the whole staff in important inservice activities	1	2	3	4	5
44	Lead or attend teacher inservice activities concerned with instruction	1	2	3	4	5
45	Set aside time at faculty meetings for teachers to share ideas or information from inservice activities	1	2	3	4	5

**X. PROVIDE INCENTIVES FOR STUDENT LEARNING**

46	Recognize students who do superior work with formal rewards such as an honor roll or mention in the principal's newsletter	1	2	3	4	5
47	Use assemblies to honor students for academic accomplishments or for behavior or citizenship	1	2	3	4	5
48	Recognize superior student achievement or improvement by seeing in the office the students with their work	1	2	3	4	5
49	Contact parents to communicate improved or exemplary student performance or contributions	1	2	3	4	5
50	Support teachers actively in their recognition and/or reward of student contributions to and accomplishments in class	1	2	3	4	5

**Please return this survey and the questionnaire in the self-addressed, stamped envelope.**

## APPENDIX D – IRB APPROVAL

Office for Research  
Institutional Review Board for the  
Protection of Human Subjects

THE UNIVERSITY OF  
**ALABAMA**  
R E S E A R C H

November 25, 2014

Stewart Thorson  
ELPTS  
College of Education  
The University of Alabama  
Box 870231

Re: IRB # 14-OR-304 (Revision # 3) "An Elusive Search: A Study Investigating the Relationship between Instructional Leadership and School Effectiveness"

Dear Mr. Thorson:

The University of Alabama Institutional Review Board has reviewed the revision to your previously approved expedited protocol. The board has approved the change in your protocol.

Please remember that your approval period expires one year from the date of your original approval, August 27, 2014, not the date of this revision approval.

Should you need to submit any further correspondence regarding this proposal, please include the assigned IRB application number. Changes in this study cannot be initiated without IRB approval, except when necessary to eliminate apparent immediate hazards to participants.

Good luck with your research.

Sincerely,

Carpaneto T. Myles, MSM, CIM, CIP  
Director & Research Compliance Officer  
Office for Research Compliance



358 Rose Administration Building  
Box 870127  
Tuscaloosa, Alabama 35487-0127  
(205) 348-6461  
FAX (205) 348-7189  
TOLL FREE (877) 820-3066

**APPENDIX E – PRINCIPAL INFORMED CONSENT**



## **Individual's Consent to be in a Research Study**

Dear Alabama School Principal:

You are being asked to participate in a research study. The research project is entitled: An "Elusive Search:" A Study Investigating the Relationship between Instructional Leadership and School Effectiveness. Stewart Thorson, a doctoral student at the University of Alabama, is conducting this study under the direction of Dr. Daisy Arredondo Rucinski, a professor of Educational Leadership, Policy, and Technology Studies.

### **What is this study about?**

The purpose of this study will be to examine the relationship between principal leadership and school effectiveness. Sources of data include the Principal Instructional Management Rating Scale (PIMRS) and measures of school achievement including those outlined in PLAN 2020.

### **Why is this study important? – What good will the results do?**

This study will add to the body of knowledge that links principal effectiveness and school achievement. This knowledge is important as Alabama schools and school leaders move forward toward the ambitious goals of PLAN 2020.

### **Why have I been asked to take part in this study?**

You have been asked to participate because you are a school principal in an Alabama public school system. Your superintendent has approved this research study.

### **How many other people will be in this study?**

The principals from approximately 80 school systems around the State of Alabama will be invited to participate in this study.

### **What will I be asked to do in this study?**

You will be asked to complete a data collection instrument that will ask for information regarding your school's achievement scores from the 2013-2014 school year. You will also be asked to complete the PIMRS survey. This information will be submitted anonymously.

### **How much time will I spend being in this study?**

Completing the data collection instrument and survey will take 10-15 minutes.

### **Will being in this study cost me anything?**

There are no costs associated with this study.

### **Will I be compensated for being in this study?**

There will be no compensation for being in this study.

**What are the risks (dangers or harm) to me if I am in this study?**

There are no known risks or discomforts associated with this study.

**What are the benefits of being in this study?**

This study will add to the body of knowledge concerning the impact of principal leadership on school achievement.

**How will my privacy be protected?**

All information will be submitted anonymously.

**How will my confidentiality be protected?**

All information will be confidential. The lead researcher will collect all principal surveys, and this information will be stored in a locked filing cabinet. No personally identifiable information regarding principals, schools, or school districts will be reported in any format including the dissertation or published articles.

**What are the alternatives to being in this study? Do I have other choices?**

The alternative is to decline participation.

**What are my rights as a participant?**

Taking part in this study is voluntary.

**I respectfully ask for your permission to participate in this study.** If you have any questions or concerns, please contact the lead investigator, Mr. Stewart Thorson at (256) 508-4480 | sethorson@crimson.ua.edu, or dissertation chair, Dr. Daisy Arredondo Rucinski at darredo@bamaed.ua.edu.

Sincerely,

Stewart Thorson  
Doctoral Student

**Proceeding to the attached Principal Data Collection Instrument constitutes your consent to participate and indicates that you are a principal in an Alabama public school. Please keep a copy of this informed consent form for your records.**

If you have questions, concerns, or complaints about the rights of participants in this research study, you may contact the Research Compliance Office at UA at (205) 348-8461 or 1-800-820-3066. You may also ask questions, make suggestions, or file complaints and concerns through the IRB Outreach Website at [http://osp.ua.edu/site/PRCO\\_Welcome.html](http://osp.ua.edu/site/PRCO_Welcome.html). You may email the Outreach office at [participantoutreach@bama.ua.edu](mailto:participantoutreach@bama.ua.edu) to learn more about participating in research at the University of Alabama.