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Holly Gurule

Candidate

Educational Leadership

Department

This dissertation is approved, and it is acceptable in quality and form for publication:

Approved by the Dissertation Committee:

Dr. Arlie Woodrum , Chairperson

Dr. Allison Borden

Dr. Sheri Williams

Dr. Russ Romans

Dr. Kathy Alexander

HOW SCHOOLS CREATE HEALTHY TESTING CULTURES AND HOW PRINCIPALS
USE STANDARDIZED TEST DATA TO BECOME LEADERS OF LEARNING

By

Holly Gurule

B.A., Business Education, Eastern New Mexico University, 1992
M.A., Secondary Education, University of New Mexico, 2002
Ed.S., Administrative Leadership, NM Highlands University, 2004

DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

Doctor of Education
Educational Leadership

The University of New Mexico
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Dedication

To my mom who taught me about lifelong learning and
to my husband and my daughter who always encourage me
to be a better version of myself.

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I would like to acknowledge the many people who helped push, support and encourage me along the way - colleagues at work, friends from my UNM cohort, and a cadre of friends and family constantly telling me I “can do this!” Finally, it’s done. Yet, finishing this research study would not have been possible without the amazing involvement of my UNM faculty advisors, my dissertation committee, and my research school.

The staff at Roadrunner Elementary School* opened their doors, their minds, and their hearts to me and I am eternally thankful for everything they shared and everything I learned. The staff at UNM taught me so much, believed in me when I expressed doubts, and told me I could do better when I wasn’t giving it my all.

**School name and names of participants changed to protect confidentiality.*

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ABSTRACT

Standardized tests are not new to the field of education. The problem with them seems to lie in the ways these tests are now being used as criteria for various high-stakes decisions such as teachers' evaluations, school grades, school sanctions, and even graduation from high school with a diploma. With so many different uses for standardized tests, it is easy to see how our perception of them has become skewed.

This bounded case study research of a small elementary school in a large urban district centered on shifting the focus away from looking at standardized tests as a negative, as mere scores and punitive measures, and looked more towards positive mindsets and growth mentalities. This research focused on how schools can create healthy testing cultures and how principals use standardized test data to lead student learning at the school.

Table of Contents

List of Figures.....	x
List of Tables	xi
Chapter One	1
Introduction.....	1
Problem Statement	3
Research Question	5
Definitions of Terms	5
Significance.....	6
Delimitations and Researcher Positionality	9
Researcher Positionality.....	9
Theoretical/Conceptual Frameworks	10
Chapter Two Literature Review.....	14
Introduction.....	14
Background	15
Access to public education.....	15
The purpose of schools	18
The role of Government in schools.....	18
No Child Left Behind (NCLB)	23
The Every Student Succeeds Act (ESSA)	26
The Role of School Leadership.....	29
From transactional to instructional to transformative.....	29
Student learning: the new role of leadership.....	34

Teacher Efficacy	35
Self-efficacy	36
Collective efficacy	42
Data Driven Learning	44
The importance of collaborative cultures	51
Summary	54
Chapter Three Methodology	55
Research Design.....	55
Study Setting.....	57
Instrumentation and Data Collection	60
Electronic Questionnaire.....	60
Face-to-Face Interviews.....	61
Observations	61
Artifact Analysis	61
IRB Protection	63
Data Analysis	63
Limitations	65
Chapter Four Results	67
Problem Statement and Research Question	67
Data Collection	67
School Description.....	70
Use of Assessment Data.....	72
PARCC Assessment Data.....	72

Istation and/or iReady Assessment Data.....	77
Ownership of the Data	78
Students.....	78
Teachers	79
Principal	82
Instructional Coach	85
Collective Accountability	87
The School’s Testing Culture	94
Major Findings.....	98
Everyone uses the data to lead learning.....	99
Efficacy and Accountability through Collaboration	102
Culture.....	105
Chapter Five.....	108
Discussion.....	108
Review of the Methodology.....	109
Interpretation of the Findings.....	109
Implications for Practice	111
Implications for Future Studies.....	114
New balanced assessment system for New Mexico	114
Content Specialists.....	116
References.....	119
Appendices.....	139
Appendix A Standardized Testing Survey.....	140

Appendix B Interview Questions for Teachers..... 148

Appendix C Interview Questions for Instructional Coach..... 149

Appendix D Interview Questions for Principal 150

Appendix E Informed Consent for Interviews..... 151

LIST OF FIGURES

<i>Figure 1.</i> Conceptual Framework – Pendulum swing of access and ensuing leadership styles	12
<i>Figure 2.</i> The Leadership for Learning Framework (Reeves, 2006).....	13
<i>Figure 3.</i> Example of the grade-level pocket charts and corresponding student’s data card showing assessment information for English Language Arts.....	80
<i>Figure 4.</i> Example of one teacher’s data (with names removed) input into a school-wide Google Doc account that all staff have access to and discuss	80
<i>Figure 5.</i> Sample of RTI form completed every six weeks by the teachers.....	81
<i>Figure 6.</i> PARCC comprehensive assessment plan.....	102
<i>Figure 7.</i> Visual representation of NM PED’s approach to a balanced assessment system.....	115

LIST OF TABLES

Table 1. Summary of participant's method of involvement in this research project.....	64
Table 2. Why teachers make changes because of standardized tests represented in whole numbers where n=7.	75
Table 3. A summary of the principal's approach with staff regarding standardized testing represented in whole numbers where n=7.	84
Table 4. How teachers view standardized scores as a reflection of performance represented in whole numbers where n=7.	92

Chapter One

Introduction

Every day, sports teams across the country hold practice for their athletes, working to improve skill level and develop mastery of strategies that will provide them a competitive edge. These daily practices advance to weekly games, district tournaments, and then on to state championships. At these events, athletes are assessed on their performance and levels of proficiency. The results of these assessments are used to strengthen them as players and provide coaches with valuable feedback.

Every fall, high school seniors begin the college application process where their selection to prestigious schools is based on criteria such as writing samples, grade point average, class rank, transcripts depicting rigorous coursework, and college entrance exam scores, to name a few. According to Hernandez (2009), Ivy League admissions departments compile an academic index based on three main factors: highest SAT Reasoning Math/Critical Reading score, average of three highest SAT Subject tests, and converted rank score based on grades, class rank, and high school difficulty. In her view, two-thirds of the evaluation of potential students is based on tests, while only one third is based on grades, leading her to conclude that grades are less important overall as a factor than test scores.

Every spring, the National Football League holds the Scouting Combine, their annual draft that serves as the league's most common source of player recruitment whereby teams select players based on skills and abilities. During this six-day assessment of skills, college football players perform physical and mental tests in front of NFL coaches, general managers, and scouts, allowing personnel directors to evaluate upcoming prospects in a

standardized setting (Eisen, 2007). Outcomes of a player's performance during the Combine can affect draft status, salary, and ultimately career opportunities.

Every summer, driver's education classes are filled with 16- and 17- year old students learning to drive. Classes culminate with a driving test, which usually consists of a road test and a written test, and is designed to assess a person's ability to drive a motor vehicle. Written driving tests are normally standardized tests, meaning that everyone takes the same test under the same conditions (Motor Vehicle Department New Mexico, 2018). A driver's license opens the door to owning a car and being able to go anywhere you want, when you want. Anyone who owns a car also knows that a car is subject to breaking down and needing repair.

Since 1972, the National Institute for Automotive Service Excellence (ASE) has worked to improve the quality of vehicle repair and service by testing and certifying automotive professionals (National Institute for Automotive Service Excellence, 2018). The Automotive Service Excellence exam covers fourteen different subject areas and is tangible proof of a technician's level of expertise and knowledge (National Institute for Automotive Service Excellence, 2018). According to the ASE website, the tests are challenging with only two out of every three test-takers passing on their first attempt. To remain ASE certified, professionals must retest every five years to keep up with ever-advancing automotive technology.

Standardized testing is an essential part of sports, driving, college admissions and employment. Rarely, if ever, does one get pushback for the use of assessments in these real-world situations. Yet weekly, if not daily, one hears an uproar over the use of standardized assessments in K-12 education. When did standardized tests become such a controversial

topic, evoking such deep emotions? Many (Dee & Jacob, 2009; Gunzelmann, 2005) would argue that with the passage of the No Child Left Behind Act in 2001, standardized tests became the scapegoat for all that is wrong with education today. Others (Desimone, 2013; Kimmelman, 2006; The Leadership Conference, 2015) would argue that standardized tests are a vital component of figuring out where we are failing our students and where we are making strides in closing the achievement gap.

Coaches, employers, and colleges are able to use standardized tests to assess the skills of potential recruits, employees, and students. These standardized tests provide measurable indicators of how someone is performing and certify the extent of one's content knowledge. Just as these tests allow for comparison, and even ranking, of individuals in similar stages, this same method, the use of standardized tests that assess the skills of elementary and secondary students, and determine comparable rankings across states, should be afforded to K-12 educators without undue bias and disparity.

Problem Statement

Standardized tests are not new to the field of education. The problem with them seems to lie in the ways these tests are now being used as criteria for various high-stakes decisions. In response to accusations of decreasing student performance and public schools' inability to prepare students for competition in a global workforce, state-level and national-level reforms have called for implementing academic standards to which schools and students must be held accountable (Dee & Jacob, 2010; Jorgensen & Hoffman, 2003; Kimmelman, 2006; U.S. Department of Education 2004, 2010). Standards-based reform aligns teaching and learning with statewide standards that can be measured through annual assessments of students (Goldring & Berends, 2009). These assessments are designed to be

aligned to the standards and used to show content mastery. Results of the assessments are made public as “supposed evidence of the degree to which teachers, classes, or schools made progress in educating students according to the standards and benchmarks” (Goldring & Berends, 2009, p. 10). The results, however, quickly became tied to various accountability measures, thus making them high-stakes. Standardized tests have come to play a major role in determining teachers’ evaluations, school grades, school sanctions, and even graduation from high school with a diploma. With so many different uses for standardized tests, it is easy to see how our perception of them has become skewed.

As federal legislation has increased the emphasis on testing and accountability, attitudes toward testing and assessment have shifted. “There is too much testing,” cry opponents. “The tests don’t measure what our students know,” claim others. “How will we know if students are learning and can compete on a global level if we don’t test?” ask proponents of testing. Lost in the debate of standardized testing is the true purpose of the test. Lost is the benefit of instructional knowledge that standardized tests can provide teachers in terms of students’ mastery of standards and content. Lost is the benefit to parents and students of having a clear understanding of grade level content mastery. Lost is the benefit of knowing exactly where disparate student groups, schools and districts rank in terms of academic achievement compared to others across the state and nation.

While a study from the Council of the Great City Schools found a typical student takes about 112 mandated standardized tests between pre-kindergarten classes and 12th grade (Layton, 2015), it is important to note that federal policy requires only one test a year in English Language Arts and math in grades 3-8 and once in high school and only three times in total between grades four to twelve in science (Myers, 2014). All other tests are required

by state, district, or school personnel. In this age of high stakes accountability and measurements of student achievement, we have lost our focus. We have lost our focus regarding the purpose of standardized tests and how they can and should be used. Losing our focus, including using standardized tests as a measure of high-stakes outcomes, has contributed to the anxiety and negativity surrounding standardized assessments.

Research Question

With all the anxiety and negativity surrounding standardized testing, how do teachers and principals focus on the true purpose of the test without getting lost in the political rhetoric? How do schools create a culture that embraces standardized tests for what the data can show? How do leaders shift the conversations from “the test is not fair” to “what do we have to do to move students?” (Bambrick-Santoyo, 2010).

My research centered on shifting the focus away from looking at standardized tests as a negative, as mere scores and punitive measures, and looked more towards positive mindsets and growth mentalities. My research focused on *how schools create healthy testing cultures and how principals use standardized test data to lead learning at the school.*

Definitions of Terms

It is important to note that for this study, the following definitions apply:

- Learning leader: School leadership takes on many different roles from managing daily operations to overseeing curriculum and instruction. A learning leader not only manages these aspects but also uses data to ensure that students are actually learning what is being taught (Bambrick-Santoyo, 2010; Elmore, 2014; Marzano, Waters, & McNulty, 2005; Reeves, 2006).

- Healthy testing culture: is defined as schools that exhibit positive mindsets regarding standardized assessments; schools that use the results of these assessments to inform and lead learning, and schools that shift the focus from mere numbers to a measure of accountability for learning. (Bandura, 2000; Goddard, Hoy, & Woolfolk Hoy, 2000)
- Standardized Assessments/Tests: this research specifically references the PARCC (Partnership for Assessment of Readiness for College and Careers) standardized summative assessment that is given yearly to students in New Mexico in grades 3-8 and again in high school as a way to measure student achievement in the areas of English Language Arts and math. It should be noted that during this study, the PARCC was replaced with an alternate assessment called the Transition Assessment of Math and English Language Arts. This test was very similar to the PARCC, however, it was not identical, and therefore, it could not technically be called PARCC. For the purposes of this study, however, the researcher and those interviewed use the word PARCC as a generic term to refer to the one-time a year assessment in English Language Arts and math.

Significance

Standardized tests are intended to provide accurate, objective measures of what a student knows in terms of mastery of content standards. Data from the tests can provide information that school personnel need such as whether students are meeting benchmarks or how they are comparing to statewide peers. Data also provides information that can be used for comparison and accountability purposes, and provide parents and students needed information in order to understand a child's academic progress (Brown, 2017). Significant research (Klein, Zevenbergen, & Brown, 2006; Mora, 2013; Pizmony-Levy & Woolsey,

2017; Wall, 2000; Winkler, 2002;) has been done on how standardized testing is affecting our schools and classrooms. Most of this research focuses on the negative impact of standardized assessments.

As standardized tests are a fact of educational reform, it is imperative that we gather the best, most accurate data that we can from the results. This can only happen when the test is administered in a fair, impartial setting. Students achieve higher scores on standardized tests in schools with healthy learning environments (MacNeil, Pratter, & Busch, 2009), collaborative cultures (Gruenert, 2005; Hoy & DiPaola, 2008), and leaders who put the focus on student learning (Marzano et al., 2003; DiPaola & Hoy, 2012). This study focused on a small-sized elementary school in a large urban school district in New Mexico that seemingly exhibited all three of these characteristics.

In 2011, New Mexico lawmakers (New Mexico Legislature, <https://nmlegis.gov/Sessions/13%20Regular/final/HB0112.pdf>) enacted requirements that schools be graded for the progress, or lack thereof, that they were making in mathematics and reading as measured by yearly standardized assessments. Until 2018, schools were graded, A-B-C-D-F, similar to the grading system applied to students. This grading system, part of state (NM Public Education Department) and federal (No Child Left Behind and The Every Student Succeeds Act) statutes that mandate accountability for all public schools was in the form of a school report card that assessed how schools performed in certain areas. Performance areas were totaled to create an overall score and subsequent letter grade. School report cards were published for the public and under state law, children were allowed to transfer to a school with a higher school grade from any school that had earned two “F” grades in the last four years. For the 2016-2017 school year, the year for which the most recent cumulative data was

available, 177 (37%) of 478 graded schools in New Mexico earned an “F” grade. Conversely, 118 (23%) earned an “A” grade (NM Public Education Department, <http://aae.ped.state.nm.us/>).

Arguably, different school characteristics can contribute to different grades for schools. For example, levels of poverty and mobility, or percentages of Special Education students or English Language Learners, could affect school grades. In 2017, the NM Public Education Department refined their method for grouping similar schools. Currently, there are six elementary, three middle, and five high school clusters that are grouped based on a single overall risk index (NM PED, <http://aae.ped.state.nm.us/>). These like groupings of schools provide comparisons of schools that are most similar in terms of student characteristics.

While the school in this study is not the highest overall performing school in the district, or even the state, it recently earned a “B” letter grade despite some significant at-risk indicators and years of performing at the “D” and “F” level. On the school’s most recent report card for 2017-2018, the school showed gains in overall school improvement and the improvement of the lowest-performing students, as measured by the yearly PARCC assessment scores.

How does a school, this school in particular, increase their test scores so significantly as to move their school two letter grades? What type of testing culture has the school created? Does the principal use the test results to lead learning at the school? Understanding the answers to these questions could provide valuable insight by sharing the strategies and ideas from this school with other schools and school leaders.

Delimitations and Researcher Positionality

The scope of this study is limited to one elementary school in a large urban district in New Mexico. Assistant Superintendents who oversee the four quadrants of the district in which I was seeking to do my research were asked to provide the names of schools that exhibited positive mindsets toward standardized assessments and whose principals utilized student achievement data to lead learning. From the list of five names I received, three schools had an “A” or “B” designation as per the NM Public Education Department School Grades. Of these, one school had a change in leadership. The school I chose to work with included several significant at-risk factors and moved from a “D” designation to a “B” designation, seemingly in one year.

Researcher Positionality

I chose to research this particular topic because I have experienced considerable growth in student achievement as the principal of a mid-sized middle school in a large urban school district and as the principal of a small elementary school in a rural Indian Pueblo. I believe this is in part due to my attitude toward the standardized tests, my philosophy of creating a healthy testing culture, and my strong belief in using data to lead student learning. As I conducted my research, collected and analyzed data, and as I wrote up the findings, I needed to be conscious of these and any other biases and try to ensure that my own thoughts and actions did not skew my perceptions. I was careful to situate myself within the research and the narrative of the story being told and not let my perceptions or prior schema influence the way I told the research story.

To reduce researcher bias, I ensured that my survey and interview questions were as neutral as possible, and allowed for either positive or negative responses as provided by the

participants. In the face-to-face interviews, I monitored my body language and verbal responses so that they encouraged responses and the sharing of information through participant responsiveness. I also continually reflected on my impressions of respondents, their answers, and any artifacts that I observed to challenge my assumptions and thinking.

Theoretical/Conceptual Frameworks

The first public school in the United States was established nearly 400 years ago as a way to provide socialization opportunities and promote religious practices through the learning of scripture (Cremin, 1970). These first schools were typically for white, wealthy, males and this predisposition has set the tone for public education ever since. Despite numerous court rulings, each unique group such as women, minorities, and the disabled, has had to fight to gain access to education and to have their specific needs met (Graham, 2005; Kluger, 1975; Rury, 2013).

In the early twentieth century, as the number of immigrants surged, and the characteristics of students who entered the doors grew more and more diverse, school personnel struggled with how best to teach and engage with these students (Graham, 2005). School leaders struggled too, overburdened with “too many students, too few competent teachers, too few resources, and too few grown-ups who could understand the language the children spoke” (Graham, 2005, p. 25). Different students required different approaches to teaching and leadership.

Over the years, Principals moved from a managerial approach to leadership (Allen, Grigsby, & Peters, 2015; Bass, 2006; Hallinger & Heck, 1998) to an instructional approach (Hallinger & Heck, 1998; Leithwood, 1992; Marks & Printy, 2003) focused on improving the curriculum and instruction of the school. As schools continued to “fail” students, business

and industry became the models for effective leadership causing Principals to implement transformational leadership styles (Balyer, 2012; Burns, 1978; Hallinger & Heck, 1998; Leithwood, 1992). Transformational leadership called for schools to develop vision and mission statements, align goals and objectives of the school, and seek stakeholder input.

As various shifts in education reform have taken place, school personnel have responded in different ways. However, since 1970, student achievement has barely budged while per pupil spending has nearly tripled (Hess, 2010). Reformers have demanded accountability and a measureable return on the public's investment in education. Educators and legislators have felt pressure to solve problems and to move to action, so various ideologies and reform practices have been proposed and legislated.

What started with the pendulum movement (Figure 1) of transactional leadership and access to education, swung to the far right with a business model focus and high stakes accountability. As the pendulum has shifted, so has schools' responses in their attempt to meet not only the different and conflicting demands of the public, but also the different and conflicting demands of the varied learners (Graham, 2005). Meeting individual learning needs can only be done when leaders use student achievement data to identify the needs of individual students and combine that with a focus on behaviors that influence results (Bambrick-Santoyo, 2010; Marzano, 2005; Reeves, 2006).

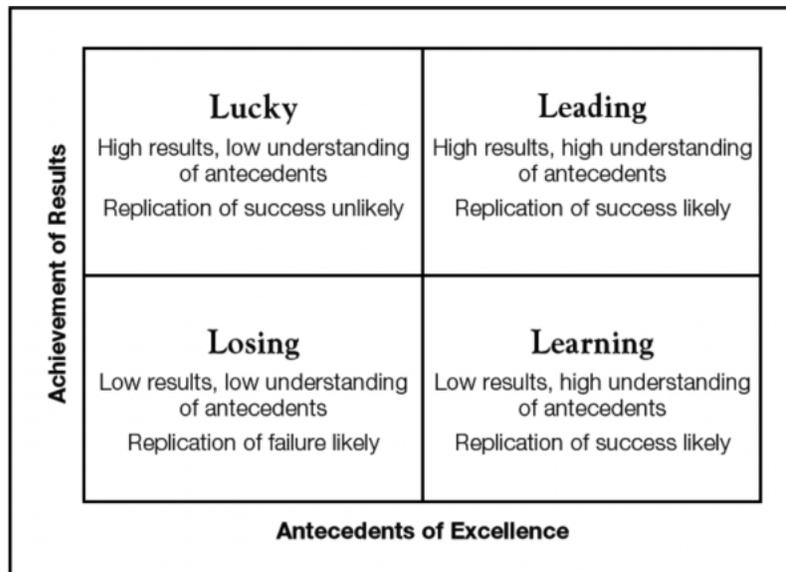


Figure 2. The Leadership for Learning Framework (Reeves, 2006).

The accountability pressure of educational reform appears to have helped the lowest performing students in the lowest performing states improve (Goodwin, Gibson, Lewis, & Rouleau, 2018). However, many schools are now experiencing a performance plateau (Goodwin et al., 2018). As such, the pendulum has begun to swing back in an attempt to blend accountability with learning that meets the needs of each individual student. A culture that values the information garnered from standardized tests and a principal that leads the staff in using the data to advance student learning exhibit characteristics of effective schools that Marzano (2005), Reeves (2006), Bambrick-Santoyo (2010), among others attribute to increased student achievement.

Chapter Two

Literature Review

Introduction

Primarily with the enactment in 2001 of No Child Left Behind (NCLB), and then in 2015, through the Every Student Succeeds Act (ESSA), classroom teachers have felt the pressure of increased accountability for their students' academic achievement even as they struggle to fulfill the ever changing and ever expanding purpose of education. This increased pressure comes from public policy, school leaders, stakeholders, and even from within. States are required to use standardized test data to categorize student performance, public schools, and even teachers based on the results (DiPaola & Hoy, 2012). Given this, it is no wonder then that school cultures can develop into an unhealthy environment, full of high stress and pressure and a negative attitude toward testing. Yet, we have to shock the system; we have a duty to expose the system where it is clearly ineffectual (Schmoker, 2004). "The curricular anarchy that is the culture of this system allows poor performance to be clouded by economic advantage and parental involvement. After that, leaders blame anything except take personal responsibility" (Reeves, 2006, p. 4).

Using data from standardized assessments to measure content mastery is a key component of the standards-based reform movement. A healthy testing culture that values the information garnered from standardized tests and a principal that leads the staff in using the data to advance student learning exhibit characteristics of effective schools that Marzano (2005), Reeves (2006), and Bambrick-Santoyo (2010), among others, attribute to increased student achievement. This literature review will summarize how we, as a nation, have changed our purpose of school over time and how policies have changed as the purpose of

school has changed. The literature will also review how assessment and leadership styles, along with teachers' efficacy have changed over time in response to accountability and assessment mandates.

Background

Standardized tests are not new to the field of education. The problem with them seems to lie within the ways these tests are now being used as criteria for various high-stakes decisions. In recent years, student achievement, specifically as it relates to standardized testing, has been a significant focus of educational reform (Abrams, Pedulla, & Madaus, 2016; Pizmony-Levy & Woolsey, 2017) with standardized tests playing a major role in determining teachers' evaluations, school grades, school sanctions, and even graduation from high school with a diploma. With so many different uses of standardized tests, it is easy to see how we have lost our focus and our perception of them has become skewed.

Access to public education.

The first public school in the United States was established nearly 400 years ago as a way of to provide socialization opportunities and to promote religious practices by learning scripture (Cremin, 1970). Colonial times defined the role of schools as a way to supplement – not supplant – the primary role of the family in teaching religious values and basic skills (Graham, 2006; Rury, 2013). This notion of supplementing remained through the 19th century as schools reinforced and enhanced lessons children had learned at home and in church.

Before the 19th century and the advent of the industrial age, schooling was rare as most young people worked in agriculture and did not require formal education. The need for schooling was limited to the wealthy and specifically, wealthy, white males (Tyack & Cuban,

1995). With the growth of industry, support for public education grew, and the result was a transformation of schooling from limited availability into widespread systems (Carl, 2009; Graham, 2005). Increases in income and wealth during the industrial age provided for larger public expenditures on schooling and a shift towards vocational education.

The Progressive Era, at the start of the 20th century, continued the push for vocational education, with society demanding a work force that could develop skills required by the labor market. The Progressive era also saw the creation of Special Education classes, not out of an obligation to do right by students, but because society demanded something be done with the large number of “feebleminded” students with which they had to contend (Kluger, 1975; Rury, 2013; Selden, 1999). Schools used vocational education as a way to sort students in a way that was perceived as fair (Graham, 2005). Unfortunately, vocational education became narrowly focused on work skills and not on literacy or numeracy skills, subsequently denying students access to a more rigorous curriculum and increased post-secondary opportunities (Graham, 2005; Hess, 2010), or as Tyack and Cuban (1995) write, “class background strongly shaped educational opportunities” (p. 24).

The Progressive Era also saw the disenfranchisement of minorities. Along with special education students, racism towards non-European minorities, including Hispanics and Asian immigrants, was used to promote the idea that certain groups were better served by vocational education (Kluger, 1975; Rury, 2013). In high Latino immigrant areas, public schools disparaged the Spanish language and the traditions of Hispanic families; in areas with large Indigenous populations, schools practiced education for degradation and for extinction (Rury, 2013). Curriculum reinforced the values of native-born white children (Graham, 2005).

Early on, wealthy plantation owners aligned educational practices based on their prevailing values of white supremacy. Segregation, whether intentional or brought on by “white flight”, was commonplace across the country with the most egregious disparity in educational opportunities being the gap between what was offered to whites and what was offered to blacks (Graham, 2006). Schools did not willingly initiate integration until ordered to do so by the courts. Landmark court cases such as *Brown v. Board of Education*, *Lau v. Nichols*, and *Swan v. Charlotte-Mecklenburg*, to name a few, mandated change in the makeup of schools and how students were instructed within the schools (Kluger, 1975).

In 1975, the Individuals with Disabilities Education Act mandated that any child who had a disability and needed special education and related services should receive a free and appropriate public education. Nowadays, many federal, state and local laws also protect students against discrimination in education based on sexual orientation or disability, including pregnancy and HIV status (ACLU, n.d.). Despite numerous court rulings, each unique group such as women, minorities, and the disabled, has had to fight to gain access to education. “People may favor giving all children a fair chance, but at the same time, they want their children to succeed in the competition for economic and social advantage” (Tyack & Cuban, 1995, p. 29).

The Postwar Era saw a large growth in the economy and in education. As access to and demand for education increased, the purpose of schools shifted. Public schools respond to public stimulus to produce individuals that meet the current demands of society. The importance of schooling for both national economic development and individual accomplishment grew (Carl, 2009; Rury, 2013; Spring, 1998). When industrial jobs decreased, vocational education decreased in priority. As society demanded workers with

increased technical and managerial skills, schools responded by pushing more and more students toward a college education. The knowledge economy arrived which led to a push to prepare students for college and career readiness.

The purpose of schools.

Churches, communities, and other institutions cater to particular demographics while schools are expected to serve all who enter their doors. Schools, more than any other institution, are expected to evolve and not only meet the needs of society but become the great equalizer in society (Graham, 2005). Unfortunately, the influx of non-English speaking immigrants, along with forced desegregation, and a shift from schools as the foundation of democracy to one of knowledge providers, left school staff struggling with how to meet the very diverse needs with which they were faced (Graham, 2006).

The school-to-work connection is long-standing as economists believe that the primary value of education is economic and job-related (Spring, 1998). Not only does a direct connection between school and work exist, but the 1983 Action for Excellence Task Force, declared, that “businesses, in their role as employers, should be much more involved in the process of setting goals for education in America” (Task Force for Teaching as a Profession, 1986, p. 20). Considering businesses already spend billions of dollars a year retraining people who arrive at the workplace with inadequate education (Spring, 1998), the demand for K-12 education to ensure students graduate college or career ready increased.

The role of Government in schools.

Currently in the United States, everyone aged five to eighteen has the right to a free and appropriate education. Yet, it is only through numerous court battles and Constitutional Amendments that public education is free and accessible to all. What this free and

appropriate education looks like has been the subject of debate for many decades. The debate started with who would have access to education and then moved to focus on the purpose of schools. While we, as a nation, still debate schools' purpose, a new, prevailing debate has begun. "Increasing enrollment and expanding bureaucracy bred a pursuit of more uniform measurement systems, focused first on quantifying time usage and native ability, and later on achievement (Hess, 2010, p. 126)

Historically, education was a function of state and local governments. Local agencies were the control agents of area schools and states would oversee curriculum and graduation requirements, as well as contribute to school funding (Kimmelman, 2006; Rury, 2013). Because state and local agencies were able to determine educational policy, the level of content knowledge, accountability, and quality varied greatly between districts and between states. This variance made it difficult to determine how students were faring in a comprehensive educational system and compare student performance between entities. As education serves the masses by providing a skilled workforce and a democratic citizenry, concerns arose over the variances between districts, states, and the very students served within each. Were students expected to meet the same standard of education and, if so, how would we know?

These debates were mostly contested at the local level; it was not until 1957 when the Soviet Union launched the first space satellite that the federal government started to become involved in education on a national level (Kimmelman, 2006). With the launch of Sputnik, the government and citizens of the United States began to question our ability to compete on a global level, much less on a national level. In 1958, the U.S. Congress passed the National Defense Education Act (NDEA). "Using national security as the basis for the law, Congress

determined that the problem with the United States falling behind the Soviet Union was the result of the education system, particularly mathematics and science education”

(Kimmelman, 2006, p. 5). So began the role of the federal government in education and so began the increasing debate of measurable standards for all students taught by qualified individuals.

In 1965, the Elementary and Secondary Education Act (ESEA) was passed. The ESEA was part of President Lyndon B. Johnson’s Great Society program. The basic purpose of ESEA was to assist children from low-income families. Believing that poor and minority students were not receiving the same level of educational experiences as others, this assistance, most commonly known as Title I, provided funding to school districts to help educate low income, disadvantaged students. This federal funding significantly increased the role of federal government in education. Yet, despite the increases in federal funding, students from low-income families continued to do poorly in school, falling further behind their more affluent peers. It is this achievement gap that ultimately led to the concept of No Child Left Behind (NCLB) and disaggregating data by subgroup (Kimmelman, 2006).

During the 1980s, the Cold War was foremost in the thoughts of Americans and education was once again given as the reason the United States was being confronted with serious problems both nationally and globally. Instruction and academics did not start to become a priority until 1983, when Secretary of Education Terrell Bell released *A Nation at Risk: The Imperative for Educational Reform*. Based on the findings from the National Commission on Excellence in Education, the report stated, among other things, “Our society is being eroded by a rising tide of mediocrity that threatens our very future as a nation and a people” (U.S. Department of Education, 1983, p. 5).

Until now, niche programs had been created to meet the increasing demands of diverse learners (bilingual, special education, gifted and talented, etc.), yet the effectiveness of these programs was unclear. Outright racism that the lower classes did not need college-bound curricula made way for differentiation and the progressive movement focused on teaching to the child's interests and big ideas (Chenoweth, 2009). "Access had focused not on improving the academic quality of schooling but rather providing special programs for those with particular needs" (Graham, 2006, p. 156). *A Nation at Risk* decried the rising tide of mediocrity in education and the nation started to panic about the dire state of our educational system.

What were students learning? How did we know if they were learning it? Who was actually teaching our students? What type of return was the public getting on their investment in public education? While these questions continued to plague the dialogue surrounding education, significant reform was still not enacted in education. Every five years since 1965, Congress continued to reauthorize ESEA legislation without any noteworthy changes (NCLB, n.d.).

Six years after *A Nation at Risk*, then President George H. W. Bush, convened an education summit comprised of high-level officials and governors from many states. The summit saw an even greater demand for the role of the federal government in education with a push for national goals and increased accountability. The conclusion from the summit was that states must focus on the achievement of all students, raise academic standards, and be responsible for improving them (Kimmelman, 2006). Despite bipartisan participation and the support of the President, the results of the summit were similar to previous endeavors and very little change was enacted to address concerns.

In 1994, with Bill Clinton as president, the nation saw the passage of Goals 2000. Goals 2000 was the reauthorization of the ESEA with several of the components from the 1989 Education Summit. With the passage of Goals 2000, Congress and President Clinton set the stage for more federal involvement in state and local education policy (Kimmelman, 2006). The Goals 2000 legislation was the precursor to No Child Left Behind. Two years after Goals 2000, another Education Summit was held. The consensus was that education was still not producing individuals who could compete in a global market. For close to thirty years, the questions of standards mastery, accountability, and highly qualified teaching personnel were being debated, and yet, the education system did not seem to be responding.

With the exception of some incremental changes, the years of reform had not seemed worked in ways that were actionable or sustainable for all schools (Hess, 2010). In fact, programs and reform initiatives often worked at cross-purposes with layers of laws, rules, and regulations leading to conflicting directions and priorities (Tyack & Cuban, 1995). “Education reformers seek to reconcile demands that simultaneously wish to change and protect public schooling; defending institutions rather than the mission of providing outstanding teaching and learning” (Hess, 2010, p. 5) and resulting in a system that maintains the status quo. Additionally, “when educators view reform demands as inappropriate, they are skilled in finding ways to temper or evade their effects” (Tyack & Cuban, 1995, p. 79).

Year after year, study after study, commission, panel, and summit participants continued to arrive at the same conclusion: the educational system needed higher standards for all students, a strengthened accountability system, and improved educator quality (Dee & Jacob, 2010; Jorgensen & Hoffman, 2003; Kimmelman, 2006; US Department of Education 2004, 2010). Schools were failing in their missions to educate the nation’s students and in

response, state-level and national-level reforms called for implementing academic standards to which schools and students were to be held accountable (Goldring & Berends, 2009).

No Child Left Behind was the accumulation of years of debate and frustration coming together. President George W. Bush,

signed into law NCLB, the most comprehensive federal education law ever written and one that imposed serious sanctions for states and schools that failed to abide by its provisions. It was clear that our nation's leading policymakers, both Democrats and Republicans, were serious about ensuring that schools would improve the achievement of their students. (Kimmelman, 2006, p. 22)

The No Child Left Behind Act was bipartisan education reform designed to address the mounting concerns of the US education system. Under ordinary circumstances, Republicans would have opposed the bill's broad expansion of federal power over local schools, and Democrats would have opposed its heavy emphasis on testing (Ravitch, 2011). What provided momentum for the bill was the terror attacks of September 11. The United States Secretary of Education at the time, Margaret Spellings, commented, "One of the silver linings of 9/11 was it did engender a lot of bipartisan good will... There was a recognition that we had to strike while the iron was hot. This moment would not last forever" (Samuelsohn & Vinik, 2015, para 24).

No Child Left Behind (NCLB)

NCLB incorporated the concepts that had been debated for numerous years and imposed sanctions for schools that failed to meet certain requirements. The law incorporated accountability, assessment, academic standards, and teacher quality as its cornerstones, all four of which had been the subject of debate for over forty years. NCLB was designed to

increase student achievement and thereby American competitiveness in a national and global market. States were required to write rigorous standards, develop assessments to measure whether students were meeting those standards, and publish results as supposed evidence of the degree to which teachers, classes, or schools made progress in educating students according to the standards and benchmarks (Goldring & Berends, 2009).

Under NCLB, states were required to test students annually in both English Language Arts and mathematics in grades 3-8, as well as once in grades 10-12. States also had to test students in science three times: once in grades 3-5, again in 6-8, and a final time in 10-12. Individual schools, school districts, and states were required to publicly report test results for all students, as well as for specific student subgroups, including low-income students, students with disabilities, English language learners, and major racial and ethnic groups (Dee & Jacob, 2010; Klein, 2015). This data, disaggregated by subgroups, was designed to spur educators to better close the achievement gap between poor and minority students and their more advantaged peers. States were required to bring all students to the proficient level on state tests by the 2013-14 school year, although each state was able to decide, individually, what proficiency looked like, and which tests to use (Dee & Jacob, 2010; Klein, 2015).

Under NCLB, schools were held accountable for progress towards goals. Schools had to make adequate yearly progress, also known as AYP. If a school failed to make AYP or its achievement targets for two years or more, either for all students or for a particular subgroup, it was identified as not making AYP and was subject to a cascade of increasingly serious sanctions (Dee & Jacob, 2010; Klein, 2015). Even schools with just one subgroup not meeting proficiency standards could be identified as not making AYP and therefore subject to sanctions.

While NCLB received bipartisan support from Congress, it caused anger from many in the education community. The law greatly increased the federal government's role in education, especially in terms of holding schools accountable for the academic performance of their students (NCLB, n.d.). It was this unprecedented focus on standardized testing as a measure of accountability that caused significant outrage. Furthermore, schools found it increasingly difficult to meet their progress goals (Dee & Jacob, 2010). As previously mentioned, NCLB was written so that states were allowed to determine how proficiency was defined and exactly what tests would be used to measure this proficiency. Ironically, this variance between states is what caused concern and heated discourse over education reform stretching back fifty years with *Brown v Board of Education* and the ensuing ESEA legislation and summits.

Initially, many states created lower standards for proficiency in an attempt to avoid sanctions (Klein, 2015). They reasoned that the passage of time would either see a rewrite in the law or allow them to develop ways to ensure their students increased in proficiency, again allowing them to avoid sanctions. As the years progressed, more and more states had more and more schools not make AYP. National teacher unions and education institutions continued to issue warnings and predictions. Congress saw a need for revision, but for nearly fourteen years, they were unable to write and pass legislation that changed NCLB.

Instead, under President Obama, states were allowed to apply for waivers that allowed them to eliminate many of the mandates of the NCLB law in exchange for embracing certain education redesign priorities (Klein, 2015). Waivers required states to adopt rigorous content standards and establish teacher evaluation systems that incorporated student achievement measures on standardized tests, thus making the tests high stakes.

The Every Student Succeeds Act (ESSA)

In December 2015, President Obama signed into law The Every Student Succeeds Act (ESSA). This new Act scaled back much of the federal government's role in education policy and shifted accountability to the state level rather than the federal level. However, the same issues regarding standards-based reform that NCLB addressed were also addressed by ESSA. What should students know and be able to do? How will we know if students have mastered desired concepts and skills? Should every student have access to quality teachers in a quality learning environment? Do education systems have the same level of expectation for all students?

Under ESSA, states submit accountability plans to the United States Department of Education that in turn must approve the submitted plan. States determine their own accountability goals, how much weight each accountability indicator will have, and outline ways in which achievement gaps will be closed (US Department of Education, n.d.). ESSA has required English Language Learners be a priority. In the accountability plans, elementary and middle schools must address specific academic indicators including, but not limited to: achievement and growth on state tests, English-language proficiency, and one other targeted subgroup chosen by the state. Furthermore, elementary and middle schools must address student engagement, educator engagement, access to and completion of advanced coursework, postsecondary readiness, and/or school climate/safety (Klein, 2016). High Schools are judged by the same indicators with the exception that graduation rates must also be part of the accountability plan.

A primary goal of ESSA is preparing all students, regardless of race, income, disability, ethnicity, or proficiency in English, for college and career (US Department of

Education, n.d.). States are required to adopt rigorous academic standards, but they do not have to be the Common Core State Standards. Schools must offer college and career counseling and advanced placement courses to all students. To ensure that students are meeting high standards, schools are required to measure student progress and disaggregate the data by subgroups, similar to the requirement under NCLB.

Under ESSA, standardized testing is still a requirement as States must measure students' progress annually for students in third through eighth grade and then again in their junior year of high school. To measure academic achievement, states may use a single summative assessment or multiple statewide interim assessments given throughout the year. "This might allow schools to better integrate assessment into curriculum and teaching and provide timely information to inform instruction" (Cook-Harvey, Darling-Hammond, Lam, Mercer, & Roc, 2016, p. 5). Data must still be disaggregated for the various sub-groups (English-learners, special education, minorities, socioeconomic status) as originally defined by NCLB. Additionally, depending on the state plan, states can use local or nationally recognized tests at the high school level, such as the ACT or SAT, or even performance based assessments.

Schools where groups of students are not making progress or where graduation rates remain low are considered low performing. "The U.S. Department of Education defines low-performing schools as those in the bottom ten percent of the state, based on the number of students who successfully graduate or the number of students who test proficient in reading or language arts and mathematics" (US Department of Education, n.d.). ESSA requires states to intervene in the bottom five percent of performers and/or high schools where the graduation rate is 67 percent or less. These schools must be identified once every three

years. If schools continue to struggle, after no more than four years, the state will be required to step in with its own plan. A state could take over the school, fire the principal, or turn the school into a charter (Klein, 2016).

One major change of The Every Student Succeeds Act is the teacher accountability component. States are no longer required to tie teacher evaluations to student outcomes promoting performance pay and innovative teacher quality measures as the preferred alternative. Additionally, the highly qualified teacher requirement of NCLB is no longer a requirement. These changes do not mean that ESSA lacks accountability measures. Rather, ESSA creates

opportunities for states to design accountability systems that provide a more comprehensive picture of student outcomes and opportunities to learn. Under ESSA, state plans must address disproportionate rates of ineffective, out-of-field, or inexperienced teachers in schools that serve low-income students and students of color. This is an opportunity for states and districts to examine root causes of inequities across and within both districts and schools, and develop plans for addressing these issues. Where inequities do exist, state plans will need to outline how they will evaluate access to effective teachers, address inequities, and publicly report progress (Cook-Harvey et al., 2016, p. 8)

For more than sixty-five years, education stakeholders have been striving to create access to a high quality school system that aligns content standards, quality teaching, high expectations for all students, and includes a way to measure these factors. For years, the pendulum was to the far left, allowing academic freedoms in schools that created wide variances in teaching and learning. In 2001, with the passage of the No Child Left Behind

Act, the pendulum swung to the far right demanding accountability for student achievement and tying student progress to teacher evaluations.

However, the data derived from standardized tests and the ensuing accountability systems was designed to measure performance, but neither the data, nor the systems, provided explicit guidance to school leaders and teachers about specific steps to take to improve performance (Anderson, Leithwood, & Strauss, 2010). “The closure of failing schools or replacement of key personnel does nothing to address the core need: a school’s capacity to engage in specific improvements in instruction and learning across classrooms over time” (Elmore, 2014, p. 84). Leaders need to engage teachers in meaningful, collaborative discussions around standards and assessments while providing professional development and other supports to help them meet established goals (Goldring & Berends, 2009).

To this end, Elmore (2014), in his work on Internal Coherence, has outlined specific behaviors which, when combined, can be leveraged for real school change. These behaviors include, “leadership that is distributed and focused on instruction; coherence in the instructional program; ongoing, embedded professional development; professional learning communities anchored in data on instruction and student learning; and teachers’ confidence in and responsibility for their efforts to obtain desired student outcomes” (p. 4).

The Role of School Leadership

From transactional to instructional to transformative.

The more complex society gets, the more sophisticated leadership must become (Fullan, 2001). Our push for educational reform has required schools and districts to address standards, serve all children, and meet a variety of needs. These expectations have ensured

that educational leaders are forced to make choices about how to spend their time and where to put their focus (Hess, 2010).

Education is in the midst of a period of major transition, one that is marked by a shift from industrial models of learning, organizing, and governing to one struggling to redefine itself for a post-industrial world where what worked in the past will not successfully carry them into the future. Strong leadership provides the bridge to successful adaptation and transition. (Murphy, Elliott, Goldring, & Porter, 2006, p. 5)

The role of the school administrator used to be that of a very traditional manager. The increase in specialized programs in the schools came with an increase in federal money requiring an increase in bureaucracy and reporting requirements. Principals, operated in a very structured, hierarchical manner, focused on managerial tasks, safety, and facility concerns, with little time left to focus on instruction (DiPaola & Hoy, 2012; Graham, 2006). This role was known as a transactional leader whereby the main purpose of the relationship was for an exchange of things. This style of leadership generally attempted to maintain the status quo (Allen, Grigsby, & Peters, 2015).

As school administrators became more responsive to the concerns of stakeholders and education policymakers, a shift in leadership style was needed. No longer could a leader be purely a manager, a transactional leader. With the “rising tide of mediocrity” in education and the nation starting to panic about the dire state of our educational system, school principals needed an understanding of instructional issues and how these issues affected the bottom line of student achievement. Hence, the shift from transactional leader to instructional leader came about in the late 1980s and early 1990s.

Leithwood (1992) defines instructional leadership as “improving the technical, instructional activities of the school through the close monitoring of teachers’ and students’ classroom work” (p. 9). Marks and Printy (2003) define instructional leadership as a way for the principal to “maintain high expectations for teachers and students, supervise classroom instruction, coordinate the school’s curriculum, and monitor student progress” (p. 372). The focus of instructional leadership is directly on linking curriculum, instruction, and assessment to student achievement.

Marzano, Waters and McNulty (2005) completed a meta-analysis of school leadership practices by principals. They reviewed over 69 studies from 1978 - 2001 encompassing over 2800 schools and identified 21 categories of behaviors for which principals have responsibility; “all 21 were correlated to student achievement, with 20 of the 21 responsibilities falling between .18 and .28 correlations” (p. 63). Those behaviors specifically related to instruction, knowledge of curriculum, instruction, and assessment and involvement in curriculum, instruction, and assessment represented a .25 and .20 correlation with student academic achievement respectively (p. 63). While also recognizing studies to the contrary, their findings indicate that principals can have a profound effect on the achievement of students in their schools.

Again, society and education evolved and grew, and so the role of the leader had to evolve and grow. AS the nation focused shifted to the connection between school and work, schools were pushed into more of a business model. The style of leadership shifted from instructional leader to transformational leader. Leithwood (1992, p. 2) explains that transformational leadership is “a leadership that facilitates the redefinition of a people’s mission and vision, a renewal of their commitment, and the restructuring of their systems for

goal accomplishment.” Burns (2010) defines a transformational leader as “one who looks for potential motives in followers, seeks to satisfy higher needs, and engages the full person of the follower” (p. 1).

It becomes increasingly important to understand the characteristics of a transformational leader as most research (Leithwood, 1992; Leithwood & Sun, 2018; Marks & Printy, 2003; Marzano, Waters, & McNulty, 2003; McGough, 2003) confirms that transformational leadership has an indirect, rather than direct, correlation with student achievement. However, this indirect correlation can oftentimes be difficult to substantiate in a quantitative manner. Despite this, research by Marzano (2005) demonstrates transformational leadership is an important aspect of effective schools, with effective schools “having a 44 percent difference in expected passing rate on a test that has a typical passing rate of 50 percent” (p. 3).

Chin (2007) performed three separate meta-analyses to explore the overall relationship between transformational school leadership and measures of school outcomes. The results indicated that “transformational school leadership does have a positive and significant effect on teacher job satisfaction ($r = .707$), school effectiveness as perceived by teachers ($r = .695$), and student achievement ($r = .487$)” (p. 170) where r = the mean of the 21 effect sizes” (p. 7). This research is further reinforced in the analysis by Robinson, Lloyd, and Rowe (2008) that showed principals had a “moderate to large indirect effect on school-level residual test scores via their influence on staff satisfaction” (p. 655).

Although leadership is not expected to affect student outcomes directly, studies have shown that leadership does directly affect teacher motivation and behaviors (Boberg & Bourgeois, 2016). “Transformational leadership is seen as superior by the school teachers in

promoting satisfaction with the leadership of the principal, causing a heightened perception of effectiveness as perceived by teachers, and producing a higher student achievement” (Chin, 2007, p. 174).

Extensive research (DiPaola & Hoy, 2012; Leithwood, 1992; Leithwood & Jantzi, 1991, 2008; Wahlstrom & Louis, 2008) references the influence of transformational practices on teacher collaboration, as well as, the highly significant relationships between transformational leadership and teachers’ own reports of changes in both attitudes toward school improvement and altered instructional behavior. Leaders in high-performing schools often promote a shared or team approach to leading the organization, involving others in shaping the vision and managing the operations of the school, as well as, the design and implementation of important decisions (Leithwood & Jantzi, 1991; Marzano, Waters, & McNulty, 2005; Murphy et al., 2006; Wahlstrom, Louis, Leithwood, & Anderson, 2010)

An effective administrator promotes academic learning by actively encouraging high expectations for students and by promoting effective instruction in each classroom.

Transformational leaders can then contribute to this factor by aligning the objectives and goals of all stakeholders in the organization. Transformational leadership emphasizes a leader’s ability to recognize the potential skills of an employee and engage the complete person and not just particular traits (Allen et al., 2015, p. 3).

The issue of relationships, attitude, and student achievement is complicated by qualitative versus quantitative studies. Because attitude is an indirect indicator of student achievement, the extent to which actual student achievement can be attributed to the attitude of school-based adults is difficult to ascertain. As mentioned, most researchers support the belief that transformational leadership can have an impact on student achievement.

However, in a review of the literature on the effects of transformational school leadership, Chin (2007) noted there was a lack of consistent quantitative evidence of a significant impact on student achievement. While studies suggested that there were significant relationships between principal leadership and student academic achievement, not all studies concluded that principal leadership had a direct effect on student learning (Chin, 2007).

Student learning: the new role of leadership.

While there is a definite need to build relationships, the real focus of education should concentrate on very specific pedagogical work that leads to student learning. Thus, the emerging concept of learning-centered leadership. The blending of instructional leadership with transformational leadership to create learning-centered leadership reflects yet again the increased complexity that our society and educational system now demand. In a meta-analysis of 27 studies of the relationship between leadership and student outcomes, Robinson et al. (2008) found that the average effect of instructional leadership was three to four times that of transformational leadership. Leadership that combines both instructional and transformational leadership practices have the greatest effect on teachers' instructional practices (Elmore, 2014; Goddard et al., 2010) and seems to offer promise for enhancing organizational performance (Murphy et al., 2006).

Marks and Printy (2003) assessed this role of integrated leadership on student achievement and found student achievement was higher in those schools with higher integrated leadership. According to their research,

When teachers perceive principals' instructional leadership behaviors to be appropriate, they grow in commitment, professional involvement, and willingness to innovate. Thus, when the principal elicits high levels of commitment and

professionalism from teachers and works interactively with teachers in a shared instructional leadership capacity, schools have the benefit of integrated leadership; they are organizations that learn and perform at high levels (Marks & Printy, 2003, p. 393).

Transactional leadership focused on tasks and daily operations. Instructional leadership built individual and collective abilities whereas transformational leadership built organizational abilities. For many years, the focus of principals has swung between transactional, instructional, and transformational. Now, the pendulum is swinging towards a focus on student learning. How do we know students are learning what we teach them?

Learning-centered leadership shifts the focus from student achievement to student learning, from inputs to outcomes, and from intentions to results (Goldring & Berends, 2009). DuFour (2002) emphasizes that school leaders shift from a focus of what teachers are teaching and focus rather on whether or not students are learning the intended outcomes of each course. Learning-centered leaders in high-performing schools strive to “create an environment of high performance expectations for self, staff, and students with an ongoing commitment to results” (Murphy et al, 2006, p. 24). They do this through student learning and achievement goals and a deep commitment to the core of teaching and learning.

Teacher Efficacy

While the accountability movement has helped educators focus on student learning, the “accountability culture is not as effective as the student learning culture for promoting achievement” (Firestone, 2009, p. 671). A student learning culture reflects a more organic and shared approach to leadership with joint problem solving in which teachers work alongside administrators to make critical decisions (Firestone, 2009). To help with these

critical decisions, school leaders must develop a culture of learning in the school to support individual and collective learning surrounding data. Teacher teams should have access to data and information that is used to build collaborative relationships and drive cycles of inquiry. Data that is dispersed throughout the school will better facilitate the professional climate and organizational learning. (Creighton, 2007; Goldring & Berends, 2009; Murphy et al 2006).

Yet, once the classroom door closes, teachers typically have discretion about what happens in the classroom. Decisions ranging from classroom environment to interactions with students, instructional strategies and content all lie with the teacher. To explain the lack of results in student achievement, many educators blame non-school factors such as lack of parental support, lack of student interest, and limited financial support rather than take personal responsibility (Graham, 2006; Reeves, 2006). Reeves (2006) likens this thinking to educators believing that students' destinies lies in their demographics, placing the responsibility for student success or failure on the characteristics of students. Rather, when adults take ownership for student achievement, through curriculum choices, feedback, assessment, expectations, engaging lessons, etc., their sense of self-efficacy increases (Reeves, 2006).

Self-efficacy.

Leadership behaviors and practices are indirectly related to improving student outcomes through their influence on teachers (Leithwood & Jantzi, 2008, Marzano, Waters, & McNulty, 2005; Robinson et al., 2008; Wahlstrom et al, 2010). However, the most direct effect comes from the classroom teacher. In their study, Mortimore, Sammons, Stoll, Lewis, and Ecob (1988), found the classroom level to be more important than the school level for

efficacy and achievement; classroom factors were the main predictors of student progress over time.

Teachers' individual efficacy beliefs can have large effects on both teacher performance and student outcomes (Leithwood & Jantzi 2008). In studies based on the Value Added Assessment System model, teacher effects were significantly related to student performance, more so than factors, such as class size (Sanders & Rivers, 1996; Wright, Horn, Sanders, 1997). A recent analysis of eighth graders using the NAEP (National Assessment of Educational Progress) data found classroom practices to be the main predictor of achievement (Wenglinski, 2001). These findings have led to an increasing amount of research on the beliefs of teachers (Askew, Brown, Rhodes, William & Johnson, 1997; De Corte & Greer, 1996; Fennema & Loef-Franke, 1992; Thompson, 1992) and their impact on student achievement. Marzano (2003) researched studies showing improving teacher quality increases student achievement at all student levels citing, "On the average, the most effective teachers produced gains of about 53 percentage points in student achievement over 1 year, whereas the least effective teachers produced achievement gains of about 14 percentage points over 1 year" (p. 72).

McClaskey (2001) believes that teachers are responsible for their students' test scores. This concerns some people as scores provide information that ranks individual students, teachers, and schools. (McClaskey, 2001). However, she stresses, educators must prepare students adequately to score well on the tests as tests evaluate skills such as the student's use of contextual analysis, numerical literacy, reasoning and justification; all real-life skills that are needed in any occupation (McClaskey, 2001). The tests offer an evaluation

of students' ability to think their way through a new situation, which is also a real-life skill (McClaskey, 2001).

If we refocus the narrative, the standardized testing argument should not be about how to teach to the test, rather, it should be how to use it as a tool to best teach students. It should be about how to use the results to know where students stand in terms of college and career readiness, and subsequently, how students fare compared to others across the state and nation. Using the test as a tool is difficult, as most standardized tests are given once a year and the results are often not returned in a timely manner. Yet, if we look at the knowledge we can gain from the test results and apply that to our teaching, we change our mindset to reflect how we can better prepare future students for demonstrating content mastery.

There is a difference in the way veteran teachers and new teachers approach the standardized tests. In her research, Winkler (2002) found that experienced teachers view the test in terms of loss; loss of instructional time, loss of power over their classrooms and curricular choices, and loss of professionalism. These losses reflect the changes implemented with standards-based reform, namely the development of content and performance standards and aligned curriculum and instruction. Newer teachers appreciated the benefits of a consistent curriculum built on standards, collaboration around planning and instruction, the validity of knowing what to teach and the pedagogical freedom for how to teach. Together, these qualities provided new teachers with a sense of self-efficacy. They knew exactly where they were and where they needed to go (Winkler, 2002).

As teacher evaluations have become tied to standardized assessment results, increasing numbers of teachers have become resentful of the tests and their subsequent impact on their evaluations. "Test scores are an issue either because they are public and

therefore potentially embarrassing or because educators fear sanction” (Firestone, 2009, p. 672). When we view the test as a way to assess teaching, based on student learning, the results become personal. We open ourselves up to falling short of our inherent goal of teaching *all* students and believing *all* students can learn. If this is my belief, and my students do not demonstrate proficiency on the test, what might that say about me as a teacher? What might this say about my beliefs? What might this say about my ability to teach?

Teacher self-efficacy has been defined as a teacher’s judgement of his or her capabilities to bring about desired outcomes of student engagement and learning, even among those students who may be difficult or unmotivated (Bandura, 1977; Henson, 2001). Essentially, teachers with high efficacy believe they possess the skills and ability to instruct students and produce desired learning outcomes (Lawing, 2015). Teacher self-efficacy has been linked to student outcomes in a number of studies which have found that students with teachers who score highly on self-efficacy did better on standardized tests of achievement than their peers who are taught by teachers with low self-efficacy beliefs (Anderson, Greene & Loewen, 1988; Henson, 2001; Moore & Esselman, 1992). Low teacher self-efficacy beliefs have also been linked to low expectations of students, which is an important factor in student achievement (Bamburg, 1994; Tournaki & Podell, 2005).

There is sometimes a striking contrast between what teachers believe and how they behave. Ritchie (1977) cites various examples of this contrast, with a primary example highlighting the Pygmalion study. In *Pygmalion in the Classroom*, (Rosenthal & Jacobson, 1968, as cited in Ritchie, 1977) claimed to have documented the crucial role of teacher expectations in determining the intellectual developments of their pupils. The study was

offered as scientific evidence that teachers' attitudes do make a difference; that when teachers expect children to show intellectual development, children do in fact show intellectual development. Another example is a statement by the late John Goodlad, then Dean of the UCLA Graduate School of Education, speaking at a conference of educators. Dr. Goodlad stated that "getting teachers to believe that they can improve what goes on in the classroom is like getting Dumbo to believe he can fly" (Ritchie, 1977, p. 479).

Self-efficacy has a connection to self-beliefs and getting teachers to believe they can and know they can are two different, but not unrelated, realities. Bandura (1977, 1986) refers to self-efficacy as the belief about one's capabilities to learn or perform behaviors at designated levels. Clark and Peterson (1986), Kagan (1992), and Pajares (1992) define teachers' beliefs as teachers' assumptions that affect what they notice in any set of circumstances and regard as possible, the goals they set, and the knowledge they bring to those circumstances. Rashidi and Moghadam (2014) maintain that self-efficacy is also said to have a measure of control over an individual's thoughts, feelings, and actions; the beliefs that individuals hold about their abilities and the outcome of their efforts influence the way they behave. In their research, Pajares (1996) and Schunk (1995) demonstrate that self-efficacy influences academic achievement, motivation, and learning. Teacher efficacy has been identified as a variable accounting for individual differences in teaching effectiveness (Gibson & Dembo, 1984) and has a strong relationship to student learning and achievement (Allinder, 1995; Gibson & Dembo, 1984; Huinker, & Madison, 1997).

McClaskey (2001) sums up the difference in belief versus behavior stating, It is not just a matter of the practices we use in our classroom; it is an entire shift in attitude. Standardized testing alone does not offer sole purpose and

meaning for engaging in learning. If teachers do not believe that test prep methods being used will teach students to comprehend what they read, then it is their responsibility to adjust the preparations so that they fit within the constructs of their own philosophies. That faith in learning must extend to the standardized test; if I teach my children to think, the test is a mere matter of performance, or better yet, an opportunity to show off what they can do (p. 88-89).

A “can do” attitude is at the heart of positive thinking and it is the power of positive thinking that can help influence outcomes. The actions that people take can be greatly influenced by their expectations about the likely consequences of those actions. People who see desired outcomes as attainable continue to strive for those outcomes, even when progress is slow or difficult. When outcomes seem sufficiently unattainable, people withdraw their effort and disengage themselves from their goals (Scheier & Carver, 1993). Continued striving or giving up differentiates optimistic thinking from pessimistic thinking. Optimists are more likely to accept the reality of stressful situations and seem more intent on growing personally from negative experiences, as well as, trying to make the best of bad situations (Scheier & Carver, 1993). Conversely, pessimists try to avoid dealing with problems or try to deny that they exist. Pessimists are also more likely to quit trying when difficulties arise.

Efficacy is fundamental to moving from the desire for change to actual changes in behavior. Becoming an expert teacher occurs because of a belief that there is always room to grow and structured opportunities to make growth happen (Frontier & Mielke, 2016). Even those who feel a strong sense of efficacy, however, benefit from supportive conditions in which to act (Wahlstrom et al., 2010). The effect of an individual teacher’s efficaciousness

can be either reduced or strengthened depending on the culture and beliefs of others at a school. Thus, a related concept to individual teacher efficacy is the concept of collective efficacy or a collective sense of responsibility (Bandura, 2000; Goddard et al, 2000).

Collective efficacy.

Collective efficacy is the perception of teachers in a school that their efforts as a whole will have a positive effect on student learning (Bandura, 1993; Goddard et al., 2000; Hattie, 2015; Hoy, Sweetland, & Smith, 2002). In his study of collective efficacy and student achievement, Bandura (1993) concluded that student achievement is significantly and positively related to collective efficacy and that collective efficacy has a greater effect on student achievement than student socio-economic indicators. Goddard et al. (2000) also found that collective efficacy was positively associated with student achievement. In their study of 452 urban elementary teachers in 47 schools, Goddard et al. (2000) found that a one-point increase in a school's collective efficacy score (on a six-point scale) was associated with about an 8.5-point increase in student achievement scores thus representing a moderate effect on student performance. Even when taking into consideration the effects of student demographics such as race, socioeconomic status, and gender, Goddard et al. (2000) found that the perceptions of collective efficacy remained strong predictors of academic performance.

Ells (2011) performed a meta-analysis of 26 studies which reported at least one correlation between collective teacher efficacy and school achievement. Her research synthesized all available and relevant studies to reveal an effect size quantifying the correlation between collective teacher efficacy and student achievement, while considering other variables that might moderate individual results (Ells, 2011, p. xiii). Her results found

that “collective teacher efficacy was strongly and positively associated with student achievement with average effect sizes ranging from 0.537 to 0.628” (Ells, 2011, p. 126).

Furthermore, in his research on collective efficacy, Hattie (2015) found that collective teacher efficacy is strongly correlated with student achievement with an effect size of $d=1.57$.

To be clear, collective efficacy is about more than good working relationships. Relationships, even those built on trust, are not enough, in and of themselves, to increase results in student achievement. Schools with high collective teacher efficacy tend to promote high expectations regarding the students’ abilities to master the curriculum, and the attitude is reinforced when students produce high achievement scores (Borger, Lo, Oh, & Walberg, 1985; Brophy, 1988; Good & Brophy 1986; Purkey & Smith, 1983). With collective efficacy, the emphasis is on the teachers’ belief that they not only have the capacity to influence student learning but the shared obligation to do so (Goddard et al., 2000; Wahlstorm et al., 2010).

Collective efficacy with the end goal of improving student achievement results must comprise specific actions (Brinson & Steiner, 2007). Teachers, as a group, can significantly improve student learning through sharing best practices, strengthening relationships, and improving teamwork and communication (Brinson & Steiner, 2007). In their research, Tschannen-Moran, Woolfolk Hoy, & Hoy (1998) found that teacher planning, responsibility, persistence and effort are key behaviors that promote student achievement and are strongly related to teacher efficacy.

“When collective efficacy is high, a strong focus on academic pursuits not only directs the behavior of teachers and helps them persist but also reinforces a pattern of shared beliefs held by other teachers and students” (Hoy et al., 2002, p. 13); “groups with higher

collective efficacy set more difficult group goals and are more committed to those goals” (Mulvey, 1998, p. 84). Research by Ross & Ray (2006) finds that principals can improve collective efficacy by building instructional knowledge and skills, creating opportunities for teachers to collaboratively share skills and experience, helping teachers interpret results, providing actionable feedback on teachers’ performance, and involving teachers in school decision making. Goddard et al. (2004) also believe that “the more teachers have the opportunity to influence instructionally relevant school decisions, the more likely a school is to be characterized by a robust sense of collective efficacy” (p. 10).

Data driven learning.

In addition to involving teachers in school decision making, another one of the most important aspects of a leader’s role in improving perceptions of collective efficacy is to help a group interpret performance results. “Leaders who identify the reasons for success when they present positive results and who are able to temper success with the recognition that there will be challenges ahead can inspire their faculty to continue working to improve their practice” (Brinson & Steiner, 2007, p 4). This type of thinking ties directly to the Learning Leader Framework developed by Reeves (2006) whereby a key characteristic of learning leaders is that they understand the antecedents of student achievement performance and work to ensure that their school system includes cause and effect analysis.

Actions such as inquiry into the underlying causes of challenges and successes in student achievements, the specific degree to which school improvement processes are implemented at the student and classroom levels, and frequent monitoring of initiatives by leadership are all demonstrable links to improved student achievement (Reeves, 2006). All of these actions can be attributed to student learning culture. “When learning becomes the

preoccupation of the school, when all the school's educators examine the efforts and initiatives of the school through the lens of their impact on learning, the structure and culture of the school begins to change in substantive ways" (DuFour, 2002, p. 12).

The increasing legislation of school accountability through standardized tests increased the pressure on schools to improve student achievement scores. Underlying NCLB and ESSA policies was an implicit belief that data from standardized tests were important sources of information to guide improvement at all levels of the education system and to hold individuals and groups accountable (Marsh, Pane, & Hamilton, 2006; Ikemoto and Marsh, 2007; Mandinach & Honey, 2008). Yet, having practitioners make valid, fair, and reliable use of the data in the interests of their students is not a straightforward task (Confrey, 2008). In most states, a single standardized test is now used for multiple purposes such as accountability of teachers and schools, decisions on student progress, and feedback to teachers on curricular and instructional programs, among other purposes.

Many practitioners and policy makers believe all tests are the same, however, using tests for multiple purposes results in trade-offs in validity, fairness, and equity (Confrey, 2008). By combining multiple functions into a single test and accountability system, lawmakers have contributed to increased apprehension and conflicting outcomes that hamper the effectiveness of the law and make data use contradictory and ambiguous (Confrey, 2008).

Critics cite seemingly mediocre or poor test scores as evidence that public schools are failing in their missions to educate the nation's students and to prepare them for competition in an increasingly global workforce (Goldrings & Berends, 2009; Anderson et al., 2010). However, assessments used for accountability are limited in the ways they can help inform instruction. For assessment to be useful for instructional planning, it needs to be current,

accurate, and accessible to decision makers at the appropriate levels. Yet, this rarely happens. Furthermore, simply having the data does not guarantee that it will be used to drive decisions or lead to improvements. While there is often discussion around data as it relates to accountability, there is often no discussion of what to do with assessment information in planning how to help students do better (Creighton, 2007).

Excessive reliance on high stakes test data alone can cause some schools to lose focus on instruction and instead “focus on test-taking strategies or ‘bubble kids’, students whose current levels of achievement place them near the cut off for proficiency levels” (Marsh et al., 2006, p. 11). Marsh et al (2006) go on to state, “The process of translating data into information, knowledge, decisions, and actions is labor-intensive and equal attention needs to be paid to analyzing data and taking action based on data” (p. 10).

In recent years, the phrase “data-driven decision making” has become commonplace in education. Data-driven decision making refers to “teachers, principals, and administrators systematically collecting and analyzing various types of data, including input, process, outcome and satisfaction data to guide a range of decisions to help improve the success of students and schools” (Marsh et al., 2006, p. 1). Data driven decision making is modeled on industry and manufacturing practices such as Total Quality Management, Organizational Learning, and Continuous Improvement based on the work of Deming, Baldrige, and others. As commonplace as the term may be, data-driven decision making practices tend to vary widely across schools and districts. Research by Ikemoto and Marsh (2007) found practices ranging from a single administrator looking at printouts of test scores to determine areas of strengths and weaknesses to more complex methods involving numerous stakeholders triangulating multiple forms of data to uncover underlying causes and patterns in the data.

A further study by Marsh et al. (2006) found that a majority of schools studied used state assessment data as a way to determine areas for improvement and instructional strategies. This determination distills the data and subsequent analysis to its most simplistic form (Ikemoto & Marsh, 2007). One possibility for this simplistic approach to data analysis could be that standardized tests are typically administered in spring, providing results too late to be useful in making adjustments in the current school year. Another reason for the simplistic approach to data analysis could be that school personnel are not trained in data analysis. Confrey (2008) describes how many educators have limited understanding of interpreting test data while assessment specialists have limited knowledge of content; these splits among professionals contribute to our disjointed testing system.

Splits in the philosophies of data integration also lead to disjointed efforts in creating a data-driven culture. Firestone and Gonzalez (2007) examined the integration of data in school cultures and identified two distinct philosophies. One philosophy focused on accountability, creating a culture that looked at data through a short-term perspective with a focus on test scores, while the other philosophy looked at data through a long-term perspective. Schools focused on accountability typically used data to identify problems and monitor compliance. Conversely, schools with a philosophy of organizational learning looked at data through a long-term perspective and emphasized improvement of student learning. These schools used data to identify and diagnose problems to improve instruction. Anderson, Leithwood, and Strauss (2010) also stress the importance of looking at data long-term, finding in their research that “longitudinal evidence can reveal trends in student performance and characteristics in schools that have greater significance for school improvement purposes than data that provide a snapshot at only one point in time” (p. 299).

Often teachers are wary of using a single data source, such as high-stakes test data, to make decisions about their students' strengths and weaknesses; their preference is to engage multiple sources of data to inform their thinking about student learning (Madninach & Honey, 2008). Since many of the standardized test results come too late in the year to inform instruction, many schools and districts have turned to interim tests which are given more frequently through the year to provide diagnostic information that can be acted on immediately. "Eighty percent of superintendents in California, Georgia, and Pennsylvania found results from interim assessments to be more useful for decision making than state test results" (Marsh et al., 2006, p. 5).

While interim tests provide more frequent information than end-of-year standardized tests, many teachers and principals also rely on other data sources for even more continuous information about student performance. In their research, Anderson et al. (2010) found that school personnel in higher data-use schools were "more likely to report the use of formative assessments of student progress at periodic intervals across the school year, and cyclical decisions about which students need additional help through remedial or enrichment programs, after-school tutoring, and differentiated instruction in the classroom" (p. 314).

Data from classroom tests, assignments, and homework help teachers make judgements about their students' understandings. Additionally, other non-achievement data are also considered by many districts when making decisions about students. These include factors like attendance, mobility and graduation rates (Marsh et al., 2006). It is important to note that due to accountability, teachers and administrators are being strongly urged to use more systematically collected sources of evidence to justify their claims and inform their decision making about students (Anderson et al., 2010). Not only are school districts being

held accountable for improving the academic performance of all students, but educators are being asked to use assessment data to guide a wide array of decision making; the assumption is that teachers can target instructional practices to meet the needs of each and every student (Madninach & Honey, 2008). Teachers have always evaluated their students for grading and report cards but the incorporation of student performance data into teachers' instructional decision making is more evident in settings where district and school leaders linked data use to specific purposes (Anderson et al., 2010)

Through the accountability-oriented educational policies, there has come an expectation of continuous school improvement (Anderson et al., 2010). Data about achievement is necessary for schools, but it is how schools understand and use that data that move schools forward. As such, it is imperative that leaders create cultures which are focused on using data as it applies to student learning. Educators who are focused on learning use data to determine that students are actually learning the material and learning centered schools use data to hold teachers accountable (Reeves, 2006).

The potential for data-driven improvement plans to make a difference in teaching and learning depends on aligning local curriculum, teaching, and assessment practices with the external accountability measures. Teachers and administrators have been making "evidenced-based" decisions since teaching became professionalized. But the evidence typically available to teachers and school leaders has often been anecdotal, based on impressions they acquire in their work-place, grounded in collective but tacit assumptions about the professional expertise and judgments of school personnel. The current emphasis on the use of student-performance data to guide improvement

efforts also calls for greater attention to measurable patterns of student performance at the school level. (Wahlstrom et al., 2010, p. 23-24)

Good leaders must continually seek to understand how the educational system treats disenfranchised student groups and how this treatment impacts student performance and achievement (Reeves, 2006). “Analytical leaders speak the uncomfortable truths: Poor students do not exhibit low academic performance because they are poor but because of the way that we treat poor children” (Reeves, 2006, p. 57). Effective schools have student achievement as a major focus, teachers and staff that expect all students to learn, and principals who do not tolerate ineffective teachers (Mendro, 1998, p. 264).

Fullan (2001) argues that teachers must become assessment literate, and that focusing on student work through assessment is a trait of a good school. Helping all schools and students achieve, regardless of ethnic and socioeconomic background, requires that schools identify and develop processes and practices that support teachers’ deep and sustained examination of data in ways that are aligned to local instructional goals. As accountability increases and more and more teachers on a campus or across a district become resentful of standardized tests and their connection to high-stakes outcomes, the collective attitude of the teachers can become a turning point. In schools with high levels of Internal Coherence, teachers work collectively to develop improvement strategies, evaluate curricular and assessment materials, and design professional development experiences that are tailored to teachers’ learning needs (Elmore, 2014).

Marsh et al. (2006), Datnow & Wohlsteter (2007), and Ikemoto and Marsh (2007) all identified specific factors which are necessary for creating organizational learning cultures that use data to drive instruction. These researchers all found that the accessibility and

timeliness of data, the perceived validity of data, the capacity and support of the staff, and the organizational leadership and culture determined the extent to which teachers not only analyzed data but took action on the data. Underlying all these factors is dedicated time and professional development focused on data collection, analysis, synthesis, and interpretation (Marsh et al., 2006; Datnow & Wohlsteter, 2007; Ikemoto & Marsh, 2007).

The importance of collaborative cultures.

It is essential that school leaders create a climate of trust and relationships with the goal of student achievement at the core. Yet, in this age of high stakes testing, trust and integrity are sometimes lacking, and the stress of accountability can greatly affect relationships. Relationships, particularly with leaders, are one of the single greatest predictors of employee performance, satisfaction, and turnover (Bolman & Deal, 2013; Buckingham & Coffman, 1999; Drucker, 1954;). Turnover is something that low performing students in low performing schools can scarcely afford so leaders must build a culture that exhibits genuine passion for their mission and the people around them (Reeves, 2006).

According to Drucker's (1954) Management by Objective theory, having a say in goal setting and action plans encourages participation and commitment among employees, as well as aligning objectives across the organization. Drucker (1954) advocated for management policies that viewed people as a resource and a valuable part of the organization. Rather than the leader as the central means of power or control, Drucker (1954) believed that managers should delegate tasks in order to empower employees, prepare people to perform and give them freedom to do so.

In the 1960s, social psychologist Douglas McGregor developed two contrasting theories that explained how managers' beliefs about what motivates their people could affect

their management style. He labelled these Theory X and Theory Y. McGregor believed that managers' assumptions about people tend to become self-fulfilling prophecies (Bolman & Deal, 2013). If managers believe that employees dislike their work and have little motivation, then, according to McGregor, they will likely use an authoritarian style of management. This approach typically involves micromanaging people's work to ensure that it gets done properly. McGregor called this Theory X, or an authoritarian style of management. Whereas, when managers believe that employees take pride in their work and see it as a challenge, then they will more likely adopt a participative management style. Managers who use this approach trust their people to take ownership of their work and do it effectively by themselves. McGregor called this Theory Y. The approach leaders take will have a significant impact on their ability to motivate their team members.

In his work on modern management theory, Pink (2009) wrote, "People have an innate drive to be autonomous, self-determined and connected to one another. Organizations should focus on this drive when managing their employees by creating settings that support the human innate need to direct their own lives, learn and create new things and contribute to their organization and the world" (p. 71). Giving employees autonomy, resources and opportunity, as well as holding them responsible for outcomes of their actions, will contribute to their learning, mastery, job satisfaction and happiness (Pink, 2009). Employees, who understand the purpose and vision of their organization and how their individual roles contribute to this purpose, are more likely to be satisfied in their work (Pink, 2009).

Organizational learning researchers believe that organizations improve when they build capacity for learning and leadership broadly in the organization, and when they deliberately focus on the learning of the group, rather than the individual (Elmore, 2014).

This holds true not only for business but for education as well. Relationships, attitude, and behavior have a direct effect on teachers and are indirect correlators to student achievement (Boberg & Bourgeois, 2016). When the distinction of power between principals and teachers is lessened, instruction is positively affected (Marks & Printy, 2003; Wahlstrom et al 2010) and teacher–teacher relationships are even more important as a foundation for the way in which teachers work to improve instruction (Murphy et al., 2006).

When teachers are involved in making decisions that affect them, they tend to strengthen or deepen their instructional practice. When the focus of the teachers’ conversations is on the quality of student learning and collaborative work, teachers adopt pedagogical practices that enhance students’ learning opportunities. Shared leadership validates collective decisions about instructional priorities and reinforces the norms of the professional learning community, binding teachers together in the strategic decisions that teachers face when they design and adjust their classroom practice. (Wahlstrom & Louis, 2008, p. 463)

To create a culture of collaboration, an open, healthy, and professional climate must exist so that teachers and the principal can work as a team to confront organizational constraints and improve instruction through reflective practice and change (DiPaola & Hoy, 2012). For a school community to work well, there must be an understanding of obligations and expectations for each role in the school (Bryk & Schneider, 2003). As individuals collaborate around the work of the school, “they constantly discern the intentions embedded in the actions of others. They consider how others' efforts advance their own interests or impinge on their own self-esteem (Bryk & Schneider, 2003, p. 40). Trust and integrity are at

the foundation of any enduring relationship and are essential for leadership success (Bryk & Schneider, 2003; Reeves, 2006).

In addition to the required interpersonal talents, principals must also provide the structures and resources to support collaborative work and mutual accountability for school goals and student learning (Murphy et al 2006; Wahlstrom et al., 2010). These structures for collaboration often take the form of Professional Learning Communities (PLCs).

Professional Learning Communities include “shared values, a common focus on student learning, collaboration in the development of curriculum and instruction, the sharing of practices, and reflective dialogue” (Wahlstrom et al., 2010, p. 463).

Summary

A school focused on learning, having a strong sense of self- and collective efficacy, and believing that you can influence student achievement outcomes through the use of data are the personal agencies that educators can bring to the table when thinking about standardized testing. Rightly, it is hard to be optimistic when you feel as though you have no control over the results and how they are used. Yet, if we can distance ourselves from the distractions and the political discourse, if we can remember that tests provide valuable information on progress toward goals, we help to shift the focus back to an educational system with high standards for all students, a strengthened accountability system, and improved educator quality. We can shift the focus back to ensuring all students are ready to succeed in post-secondary opportunities. To shift the focus however, we must understand *how schools create healthy testing cultures and how principals use student achievement data to lead learning.*

Chapter Three

Methodology

As various shifts in education reform have taken place, school personnel have responded in different ways. Reformers have demanded accountability and a measurable return on the public's investment in education while schools have struggled in their attempt to meet not only the different and conflicting demands of the varied learners, but also the different and conflicting demands of the public (Graham, 2005). Thus, various ideologies and reform practices have been proposed and legislated over the last sixty years causing a pendulum swing of "fixes" and leadership styles. This swing hit an apex with the demands of the No Child Left Behind Act and subsequently, the pendulum has started swinging back to blend accountability with learning that meets the needs of each individual student.

As federal legislation has increased the emphasis on testing and accountability, attitudes toward standardized testing and assessment have shifted, especially as these become high-stakes decisions. With all the controversy surrounding standardized testing, is it possible for teachers and principals to focus on the true purpose of the test without getting lost in the political rhetoric? This research study used a mixed method approach to study one school's method of *creating a healthy testing culture and how the principal used standardized test data to lead learning at the school*.

Research Design

According to Guba (1990), research paradigms can be characterized through their ontology (what is reality?), epistemology (how do you know something?) and methodology (how do you go about finding it out?). School based personnel have different perceived realities regarding the use and outcomes of standardized testing. Do they inform teaching

and learning or not? Can teachers' attitudes and beliefs influence student achievement? Should standardized tests be a measure of accountability? How do teachers and principals use the student achievement data to drive learning and instruction?

The reality of educators is that standardized tests have played a major role in determining their evaluation scores and school grades. Standardized tests are highly politicized and education is subject to the whims and financial support of whatever political party is in power (Chung, 2016). Some educators look past this and focus on their individual classrooms and the students within that classroom. Other educators subject themselves and their students to the roller coaster of emotions and policies of current federal, state, district, and school administrations. Education in America is only as focused as the current funding and policy makers allow (Chung, 2016). Through increased legislation and the pressure of accountability, educators have interpreted the now high-stakes standardized tests according to their unique perceived reality. Understanding how the testing culture of a school is created and how principals can use standardized test data to become learning leaders was the heart of my research.

Constructivists believe that there is no single reality or truth, and therefore reality needs to be interpreted (Crotty, 1998). Further, they believe that individuals and groups create their reality and this reality is ever changing (Crotty, 1998). Since I worked with perceived realities in this research, I took a constructivist approach. Blatter (2012) contends that characteristics, like ideas, lend themselves to a case study approach, further stating, "case studies are much better suited than large-N studies for tracing ideas because they can invest heavily in in-depth interviews or discourse analysis" (p. 2).

The depth of complexity of standardized testing is immense and a case study approach allows an in-depth look into areas that are intricate and intertwined. Therefore, this research utilized a bounded case study approach. I studied one elementary school and the classroom teachers, instructional coach, and school administrator that made up the certified staff at this school. This bounded case study approach allowed for the perceived realism of the school to drive the findings of this research. Using a bounded case study approach highlighted the specific approaches and methods that the school used, allowing others a look “behind the curtain” so to speak. High-stakes testing is multi-faceted and student achievement is based on a multitude of variables. While the results cannot be generalizable, others may see a fit with their own school and may make inferences based on the findings.

Study Setting

Roadrunner Elementary School is a small-sized elementary school in a large urban school district in New Mexico. The school sits at the outskirts of town, outside the city limits. As you drive to the school, industrial businesses line the east side of the road while homes and neighborhoods line the west side of the road. Only two buses serve the school with a majority of the students walking or being transported by their parents.

The city’s homeless shelter is less than a mile from the school making mobility a significant factor with which the school must contend. There have been occasions when a student from the shelter has enrolled and disenrolled all within a one-day period. Federal reporting guidelines require accountability for every student who is enrolled and high mobility rates can make accurate reporting and gains in student achievement difficult at best. Students whose families find permanent shelter in other areas of the city have the option to

continue attending Roadrunner Elementary and many parents choose this option. The Title I Homeless program at the school reimburses parents for transportation costs.

The student body is approximately 94% Hispanic, 2% white, 2% Native American, and 2% other. All students at Roadrunner Elementary School qualify for Free or Reduced Lunch. According to the United States Census Bureau (<https://factfinder.census.gov/>) for the most recent year of 2016, in the area of town in which the school is located, 38% of children live below the poverty level and 46% of the households in the area receive some kind of public assistance. Close to 54% of the people living in the area speak a language other than English, with 17% of those reporting they speak English “less than very well”. At Roadrunner Elementary School, 41% of the students are classified as English Language Learners and 13% are classified as Special Education.

Looking at information online (<https://www.greatschools.org>), it is apparent that test scores and academic progress are a major concern. However, reviews by parents are generally positive, with comments such as, “Teachers really care about the students and it shows. They encourage students and always have creative ways to learn!” Additionally, parents seem optimistic about the new principal. One reviewer writes, “The new principal is wonderful. He takes the time to greet students and parents. He encourages parents to be involved with their children’s education.” The school has 12 certified classroom teachers in grades K-5. Other certified support staff include two special education teachers, an instructional coach, and a certified bilingual teacher. The principal just completed his second year as the school administrator.

I specifically choose to work with Roadrunner Elementary School for a variety of reasons. Assistant Superintendents who oversee the four quadrants of the district in which I

was seeking to do my research were asked to provide the names of schools that exhibited positive mindsets toward standardized assessments and whose principals utilized student achievement data to lead learning. From the list of five names I received, I looked into the school backgrounds and statistics. Three of the five schools had an “A” or “B” designation as per the NM Public Education Department School Grades. Of these three schools, one school had a change in leadership this past year. Of the remaining two schools, one school had consistently performed at an “A” or “B” level as measured by the NMPED School Report Card for the last several years. However, the at-risk factors of this school were not significant comparatively. Roadrunner Elementary School exemplifies the popular definition for at-risk students (high mobility, high English Learners, high poverty, etc.). Sometimes, student success can be attributed to a zip code or lack of at-risk factors; I specifically wanted to work with a school that was not a “lucky” school as defined by Reeves (2006) Leadership for Learning Framework.

This small community school has not always fared well under the NM Public Education Department School Grading system. Since the Department began issuing school letter grades in 2012, Roadrunner Elementary school has struggled, typically earning a “D” or “F” letter grade. However, with the release of the 2017-2018 report cards, Roadrunner Elementary earned their first “B” grade. My research explored how this school transformed from years of low academic achievement to one of increased academic achievement, as measured by the PARCC (Partnership for Assessment of Readiness for College and Careers) scores and the NM Public Education School Report Card grades. With the at-risk factors so prominent in the student body, this school could easily fall in the “losing” quadrant with teaching staff blaming the demographics of the school for poor test performance. Yet the

school moved from a “D” designation to a “B” designation. On the surface, Roadrunner Elementary School seems to have swung from the pure demands of high-stakes accountability towards a learner-centered approach whereby staff take responsibility for all learners. Instead, of the losing quadrant, they seem to lean toward the learning and/or leading quadrants of Reeves Leadership for Learning Framework (2006).

Instrumentation and Data Collection

In case study research, the use of different data sources helps 1) triangulate data and 2) provide a more comprehensive understanding of the case being studied (Yin, 2009). In this research study, I used a combination of electronic questionnaire (Appendix A), face-to-face interviews (Appendix B, Appendix C, and Appendix D), observations, and artifact analysis. The questionnaire and subsequent interviews helped me to understand the attitudes and perceptions that the teachers had regarding standardized testing. Observations and artifact analysis helped to validate what was being reported by the principal and the teachers. The use of the questionnaire helped to construct the descriptive statistics regarding the school’s testing culture and add to the narrative of the themes identified through the interview and artifact material. Taken together, these different sources allowed me to identify themes that emerged from the data; and allowed me to determine if the data presented consistent findings that corroborated each other or whether the findings conflicted.

Electronic Questionnaire

I created the questionnaire based on my review of literature and other research. Drawing on the work of Aydeniz and Southerland (2012) and Mulvenon, Stegman, and Ritter (2005), and their research on teachers’ responses to standardized testing and test anxiety, I combined survey questions used in their research, as well my own questions, to create a

survey that allowed me to collect the data and information that I deemed most relevant for my research.

I created the survey using SurveyMonkey. There were fourteen questions on the survey; nine of the questions could be answered relatively quickly as these questions were related to demographic data and participation consent. Respondents were asked to provide demographic data such as grade level, content and years taught. Names were collected for the purpose of ensuring only the results from certified staff members of Roadrunner Elementary School were utilized and as a way to determine interest in being interviewed. An additional survey question provided participants an opportunity to indicate if they wished to participate in a face-to-face interview. The remaining five survey questions contained numerous sub questions that ranged from six to thirteen additional items. All questions were closed response, meaning respondents chose from pre-determined answers. However, participants could skip any question they felt uncomfortable answering. Of the seven participants who completed the survey, all questions were answered. Information from SurveyMonkey indicated that the estimated time to complete the survey was nine minutes on average.

Face-to-Face Interviews

Interviews offer participants a chance to share in rich detail their perceptions and insights. Yin (2009) declares that responses are not just giving answers to specific questions, but rather a chance for interviewees to “construct reality and think about situations” (p. 12), hence, the constructivist approach to this research. Educators have constructed their own realities in this high-stakes testing culture, therefore, it is important for them to express their beliefs and for their reality to have a voice.

For this research project, I interviewed seven certified staff members with the average interview lasting approximately 30 minutes. I recorded all of the interviews and later transcribed them using the recordings to fact check for accuracy. While I had prepared a list of standard questions to ask each participant, I did ask additional questions as some of the responses warranted follow up or additional probing of thoughts.

Observations

When documenting observations, it is essential that the observational evidence be reported absent of any interpretation or judgement (Creswell, 2003, 2013; Yin, 2009). To capture my observation data, I used a simple protocol that divided what I actually saw from my interpretation of what I saw. The descriptive notes were filled in at the time of the observation, with the reflective notes being filled in later.

Descriptive Notes	Reflective Notes

Artifact Analysis

Consumers are well aware of the glossy advertisements that get buyers in the door, but once in the door, the item advertised is often out of stock or the salesperson has a newer, better model to show you. Artifacts can add to the narrative of a story and help triangulate the findings (Yin, 2009). Would the artifacts of the school support or contradict the narrative being presented? Specific artifacts collected in this case study were pictures of items that showcased data analysis or testing culture, documents related to testing or data, and written communications.

IRB Protection

I received IRB approval from both my research institution and the school district in which I performed my study. The first page of the questionnaire was a waiver of consent; if participants did not want to take the questionnaire, they did not need to proceed. If they did proceed, they acknowledged consent. Participants who wished to be interviewed, signed a specific letter of consent (Appendix E). The school and participants were given pseudonyms to protect their identity.

Entry to the school and the classrooms was with the permission of the principal and teachers respectively. Upon receiving IRB approval, I contacted the school's principal and was invited to a staff meeting. I attended the meeting and passed out copies of a recruitment flyer that contained a link to the survey and my contact information. Participants engaged in the survey voluntarily and on their own time. Participants who indicated they wanted to participate in an interview were contacted via email to arrange a time and place conducive to the interviewee.

Data Analysis

When collecting and analyzing data, it is important to keep perspective. "An ability to keep perspective (a sense of relative importance, varying viewpoints, in-context meanings, etc.) is a much-sought-after skill in any knowledge seeker. Assigning value to the multiple and competing perspectives of others and acknowledging the researcher's perspective are critically important" (Tobin, 2012, p. 5). When working with perceived realities, it becomes especially important to keep perspective and to check for accuracy.

For this research project, I obtained questionnaire and corresponding interview data for five people, with questionnaire data from two additional people and interview data from

two additional people. In total, nine certified staff members contributed to the information presented in this research, representing 56.25% of the total certified staff at the school. Table 1 below shows a summary of participant's involvement in the research.

Table 1

Summary of participant's method of involvement in this research project.

Pseudonym	Interview	Questionnaire
Abby	X	X
Aubrey		X
Gloria	X	
Instructional Coach	X	X
Jacob		X
Loretta	X	X
Mr. Yanez	X	
Olivia	X	X
Paula	X	X

To analyze my research, I transcribed all the interviews and looked for common themes, meanings, and patterns. Specifically in the data, I looked for themes and patterns which addressed school testing culture and the use of student achievement data to lead learning. I identified two major sources of assessments: the PARCC and Istation/iReady. Data from the Istation/iReady assessment was analyzed by teachers, the Instructional Coach and the principal. Analyzing data happened through conversations for which the school created a structure and process to allow these conversations to happen. In addition, the

conversations happened due to a culture of sharing and collective accountability that had been established at the school. This theme of collective accountability emerged through accountability conversations around the data and well as through conversations around school and testing culture.

The questionnaire also provided descriptive statistics for data analysis and contributed to the narrative of the case study. Interviews were digitally recorded and the audio file was compared to the transcription. Observations and artifacts were used to triangulate data.

Other patterns and themes emerged that were not apparent at the start of the research; these were also coded and included during the analysis phase.

Limitations

There were some limitations to using a case study approach for this research. Case study research is about access to good information. I was present on campus for multiple interviews, a half-day retreat where staff analyzed data and two assemblies during the testing period. I had an opportunity to watch interactions between staff, students, and administration. However, I was not present on campus every day, all day. For this reason, my information is limited to what I specifically saw and was told.

In addition, I believe in the use of standardized assessments and data and have brought this philosophy to my practice as a principal. While my experiential knowledge cannot be discounted or isolated from this undertaking, it is important to note any potential bias. As I conducted my research, collected and analyzed data, and as I wrote up the findings, I tried to be conscious of this and any other bias and tried to ensure that my own thoughts and actions did not skew my perceptions.

Finally, the unit of analysis for this case study was a single school. While the insights are applicable to this particular school personnel, the implications from this research cannot be generalized to other sites (Creswell, 2003, 2013; Yin, 2009). In addition, Bryk and Schneider (2003) found that “relational trust is more likely to flourish in small elementary schools with 350 or fewer students” (p. 45) since the work structures of a small school are less complex and its social networks are typically fewer in number. This study was performed at a small elementary school where the student body count is 260 students and whose certified staff total sixteen plus the principal. The findings might look very different were this study to be performed at a large comprehensive high school where the student body count numbers 2000 and certified staff members are more than fifty, or even at a large elementary school of 700 students, whereby it becomes much harder to know each student by name.

Chapter 4

Results

Problem Statement and Research Question

Standardized tests are designed to provide accurate, objective, and unfiltered measures of what a student knows. Standardized testing allows comparisons to be made among schools about student achievement. Yet, as the push for accountability in student achievement has increased, standardized tests are now being used as criteria for various high-stakes decisions.

As federal, state, and local legislation has increased the emphasis on testing and accountability, attitudes toward testing and assessment have shifted. With so many different uses for standardized tests, it is easy to see how school staff can get lost in the political rhetoric. My research centered on shifting the focus away from looking at standardized tests as a negative, as mere scores and punitive evaluations, and looked more towards positive mindsets and growth mentalities. My research focused on how schools create healthy testing cultures and how principals use standardized test results to lead learning at the school.

Data Collection

To answer my research questions, I used a bounded case study approach to study one small elementary school in a large urban school district. Upon receiving IRB approval from my research institution and the school district, I contacted the school's principal to set up a meeting with the staff. I attended a staff meeting and passed out copies of an approved recruitment flyer that contained a link to my questionnaire and my contact information. The questionnaire also allowed respondents to identify if they would also like to participate in an interview.

There are twelve classroom teachers and two special education teachers at Roadrunner Elementary School who serve 260 students in grades K-5. The staff are very friendly and open with each other. As I would arrive on campus for various interviews, staff members would interact with me, seemingly already knowing whom I was there to see. One teacher even agreed to be interviewed after a colleague encouraged her, in the middle of the school lobby, to participate. In total, seven staff members, representing 43.75% of the certified staff, completed the questionnaire. Separately, seven staff members agreed to be interviewed; not all of whom completed the survey.

Despite the fact that less than 50% of the certified staff were interviewed or completed the survey, the findings are still representative of the school as a whole. During my time at the school, I was able to observe several of the teachers who did not directly participate in this research through the interview or the questionnaire. I was able to see them participate in the data retreat and I was able to witness their interactions with other staff members both through informal interactions and formal interactions. These interactions consisted of time at assemblies and events and during the processing of data at the retreat and at the staff meeting. What I witnessed, even from staff members who were not directly involved in the research, were teachers who were happy to be at the school, interacted with each other in a collegial manner, and staff members who engaged in explicit conversations about data.

The interviews were at the heart of this research with the questionnaire data adding to the narrative of the themes. I obtained questionnaire and corresponding interview data for five people, with questionnaire data from two additional people and interview data from two

additional people. All participants were assigned a pseudonym and certain identifiers (i.e. grade level) have been omitted to protect confidentiality.

The average questionnaire response time was nine minutes while the average interview was 30 minutes, although some lasted as long as an hour. The interviews were digitally recorded and then I compared the recorded audio interview to the written transcription for accuracy. In addition to the questionnaire and interviews, I attended two school assemblies and I spent one morning with the staff at their end-of-the-year data retreat where they discussed student data and placement for the upcoming school year. During each of the visits, artifacts such as documents or pictures were obtained.

To analyze my research, I transcribed all the interviews and looked for common themes and patterns. Specifically in the data, I looked for themes and patterns which addressed school testing culture and the use of student achievement data to lead learning. Other patterns and themes emerged that were not apparent at the start of the research; these were also coded and included during the analysis phase.

As only seven of the staff members completed the questionnaire, findings are reported in whole numbers rather than percentages. My findings are presented by theme using a narrative approach. The work of Roadrunner Elementary School is synergistic, whereby it is almost impossible to focus on and answer just the two research questions in isolation. As such, the overall themes identified in the course of this research were:

- Use of assessment data
- Ownership of the data
- Collective accountability
- The school's testing culture

It should be noted that during this study, the one time a year summative assessment for students in New Mexico known as PARCC (Partnership for Assessment of Readiness for College and Careers), was replaced with an alternate assessment. In January 2019, the newly appointed governor signed an executive order to terminate the PARCC so schools across the state gave a test called the Transition Assessment of Math and English Language Arts. This test was very similar to the PARCC, however, it was not identical, and therefore, it could not be called PARCC. For the purposes of this study, the researcher and those interviewed used the word PARCC as a generic term to refer to the one-time a year standardized assessment in English Language Arts and Math.

School Description

Roadrunner Elementary School has been serving the community since 1952. Yet, when you first pull up to the school, you see clean, well-marked, and updated facilities. Construction on the new facilities finished last year. Fencing, gates, and strategically placed buildings provide limited access to the school, yet the overall feeling is open and inviting. An electronic marquee welcomes you to the school and displays information and important events. Signs welcome visitors and the front office staff immediately greets you as you enter the school lobby. Staff interact positively with parents and students and it is common to find staff laughing or joking with one another in the front office. If you listen carefully, you may even hear the secretary affectionately calling the principal “mijo”, meaning son in Spanish. This interaction is in no way disrespectful; in fact, it exemplifies the close-knit family atmosphere at the school.

During the times I visited the school, I have heard staff planning weekend outings to see the New Mexico United soccer team, “trash-talking” each other as they prepare for a lip

sync battle at the school talent show, and seen staff stopping by each other's classrooms to ask questions or simply say hello. At least five of the staff members are going to start working on their Master's Degree as a cohort in Fall 2019 with classes being offered directly at the school. Of the nine overall respondents for this research, the average employee has been at Roadrunner Elementary School for 10 years while working in education for a total of 15 years. In essence, staff who come to Roadrunner tend to stay at Roadrunner. When the principal, Mr. Yanez, started two years ago, he inherited 98% of his staff and reports that "turnover is very little." Turnover is something that low performing students in low performing schools can scarcely afford so leaders must build a culture that exhibits genuine passion for their mission and the people around them (Reeves, 2006).

Mr. Yanez feels fortunate to be at this school recognizing that this school has "a unique group of people who want to be here." This thought is echoed by the teachers who claim, "for the most part, this school is really the best and that's why I drive all the way out here." Another teacher stated, "We have a lot of fun with our staff, we do things outside of school so that is nice." A third teacher commented, "This school is really far from my house but since coming here I found my bug again and I love teaching. I love the staff here, I love the kids here." She goes on to say, "When I first came here I didn't know anyone, yet right away, if you had questions, people were ready to answer them for you."

There is a true sense of camaraderie and fun at the school, but do not let that fool you. The principal's motto is "we work hard and we play hard" and both work and play were fully evident in the time I spent at the school. As you talk to the staff, the word you hear over and over again is "data". Stacks of data crowd teacher's desks; student progress charts are posted in every classroom, and when you enter the Instructional Coach's room, a large data wall

greet you. Mention a student's name and almost every staff member at the school can tell you something about that student, including how that student is performing academically. The academic performance data comes from multiple assessments that staff analyze and use to drive their work.

Use of Assessment Data

PARCC assessment data.

When you talk with teachers about using data from the standardized PARCC assessment, they frequently dismiss the idea. PARCC is given one time a year, is a measure of proficiency versus growth, and results typically come in over the summer which is too late to inform instruction. These are the reasons most cited by teachers as to why the PARCC data is not helpful to them in their instructional practice. Frontier and Mielke (2016) contend that “assessment and evaluation disconnected from the day-to-day teaching and learning consumes too much time, produces results that do not help teachers improve their performance, and places those who are supposed to benefit from the system in a passive role as mere recipients of an external judgment” (p. 2). Of the seven questionnaire responses, two of the respondents state that they never or rarely use the results of the standardized test scores for instructional purposes while three respondents report they use the results a lot or quite a bit and two use the results sometimes. One of the teachers, felt that PARCC data should go to the next year teacher so that they can use it as a baseline and see where kids are struggling.

Five questionnaire respondents agreed/strongly agreed that performance differences in student achievement on standardized tests reflect differences in the characteristics of students rather than teacher effectiveness. This aligns with the interview responses which indicated that students who are special education or English Language learners may test

differently than non-Special Education or non-English learners. Teachers attribute these testing differences to the test's focus on proficiency rather than growth. In fact, all seven questionnaire respondents felt that the standardized test scores were not an accurate measure of what English Language Learners know and can do. This perception of not being an accurate measure was mentioned as well during the interviews. Four teachers expressed concern that their students are sometimes two grade levels behind in reading yet are forced to take an on-grade-level test. They know their students are making growth due to interim assessments but that growth will not be seen on the one time a year test that measures grade level proficiency.

According to Paula, "If I have a fourth grade student who is reading at the second grade level, and that is actually up from where they started the year, he still is not going to show any growth on the PARCC because he is so significantly behind. There is no way he is going to understand any of the test so it becomes a test on how well he can guess." She goes on to say, "It's heart wrenching because he made 232% growth in one year (as measured by the interim assessments), which is two full years growth, but he is still taking a test that is above his reading level." Loretta explains her frustration saying,

A student comes to me below grade level and they make a year's growth but that is not what the standardized test is looking at. Standardized tests say you should be at the fourth grade level and if you are not then you show no growth. We have students who have been tested for special services and have not qualified. We have students who have been retained. We have students with huge absence problems and are so far behind. I can't push a child any more than that child is willing to be pushed. How do we help these children?

Perhaps frustration with the test is what causes many students to disengage. Olivia comments, “Very few kids can sit a long period of time without losing focus.” Loretta echoes this thought saying, “We had an hour long time period for the math test and we had kids finishing in 20 minutes. I know it’s because as soon as they see the test, they go into fight or flight.” She continues, “We give all these kids all these great materials to use and then say they can’t use them on the test. Then why are we giving them materials and why are we teaching them references and resources and different strategies if they can’t use any of it on the test?” Gloria explains it this way, “When I am teaching in the classroom, I expect a lot of work – I expect every step of the problem to be shown so I can see where they went wrong. On the computer test, they have [scratch] paper but most of them don’t even use it because they just want to get it done.”

Teachers are aware of the impact standardized assessments can have on them, their teaching styles, their students, and the students’ learning. Six of the seven survey respondents say standardized tests pressure teachers to improve test scores and five of the seven believe that standardized tests are seen as reflective of a teacher’s competence. This information reinforces the pressure that has been created by tying the yearly assessment to high stakes criteria such as teacher evaluations and school sanctions. It also reinforces the notion that while teachers may push back against “teaching to the test”, many feel compelled to do so.

While four questionnaire respondents believed the teacher had very little to no responsibility for working with children to improve their performance on standardized tests, other survey questions indicated that teachers are making some changes to their practice. Disconnect between classroom instructional strategies and student testing experiences can

cause teachers to feel compelled to make changes. Questionnaire data shown in Table 2 identifies some of the changes teachers are making because of the standardized tests.

Table 2

Why teachers make changes because of standardized tests represented in whole numbers where n=7.

Question	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
I make changes in my instruction because I believe it is unfair to my students to take the test without necessary preparation.	1	5		1	
I make changes in my instruction because I do not want to lose my job.			2	5	
The standardized tests dictate how I teach what my students' learn.		2	3	2	
The standardized tests dictate how I assess what my students' learn.		4	3		
The standardized tests force me to teach in ways that contradict my own beliefs about effective instruction.	2	3	1		1

Testing fatigue can show itself in the number of tests that students must take and the time of year they are given. In fourth grade, students not only take the PARCC but they take the Standards-Based Assessment in Science as well. This causes concern for the teacher.

“As a fourth grade teacher, we are the testing grade, and it takes about 1.5 months away from my curriculum time. The information still needs to be taught but I have a month and a half less to teach it.” The third grade teacher also expressed concern about the number of tests her students take. At the end of the school year, in addition to PARCC, her students take both the Istation and iReady interim assessments, adding another layer to their testing time

that other grade levels do not experience. It should be noted that taking both Istation and iReady is a school-based decision, not an expectation from the federal, state, or district level.

Only one of the teachers spoke of instructional equity [across district and state levels] when referring to the PARCC stating, “I do have concerns about the curriculum that our children, specifically, have access to because of what they have access to in the community.” She feels that PARCC can have a place in measuring what a portion of growth can be – but just one measure; it should not be a stand-alone measure. Questionnaire data shows that six out of seven teachers disagree or strongly disagree with the statement that the administration of standardized tests achieves uniformity of content being taught across schools and districts while six teachers out of six (one checked no opinion) disagree or strongly disagree with the statement that the administration of standardized tests holds all teachers accountable for teaching rigorous content.

Teachers claim they do not use the standardized results at all because 1) they do not get them until the next school year so they are not really user friendly and 2) it does not really give good data on what kids can actually do. Of the questionnaire data, five of seven questionnaire respondents do not believe that the administration of standardized tests improves student learning; five questionnaire respondents do not believe the yearly standardized tests motivate students to learn; and five respondents do not feel the yearly standardized test motivates them to be a better teacher. However, five questionnaire respondents also stated that they agree/strongly agree that standardized test scores are seen as reflective of a teachers’ competence.

While teachers are frustrated with the one time a year PARCC test, the staff at Roadrunner Elementary school are quick to point out that they are not afraid of assessments

or data. Teachers interviewed agree that there should be multiple data points for students. What is helpful, say many of the teachers at Roadrunner, is the computer adaptive testing systems that the school utilizes as interim assessments. These tests are known as Istation and iReady.

Istation and/or iReady assessment data.

Teachers at Roadrunner Elementary School tout the value of the Istation/iReady assessments while they downplay the value of the PARCC. PARCC is often seen as a one hit wonder with results coming too late to inform their practice. On the other hand, the data from Istation/iReady is used immediately by staff and students. Gloria states, “iReady helps me as a teacher learn what I need to do to fill the gaps; what I need to do as a teacher to help kids reach [the goals] they need to reach.” Loretta likes iReady because “I’m able to see growth and get a better clue about my students’ needs and it gives me feedback – which you have to love feedback!”

The school district purchased Istation Reading for K-3. Istation Reading (<https://www.istation.com/Reading>) assess students using a computer-adaptive assessment and then based on those results, students are placed into interactive online instruction modules. Teachers receive reports to monitor student progress and provide specific skills-based strategies for teacher-led, small group lessons for targeted reading interventions. For grades 3-5, the district purchased iReady for Reading and Math. iReady is an online adaptive assessment (<https://www.curriculumassociates.com/products/i-ready/assessment/diagnostic>) that provides teachers with information on student performance and growth. Specific skills, including those above and below grade level, are identified for each student as a way to help teachers individualize instruction and accelerate growth.

Teachers want assessments and the corresponding data to be meaningful and timely. The Istation and iReady interim assessments are given three times a year; Istation for grades K-3 and iReady for grades 3-5. Again, third grade opted to give both Istation and iReady because these assessments provide different information and data. The results of these assessments are immediate and are seen by the principal, Instructional Coach, teachers, and the students to inform instruction.

Ownership of the Data

Students.

Not only do teachers like the data and information provided by iReady but students want to know how they did and if they showed growth over previous assessments. Many of the teachers talk about students' ownership of their data. Students as young as first grade are setting goals and keeping track of how they are doing. The first grade teacher explains, "Charts give us a daily reminder of where we are at. I always have my students set a goal and I give them a goal as well." She shows me data that is posted relating to sight words and points while she comments, "Right here, this is my goal where I want them to be and this is the goal they set for themselves."

Another teacher, Loretta, explains that she puts up a graph for students and asks them to tell her if they went up or down. Students compare their new score with previous scores and discuss what might have happened to prevent gains or what actions they might have taken in class to make them successful. Paula shares, "as soon as the kids take the iReady test, they come over and say, 'let me see, how did I do?' They want to see their growth on their charts; they want to see themselves improve." She goes on to explain that when she, as the teacher, gets excited about student growth and shows students how much they have

grown, it encourages them to try even harder. Paula shows me student goals posted on a bulletin board in the hallway. She tells me,

At the beginning of the year I meet with each student and ask them what they want to accomplish for the year. I show them where they have tested and ask them where they need to improve. In mid-year we look again at the goals and discuss where each student is. I have a graphic organizer in Google Classroom that each child has to complete. Students have to answer questions about what their data shows, how they feel they are doing so far and whether or not they have met their goal. If they haven't met their goal, they have to tell me what they will do to meet it. Most of the kids this year met their goals by mid year, so talk about ownership, they really do own it! It's incredible.

Teachers.

After the first Istation/iReady assessment, the staff fill out a data card on each of their students – one for English Language Arts and one for math. Depending upon their score, students get a green (on track), yellow (nearing proficiency), or red (beginning steps) card. These cards are then placed in pocket charts by grade levels in the Instructional Coach's room. As students are reassessed throughout the year, their data card is moved to the corresponding level of the pocket chart. Figure 3 shows an example of the data wall and a corresponding data card. While the original color of the student's data card does not change, their proficiency level might. Therefore, by the end of the year, it is not uncommon to see red student data cards in the yellow or even green sections of the pocket charts, and on occasion, a green or yellow card in the red section. This color display gives immediate proficiency information to staff and drives their work at the school.

In addition to the color pocket charts, data is also posted in a school-wide Google Docs account (Figure 4). Teachers have access to each other's data and they talk with each other about the data, patterns, and trends they are seeing within grade levels and across the school. Paula shares, "We can see very easily where we are doing well and where we are not. Our school is really good because we really do analyze our iReady data and the lower grades do their Istation data and we do look at it."



Figure 3. Example of the grade-level pocket charts and corresponding student's data card showing assessment information for English Language Arts.

Grade Level:	Grade Level Goal:						Grade Level Goal:							
	Diag 1	GM1	+	GM2	+/-	Diag 2	Total +/-	Diag 1	GM1	+	GM2	+/-	Diag 2	Total +/-
Name														
Student 1	413	494	81	496		83	415	398	17	428				13
Student 2							385	358	27	407				22
Student 3							349	343	6	354	4	359		10
Student 4	518	500	18	486		32	444	431	13	433				11
Student 5	471			527		56								
Student 6	461	444	17	506		45	414	386	28	419				5
Student 7	486	511	25	501		15								
Student 8	444	422	22	450		6								
Student 9	504	518	14	467		37	453	468	15	432				21
Student 10	457	487	30	474		17	430	438	8	456				26
Student 11	540	526	14	564		24								
Student 12							402	403	1	419	1	418		16

Figure 4. Example of one teacher's data (with names removed) input into a school-wide Google Doc account that all staff have access to and discuss.

Olivia explains the data analysis process like this, “We usually break up by grade levels and look at our Istation results and see what the student weaknesses are. We have an RTI (Response to Intervention) form (Figure 5) to fill out so we write down where each student is.” RTI data comes not only from Istation but short-cycle assessments done within each classroom.

RTI Skill Group Problem Solving Guide				Rti Cycle 3: Teacher: _____							
IStation: Reading											
Tier 3				Tier 2				Tier 1			
Learner Centered Problem: (Letter Knowledge)				Learner Centered Problem: (Letter Knowledge/Alphabetic Decoding)				Learner Centered Problem: (Comprehension/Spelling)			
Name	BOY	MOY	EOY	Name				Name			
Student 1	198	199	210 +11	Student 9	196	200	NA	Student 18	227	216	234 +7
Student 2	191	202	215 +24	Student 10	194	206	NA	Student 19	203	208	218 +15
Student 3	192	205	NA	Student 11	197	196	225 +28	Student 20	212	216	217 +5
Student 4	192	193	211 +19	Student 12	201	210	216 +15	Student 21	208	209	212 +4
Student 5	191	199	210 +19	Student 13	199	206	211 +12	Student 22	213	215	225 +12
Student 6	191	191	210 +19	Student 14	195	211	208 +10	Student 23	205	209	223 +18
Student 7	191	192	209 +18	Student 15	198	206	216 +18				
Student 8	NA	NA	201 +15	Student 16	200	198	226 +26				
				Student 17			217				

Step One: Identify Learner Centered Problem
Use ISIP Summary Report to identify skill focus (lowest area of need).

Step Two: Analyze
1. Summary report: Use this report to determine growth or loss between Rti cycle () and goal for Rti cycle ().
2. *Optional-Student Summary Handout: Click on the (+) sign next to a student's name in the Classroom Summary to find more information about areas of weakness/skill focus.

BOY: 35% (1) red 38% (2) yellow 29% (3) green	EOY: 20% (1) red 55% (2) yellow 20% (3) light green 5% (4) dark green
---	--

22% (4/18) increased 0-9 points
56% (10/18) increased 10-19 points
22% (4/18) increased 20-29 points
2 new students not included since they were not here at BOY

All 18 students from BOY showed some growth from BOY to EOY scores.

Figure 5. Sample of RTI form completed every six weeks by the teachers.

Olivia turns to show me the groupings of students she has on her white board where each student's name is posted on a magnet. Olivia shares that she uses magnets because groups are frequently changing as students master some skills and struggle with others. “This group is working on alphabetic decoding because they are still struggling with nonsense words and putting sounds together. Depending on what their scores show, not only on Istation, but through daily observation, this group might change.”

Regarding RTI, one teacher comments, “There are some teachers struggling with RTI. They have [students] placed in small groups but it is not as individualized as it could be. But they are trying; they are getting there.” In classrooms, you see the use of leveled

readers and/or small group work where teachers are working with three to four students on specific skills.

Principal.

This sharing of data and best practices has been a culture that has been growing for several years at Roadrunner Elementary School. The teachers and current principal are quick to point out that the work of the previous principal laid the foundation for where the school is today. According to the staff, the previous principal was data driven; she was directly involved in the data discussions, pulling data regularly and having specific feedback criteria that she wanted the teachers to target. She tracked the data regularly and asked questions of the teachers regarding their individual data. A majority of the staff has been at Roadrunner Elementary School for a long time, and looking at data was an embedded part of their practice, so when the former principal left and the new principal started, the work around data continued.

When Mr. Yanez took over the school two years ago, he acknowledged that there were many systems already in place. “As far as structure and sustainability, the previous principal did a good job of building structure here. The teachers who have been here a long time tell me it has been that way for a while.” Over the last two years, these systems have been refined and the focus on individual students and standards mastery implemented at an even deeper level. However, changes were not made immediately. Gloria comments about the principal, “He was smart; he watched to see what we were doing. He saw some weaknesses but did not do anything at first and then finally he started to change things. He saw things that were working and looked at the things that weren’t and how we could tweak it to make it even better.”

Throughout the school year, the principal meets with his 90-day team, which is the school's leadership team. Ninety-day teams are based on the state and district approach to creating 90-day plans that serve as a road map to help schools clarify specific priorities and actions that are most important during a 90-day period. In addition to the 90-day team, the principal also communicates expectations through staff meetings and through the Instructional Coach. About the principal, staff comment, "He is really good about getting on Google Classroom"; "He is really good about talking to us – formally and informally – and he has a great open door policy"; "When he is at PLC (Professional Learning Communities) meetings, he asks questions and makes sure everyone has a voice."

Mr. Yanez uses the Google Docs to check the data of every single student. "I look and check every kid's data and know where they are at. When a teacher talks about this kid, I'm able to get in the conversation and say, 'No, that kid is on red or that kid is on green; we can't do that with that kid.'" He visits the PLCs and asks questions; he wants to know what is happening with specific learners and learner groups. To him, it is fun to be able to look at the data. The Instructional Coach affirms that Mr. Yanez has been a huge stakeholder in the data work. "He has been a strong proponent of telling staff we really need to make this shift; this is where we need to go and this is what the district is asking of us," she says.

Mr. Yanez takes advantage of any trainings the district offers. He wants to learn as much as he can and is constantly assessing what different data points mean or how the school staff can work on a particular area. It is important to him that he is knowledgeable about the data and about students, explaining, "If I don't know, in our meetings, that is not a leader. If I don't know, then [teachers] will blow me off when I come and tell them something, when I have those hard conversations. So I make it a point to learn all I can."

Staff say he has a more casual approach to the data and discussions than the previous principal but he would call it more of a “coaching approach.” Olivia explains the difference in the two administrators this way: “the previous principal was more directly involved with the data, whereas, under Mr. Yanez, the teacher’s own it” referring to the focus on data and the process by which they look at the data. The Instructional Coach states, “He does it in really a coaching perspective, rallying up the team kind of way.” Table 3 summarizes the questionnaire responses to the principal’s approach with staff regarding standardized testing.

Table 3

A summary of the principal’s approach with staff regarding standardized testing represented in whole numbers where n=7.

Question	A lot/ All of the time	Quite a bit/Often	Sometimes	Very Little	Not at all/ever
I feel encouraged by my school administration to organize my lessons around the standardized test objectives.		2	3	1	1
I feel pressure from my principal to produce higher student test scores.			4	1	2
My principal makes verbal comments regarding the need to raise standardized test scores.		1	4	2	
My principal places pressure on me to produce higher scores on my students' standardized tests.			2	4	1
My principal indicates student test scores are not important.			1	3	3

Mr. Yanez believes his role is to facilitate and hold teachers accountable to data. “I hold them accountable because this is what we need to do to be able to move forward; now we are really using data to drive instruction.” Expectations and accountability represent a

key element of effective leadership. “Expectations are effective only when they are paired with accountability measures enabling observers to determine whether expected outcomes are reasonable and whether they are being attained” (Wahlstrom et al., 2010, p. 30)

Perhaps because he was a former coach, he tries to create a competition with everyone. “Sometimes it’s good and sometimes it’s bad because it creates animosity. I tell my staff, ‘when you have a team, you have your superstars, your middle athlete, and your lower athlete. That’s your team.’ You can’t just trade them off and move on. You have to work with what you have and make them better.” The coaching conversations to make teachers better typically happen during the pre- and post-observation conferences where he is meeting with teachers one on one. One thing he has learned, says Mr. Yanez, is “you have to tell them straight up what is going on and what you are thinking. I try to be positive the majority of the time but I still tell them, look, you need to do this.”

This coaching philosophy reflects the approach to teacher evaluations for which Frontier and Mielke (2016) advocate. They contend that evaluations should consist of reliable and valid evaluations through empowering and focused supervision with time for meaningful and purposeful reflection (Frontier & Mielke, 2016). “Evaluation to get rid of ineffective teachers while rewarding effective teachers has not worked due to the sole focus on measurement as opposed to growth” (Frontier & Mielke, 2016, p. 72).

Instructional Coach.

The principal and the teachers are supported by an Instructional Coach who has been at the school for five years. She has worked hard, and continues to work hard, on building relationships with the teachers so that they feel comfortable coming to her for support. Many of the teachers seek her out for guidance about their data, intervention strategies, or

instructional practices. In one conversation the Instructional Coach has with a teacher, she tells her, “Look at you! Only six kids in the lowest tier. You knocked it out of the park!” As the teacher looks at the list of kids, she notes that of the six, one has already been retained and he is still scoring below grade level. Since he does not qualify for Special Education (he has already been tested), she and the Instructional Coach discuss other ways to support this student.

In another conversation, the Instructional Coach and the special education teachers are discussing placement of a student in an RTI group for the upcoming school year. They discuss whether that student should stay with grade level peers or move to a higher grade because of his testing level. “I’m OK with pushing him if the goal is to foster more independence. If the goal is just completion of work, then he could stay, but he would not be challenged,” says the teacher. The group talks about developing leadership skills and role model experiences for the student by placing him in a higher RTI group. They make a decision and immediately move to check the data for the next student’s name to come up for RTI placement.

Olivia credits the principal and the Instructional Coach for making sure staff looks at data on a regular basis. The Instructional Coach confirms that she and the principal are constantly looking at data, conversing and reflecting on the next steps for the school. The school is data focused and they want to continue to evolve and grow in the process. The Coach comments,

When I first got here, we did a lot of breaking down of the standards and diving into the data. When we first introduced using the Google Docs for data collection, we had a lot of resistance. Now, teachers are analyzing data down to a specific skill set to

help students learn and grow. They are analyzing even deeper than they are expected to. They are owning it and you can see there has been some movement...we finally have some green! It's awesome to see when those reds really come up (referring to the student data cards).

Teachers know the Instructional Coach and the principal have already seen the data in Google Docs, so conversations center on what strategies teachers need to incorporate, be it whole group, small group, or explicit strategies and on what skills they need to focus. These conversations help the Instructional Coach plan professional development and understand better how to support teachers. The Coach says she taught herself to look at and analyze data, a practice she used in the classroom to drive instruction when she was a teacher. Of the process she says, "We learn as we go and figure it out. The beginning of the data analysis has grown into this for us."

Collective Accountability

More than one teacher talked about "feeling lucky" because they are at a small school and how that makes it easier to communicate about kids. Olivia states, "small means more communication and more..." She pauses here and then goes on to say, "We always say get to know your kids, well, we also get to know each other which makes it easier to communicate about what kids need." Loretta and Abby similarly describe that a small school means many of the staff know all of the students and when staff members encounter each other, they can have conversations on the fly. Loretta gives an example of when she and another teacher were working on the talent show committee and how talk often turned to the kids and even curriculum.

In addition to the informal conversations staff have, there are also many formal opportunities to dialogue about data and students. The staff meets weekly in some form to attend to the business of the school. These meetings could be through grade level meetings, 90-Day Team meetings, Student Assistance Team meetings, data meetings, PLCs, or professional development sessions. The conversations in these venues have grown over time with some staff sharing more than others. The principal and teachers agree that the majority of the teachers engage in large-group discussions but they acknowledge that it can be difficult for some people. Mr. Yanez cultivates a mindset that one should never be afraid to share a success or a failure. Abby comments, “We had a couple of key people share and it has grown organically so I think we are more open to sharing; we have enough people that are developing this mindset and it is starting to become okay to share.”

“When teachers work in teams that engage in instructional dialogue or inquiry into practice, teachers see more direct causal connections between their actions and student learning” (Elmore, 2014, p.17). For data dialogue within the PLCs, three of the teachers reference the Baldrige training that was introduced in the district fifteen to twenty years ago. Baldrige refers to the work of Malcolm Baldrige and the Performance for Excellence Framework (<https://www.nist.gov/baldrige>). These Baldrige trained teachers know the importance of looking at data and making data driven decisions and they use what they have learned to help their colleagues.

Three times a year, substitutes are provided for each teacher for a half-day so that teacher teams can meet to analyze data and discuss students. For the half-day data dives, the Instructional Coach explains,

We analyze and look at trends that are happening within grade levels, trends that are happening within the school, trends that are happening within populations; like what is happening with our ELL kids. We might see a trend of ELL kids and vocabulary so we really try to figure out strategies throughout the building. We go into some deep questioning and I provide stem questions for them to prompt their data dives. For example, they look at who is progressing and who is regressing. We look at strategies that would help. We break it down so we know how many kids are on an IEP and how many kids are on SAT. We look at different classes and where students are at in each one.

Teachers are frequently visiting each other's classrooms talking to each other and sharing with each other what works and what did not work. All the teachers acknowledge that sharing data with a colleague or saying "I'm struggling in this area" can be difficult or even unnerving, yet Roadrunner Elementary School has worked hard over the last several years to build that culture of sharing and trust. Some of the staff feel more comfortable sharing with only the Instructional Coach or their grade level partner rather than the whole staff but as one teacher says, "All staff work together to benefit the children." In their research, Bryk and Schneider (2003) note "Integrity also demands that a moral-ethical perspective guides one's work. Although conflicts frequently arise among competing individual interests within a school community, a commitment to the education and welfare of children must remain the primary concern" (p. 43).

Loretta acknowledges that trusting your partner teacher takes some time and admitting your own strengths and weaknesses. Three years ago, she noticed that her kids were performing better in math than English Language Arts while the opposite was true for

her partner teacher. They decided to take a team approach so that Loretta would only focus on math while her partner would only focus on English Language Arts and students would switch between them. “There are times we don’t always agree, but I have to put the faith in her,” claimed Loretta. It has taken a lot of conversation and figuring out bumps along the way but she reports that they saw “huge data numbers” from swapping.

In fact, this model of being content specialists and switching students is going to be implemented across the school beginning Fall 2019. The schedule will allow for teachers who are strong in one content area to teach that content area. In essence, half the staff will teach English Language Arts and the other half of the staff will teach math, and then they will swap kids. This dedicated schedule for English Language Arts and math instruction will also allow for common planning times within contents. However, the big reason for this model is that it will allow support staff to provide push-in RTI services twice a week for each content area, further meeting the needs of the most struggling learners. Mr. Yanez previously worked as a high school assistant principal in charge of scheduling so he understands and is a driving force behind this approach to content specialization. To give this method time to work, Mr. Yanez worked with the leadership team to secure a two-year commitment to this new approach.

While sharing data can be daunting, the growth mindset that the principal has worked to cultivate is encouraging. Paula shares, “It’s like I always tell my kids, you really have to fail a few times to grow. It’s the same with teachers. We really need to make some mistakes to know where we need to fix those mistakes to be able to improve our data. So we have to be very open with where we are at and what we need.” Abby echoes this mindset, “It’s weird and tricky; it’s weird to see your own failings and tricky because my instruction has to

evolve.” Loretta comments, “Teachers have to be able to look at themselves and take constructive criticism. That is hard but at the same time, it’s only going to make you a better teacher. That is what teaching is about; best practices are learning and sharing with each other.” Still, as Table 4 shows, teachers cannot help but wonder how student’s scores and performance will reflect on them and their school.

No matter your comfort level for sharing your data, ownership of the data at all grade levels is everyone’s responsibility. The concept of collective accountability frequently comes up in discussions with teachers and during the interviews and observations it was common to hear phrases like, “Ownership of the data is now really everyone in K through five” or “We are accountable to each other; we hold each other accountable.” The idea that a teacher may not want to be accountable or not share their data in some way is almost unheard of. Olivia says, “If there is someone who is not really data driven, gosh, it’s really what you want for your students, for your school, for your community.”

Through all of the data talks, teachers are aware of the disconnects that can happen between grade levels and are working to address them. Teachers align mastery expectations both within their grade levels and with other grade levels. Pacing guides and frequent monitoring of student progress ensure each child is on track. With every teacher having access to the data on Google Docs, teachers can look at their prior students and ask, “What’s going on? What’s happening?” Paula, Loretta and Olivia all reference using the ensuing grade level teachers for resources so that those teachers can give perspective on what will help when students get to the next grade level.

Table 4

How teachers view standardized scores as a reflection of performance represented in whole numbers where n=7.

Question	A lot/ All of the time	Quite a bit/ Often	Sometimes	Very Little	Not at all/ ever
I worry about adequately preparing my students to take the standardized tests.	1	3	3		
I wonder how my class will compare to other classes in the school on the standardized test results.	1	2	4		
I wonder how my school's performance will compare to other schools in the district on the standardized test results.	1	2	3	1	
I wonder how my students' performance on the standardized tests will affect my teacher evaluation.		2	3	2	
I wonder how my students' performance on the standardized tests will affect my reputation as a teacher.		3	2	1	1

Teachers are starting to realize what is important at the next grade level in addition to their own grade level, and what they need to teach, reteach, or let go if there is not enough time. These conversations are especially important in what the school considers to be transition years: kindergarten to first grade and second to third grade. As the school has been more open about sharing data as a whole, they have noticed gaps between the transition grades. Abby explains that there is a disconnect between K-2 and 3-5 especially with the two different Interim Assessments that the district provides. This makes data conversations difficult sometimes and thus one of the reasons third grade uses both assessments. Abby

goes on to explain that even with the primary (K-3) grades using the same assessment, it can be difficult to have conversations. “Sometimes data discussions don’t include Kindergarten because they just don’t have the readiness skills, especially in the beginning of the year, to really engage in the data discussions.” This is echoed by the principal who states, “It’s such a different world down there with those little ones. We are trying to focus on certain things with our Kinder to just try and get them ready for first grade.” In addition, Kindergarten is housed in a separate building so the opportunities for cross-talk and the interactions that happen amongst the other grade levels are not as frequent or naturally occurring.

In terms of the transition between second to third grade, the data analysis has helped to identify gaps, not just in the instructional strategies which typically move from more hands-on to abstract, but also in the standards. Paula explains it in this way, “We realized that there are no fractions before 3rd grade. We talk about pieces or you might show one-half of a square but you never see the actual fraction of $\frac{1}{2}$. As a school, we needed to bridge this gap and so Kinder, first and second grade teachers began incorporating fractions and fraction talk into their lessons.”

The concept of collective accountability extends beyond the teaching staff. When asked where the responsibility lies for closing the achievement gaps, every single respondent talked about a collective responsibility that extends beyond the classroom. While teachers may feel the most pressure, they all agree that teachers alone cannot be responsible for closing achievement gaps. One teacher lamented, “Too much has been taken away from parent responsibilities and falls to the teacher.”

There is a pervasive belief at the school that students and parents must take ownership for student success through daily attendance, active participation in school, and knowing

where each learner stands in terms of grade level content mastery. Many of the teachers work with parents to help enhance the learning that can take place at home. Olivia creates two minute videos which show parents how to do certain homework problems and models the “use of academic language but in a kid friendly way.” Gloria is involved in the Community Action Team that looks at how the school can work with parents. She states, “We model and give them some workbook pages and videos and then they can go home and model for their own kids.”

In addition to the instructional strategies, teachers want parents to read to their children and make sure they are at school every day. For incoming Kindergarten students, parents are provided with a resource packet that includes a calendar of activities that parents can do with their child over the summer. Materials to support the activities, such as scissors, writing paper, and clay are also provided. Every single person interviewed for this research paper stated that the responsibility for closing achievement gaps lies with the school and district leadership, school and district curriculum, parents, and even students themselves.

The School’s Testing Culture

With all this focus on data and student growth, does it translate into less stress surrounding the PARCC? That is a hard question to answer say the staff. On the one hand, they have taught the skills and concepts that they needed to teach. They know that they spent weeks on topics, they have looked at data and taught and retaught concepts. Some staff realize that by testing time, they have done all they can and “it is what it is” but they also know that others are “very intensely stressed over it.” Six out of seven questionnaire respondents agree/strongly agree that standardized tests pressure teachers to improve students’ scores.

One teacher comments, “I stress myself out because I know I taught it and the kids don’t learn it.” Another teacher says, “I think it is stressful because even when you are reviewing and you know you spent weeks on a concept and then the student looks at you like they totally forgot everything!” Yet another teacher states, “We have students demonstrate massive growth in iReady. Then it all comes down to one moment in time for a student to show what they know on the PARCC.” To complicate things, very few students can sit for such a long period of time without losing focus. The typical English Language Arts test for third grade is 75 minutes times two tests and 90 minutes for fourth and fifth grades times 2 tests. For grades 3-5 in Math, the testing time is 60 minutes times three tests per grade level. Olivia says, “You have to really be cognizant of how you set up the test for them; the environment, the proctor, there are so many factors that go into testing in addition to what the student knows.”

One teacher says, “You are always stressed out. You want the state to sit and there and say, ‘well, they are doing well’, but they have not been in the classroom lately. Do the people who are making the decisions really remember when they went to school? They remember certain aspects of it but they don’t remember what teachers have to deal with every day.” Gloria says, “We tier the interventions and read with them every day. We look at data and provide tier support. They have made gains but they are still behind.” The Instructional Coach offers support to teachers by suggesting ways they can embed reviews and concepts into their daily instruction. The teachers want the students to perform well but PARCC is one time a year, based on grade level proficiency instead of growth, and connected to high-stakes outcomes. Thus, the stress is high.

The staff agree that the overall culture of Roadrunner Elementary is a positive one but testing definitely is a stressor on the culture. In addition to the high stakes, testing comes in late April when staff and students alike have given just about all they can give. Abby says, “You notice a big culture shift in your own building and part of it is assessment and the time consumption.” Even with the new regulations from the new governor that mandate testing not be a part of teacher evaluations, staff at Roadrunner Elementary School still feel accountable for the success of their students.

To help alleviate the stress, the school planned fun activities during the late spring testing window. For PARCC kick-off, the school had song and dance performances and they did a “Vader and Yoda fighting each other and just ridiculous things” says Loretta. There was an NDI (National Dance Institute) dance performance at a school assembly and the school talent show also takes place during this time. There was a daytime talent show for the school and another nighttime performance so that parents and community can attend. In addition to the typical singing and dancing, other student acts included a ballet dancer, a magician, a hula dancer and even stand-up comedy. Three teacher acts, one of which included the principal, engaged in a lip sync battle. All of this was designed to help lighten the atmosphere. In fact, all seven questionnaire respondents strongly agree/agree that as a teacher, they work hard to make testing week as pleasant as possible for the students.

The principal tries not to add to any of the pressure that teachers feel related to the standardized test but the questionnaire respondents are split on this. Three respondents strongly agree/agree that the principal works hard to make testing week as pleasant as possible for the teachers while another three disagree with this statement. One respondent had no opinion. According to Mr. Yanez, “I try and create a culture year-round that is

relational. My first year I didn't put any special emphasis on the test; we didn't talk about it, we just prepared. Sometimes teachers and students get too fired up and then they panic when they have to test. So we just practiced and made sure students knew how to work the computer. We will do the same again this year." Again, don't let his casual approach fool you. He is very much laying out expectations and communicating information regarding testing and student achievement. He just 1) does it earlier in the year and not at testing time; 2) employs the coaching role versus an authoritarian role and 3) knows exactly what the data is so he already has a good idea of how the school will perform.

Regarding the testing culture, Abby explains it this way:

I do feel that as a generalized rule in the media that standardized testing is used as a negative culture piece – very punitive. I feel that unfortunately, some of that negativity and sentiment gets stuck in the mentality of teachers. I see a lot of teachers lash out to each other or be critical of each other, or even people in our district be critical of each other. I really feel that there is no place for that. We get enough criticism from the outside. We really need to be working together and defensive of each other and protecting each other because we all know the reality of this [job] and how difficult it really and truly is and how awesome it really is. Unfortunately, I think this is a part of our political climate and media exposure right now.

Paula acknowledges that every state has to have some kind of standardized testing but the differences in kids are so immense that “we can't put all of our kids in one little bubble, one testing bubble.”

That testing bubble is what the state of New Mexico has started to address under the leadership of the new governor who took office in January 2019. Four days after taking

office, Governor Grisham signed two executive orders; one to end New Mexico's use of the PARCC and the other to end using PARCC in teacher evaluations. Through the executive order, the Governor called on the New Mexico Public Education Department (NMPED) to "work with key stakeholders to identify and implement a more effective, more appropriate, and less intrusive method for assessing school performance that is compliant with the federal Every Student Succeeds Act" (Schroeder, 2019, para. 2).

Perhaps this new approach will better reflect schools like Roadrunner Elementary School. Schools where students start kindergarten typically two years behind academically; schools where there are large percentages of English Language learners; schools where there are issues with mobility and impacts from low-socio economics. Schools that are more focused on growth than proficiency.

Major Findings

This small community school has not always fared well under the NM Public Education Department School Grading system. Since the Department began issuing school letter grades in 2012, Roadrunner Elementary school has struggled, typically earning a "D" or "F" letter grade. However, with the release of the 2017-2018 report cards, Roadrunner Elementary earned their first "B" grade. Points awarded to the school show they are making progress in several key areas and nearly tripling the points awarded in the area of achievement for their lowest performing students. So how did this school, which has all the at-risk characteristics symbolic of a low-performing school, achieve their "B"? What type of testing culture did the school establish and what was the principal's role in using data to lead learning?

Everyone uses the data to lead learning

Collecting data without purpose is meaningless and in our rush to collect data, we have become data rich and information poor. We must improve our ability to convert data into information that can lead to better decision making as the effective use of data, and specifically multiple data points, plays a major role in the development of school improvement plans (Creighton, 2007).

At Roadrunner Elementary School, everyone is involved in data analysis. The school-wide culture of looking at data was not established under the current principal, Mr. Yanez, however, he has refined and enhanced the work of the previous principal. The staff are quick to point out that the task of looking at data has been prevalent in their school for quite some time, however, the way the staff looks at data has changed and the way the principal interacts with staff regarding the data has changed. During her interview, Abby commented, “I like the idea that we are all, hopefully, working together. I don’t feel [the pressure of increased student achievement is] a burden on any one teacher and I hope that if a teacher here is feeling that way, there are other teachers who can help. It can be terribly isolating and that is hard to feel that you are the only one who can close the achievement gap. That is a big weight.”

Staff credit the principal and the Instructional Coach for making sure teachers look at data on a regular basis and analyze data at a student skill level. There is a school-wide Google account in which all staff can see each other’s data, including the principal. Staff know that the principal looks at the data and that he has discussions regarding student data with each of them. Mr. Yanez tracks the growth of each of the students and when staff meet in PLCs or for Professional Development, he is right there in the midst of the conversation.

He knows how each student is performing and he knows where gaps are in grade levels and with certain populations.

As pressure for improving student performance grows and test results are increasingly scrutinized, school principals must focus more and more on the core business of schooling: student learning (DiPaola & Hoy, 2012). While strong leadership is important for school improvement and performance (Fullan, 2007), achieving increased student learning through others is the essence of effective instructional leadership (Hallinger & Heck, 1998). Mr. Yanez works with the Instructional Coach to use the data to drive the direction of the school. Previously, teachers were looking at data but they were not connecting it to specific skill gaps for students. It was more a categorization of proficient and non-proficient. As the data analysis has progressed, teachers have identified explicit teaching strategies to incorporate into their classrooms to teach specific skills and then teachers track the data through short-cycle and interim assessments to see how students perform. Analysis of short-cycle data is shared with students, shared with other teachers, and analyzed by the Instructional Coach and the Principal. Students who need targeted interventions are identified, instructional strategies are adjusted, professional development and coaching support are provided, students are assessed, and the cycle repeats.

Goodwin et al. (2018) describe how education reform has taken on a business-like focus with the bottom line being student achievement. To increase our bottom line, reformers created standards, assessments, goals, and consequences for failure to reach those goals. “To dramatically move the needle on such a large system we had to see stunning achievement; but that was only the first stage in a long-term, large-scale reform” (Goodwin et al., 2018, p. 2). Teacher and administrators understand the realities of student

accountability, but they question the benefits of large-scale standardized student assessments. Assessment and evaluation disconnected from the day-to-day teaching and learning consumes too much time, produces results that do not help teachers improve their performance, and “places those who are supposed to benefit from the system in a passive role as mere recipients of an external judgment” (Frontier & Meilke, 2016, p. 2)

The data derived from standardized tests and the ensuing accountability systems were designed to measure performance, but neither the data, nor the systems, provided explicit guidance to school leaders and teachers about specific steps to take to improve performance (Anderson et al., 2010). “The cognitive growth for each student needs to be examined with respect to individual ability using multiple assessments” (DiPaola & Hoy, 2012, p 76). Roadrunner Elementary School has developed a system whereby they use multiple data points, through a structured system of collaboration to address individual learning needs.

When the PARCC was created as a key component of standards-based reform, it was initially designed to be more than a yearly, summative assessment. PARCC and other testing consortiums were supposed to create a suite of assessments (see Figure 6) that would provide formative and summative information (Fisher, Frey, & Uline, 2013). The formative assessment components would not be used for accountability purposes but rather aid in making instructional decisions. Unfortunately, this has not come to fruition.

The use of multiple assessments that are meaningful, timely, and provide specific information to improve student learning is a constant refrain of the Roadrunner Elementary School staff. Teachers typically do not receive an individualized plan for instruction that allows them to know what a student should have learned previously, needs to learn currently,

and will learn once they leave their classroom (Chenoweth, 2009). It is for this reason that short-cycle assessments, data analysis, frequent sharing, and discussions are so important.

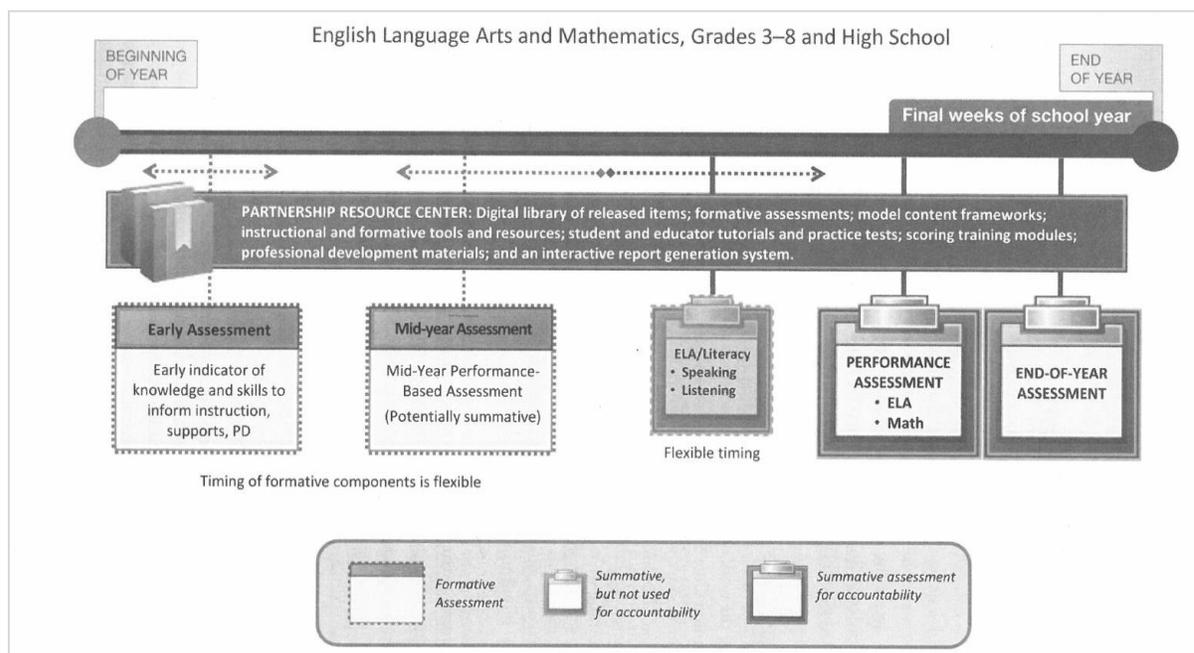


Figure 6. PARCC comprehensive assessment plan.

Efficacy and Accountability through Collaboration

School leaders play an important role in making teacher collaboration possible. “The process of interpreting student data, discussing instruction, and coming to shared understanding is a complex task that requires adequate time for productive discussion” (Elmore, 2014, p. 16). At Roadrunner Elementary School, Mr. Yanez has created a structure that allows for collaboration times among the staff, allowing them time to analyze student data, talk with others about the data, and use the data to help them inform instruction. Structural conditions facilitate the creation of relational trust in a school community (Bryk & Schneider, 2003). When quality instruction becomes the central focus in a school, those who are effective teachers become increasingly valued, often becoming important informal leaders in schools, willing to help and share with their peers (DiPaola & Hoy, 2012).

This process of interpreting student data, including assessment results, visiting each other's classrooms, and determining specific instructional strategies or resources can support shared beliefs about effective instruction (Elmore, 2014). "When teachers work in teams that engage in instructional dialogue or inquiry into practice, teachers see more direct causal connections between their actions and student learning (Elmore, 2014, p. 17). Researchers like Chenoweth (2009), Frontier & Mielke (2016), and Goodwin et al. (2018) also advocate collaboration as a next step in improving student achievement. Staff at Roadrunner Elementary School have collaboration times built in weekly schedules. They are also afforded three half-days throughout the year to come together as a team to look at data, discuss student needs, and share with each other.

Working together in new ways leads to a culture of collective efficacy. The more a group believes in their collective capability to attain a goal, the more likely they are to pursue that goal and put forth the effort necessary to achieve success (Bandura, 1997; Goddard et al., 2000). As faculty collaboration becomes more effective and more tightly linked to instruction and student learning, opportunities for individual teachers to enhance their instructional strategies and confidence in their abilities increase (Elmore, 2014). Additionally, in their research regarding trust in schools, Bryk and Schneider (2003) found that "relational trust is more likely to flourish in small elementary schools with 350 or fewer students" (p. 45) since the work structures of a small school are less complex and its social networks are typically fewer in number.

"Teachers in beat-the-odds schools were more likely than teachers in low-performing schools to report having influence in school decisions and a shared vision for success" (Goodwin, et al., 2018, p. 16). The processes that support teacher collaboration at

Roadrunner Elementary School promote a clear pathway for teacher growth and a culture of collective efficacy. Collective efficacy repeatedly emerges in research as a “powerful predictor of student achievement, able to offset the effect of student demographic variables and explain high proportions of between-school variance in student achievement across a variety of grades and subjects” (Elmore, 2014, p. 19).

Roadrunner Elementary School contends with many of the variables that characterize at-risk schools, mobility, poverty, English Learners, etc., yet the staff has developed a shared vision for success. They have embraced a collective accountability and they hold each other accountable for student performance. This is not only evident at the testing grades (3-5) but at all grades K-5. School staff display a collaborative approach to closing the achievement gaps and they hold themselves accountable for their progress. Loretta commented, “If we can’t close the gaps or help them be better, there has to be consequences.”

While Mr. Yanez sets forth explicit expectations for performance and does not shy away from holding people accountable, he is not the only one who has these type of conversations with staff. Many of the staff interviewed gave examples of how they themselves, not the principal or the Instructional Coach, would address other teachers who they felt were not rising to the level of expectations for the school. One of the teachers states, “I’m sorry but the fluff needs to go sometimes. I learned to say to my colleagues, ‘we need to step up’.” Another teacher comments, “People do not jump in full force. You have to guide them a little bit at a time and those that balk the most, I’m sorry but they go. They have to go! They have to go to other places and try to fit into a school that works for them.”

Culture

Roadrunner Elementary School staff have created a school that works for them and the students they serve. The positive school culture strengthens the “heavy lift” for which all schools are now tasked. When all staff are working together and pulling in the same direction, the work becomes easier than when everyone is working in isolation. Loretta shares that the 90-day team pushes positivity, not just with each other but with the students as well. “We want the students to see teachers being positive with students and for students to see teachers being positive with each other. We can’t tell a student to be nice and then we are yelling or talking about each other in front of students.” This positivity Loretta believes carries over into achievement. “If you have a student in your classroom and they feel they are bad in math, when you are patting their back or recognizing something they did in reading or math, it makes all the difference.” Olivia also tries to always focus on the positive. She believes, “If you are always negative, it carries on to the kids.”

“Most recent research indicates that school leadership able to integrate aspects of transformational and instructional leadership will have the greatest effect on teachers' instructional practices” (Elmore, 2014, p. 11). When principals and teachers put forth effort to empower others to see themselves and their work in new ways, they engage in transformational change (Frontier & Mielke, 2016). This shift from a focus on external rewards and consequences to intrinsic meaning and transformation helps create a culture that acknowledges the need for everyone to improve and provides opportunities to develop and share instructional strategies.

The camaraderie, the collective accountability, and the coaching mentality, all contribute to a school culture that works hard together on behalf of students. The staff

readily admit that they are not afraid of assessments or data, they just want assessment data that is useful and timely. The staff do not find the summative PARCC data to be either of those things; therefore, testing time is stressful at the school because the test is seen as a one-hit wonder. The staff know that even if their students have shown exceptional growth on short-cycle assessments, the chances are very likely that the student is still below grade level and therefore will not perform at the proficient level on this summative test. Staff want their students to do well and demonstrate their content mastery but this particular assessment is disconnected from what the staff want. This disconnect does lead to stress.

At Roadrunner Elementary School, the overall culture is strong so it can help offset the stress of testing time. Furthermore, the principal tries not to add to the stress of testing during testing season. The students and staff work hard all year so the test is not a surprise. This does not stop staff from personalizing or comparing the results but that added element is not a directive from the principal. Finally, the school intentionally plans fun activities during the high-stakes test that provide healthy outlets for stress relief. Students who have struggled with the academic expectations of the test can now shine through other ways. Sharing and being recognized for talents outside of testing proficiencies helps students and staff keep focused on the whole child.

While teachers are very much focused on academics at Roadrunner Elementary School, they also stress a whole child approach to their teaching. Olivia comments, “First, you have to get them to really want to be here. If they see you care about them, then they will want to work on academics because they will want to please you because they see you respect and care for them.” One of the Special Education teachers comments, “My philosophy is whole child first, seeing what is developmentally and socially appropriate and

then adding in curriculum.” Gloria believes that kids learn through music and playing. She incorporates a fun and playful approach to teaching but always remembering to tie the learning into standards.

Despite their relative success, staff at Roadrunner Elementary School know that success can be fleeting and there is always work to be done. “We have been at a “D” for a long time. We can celebrate the “B” but I’m worried about that score right there. I know my data and I know what we need to do.” Another staff member reflects, “You don’t just all of a sudden go from a “D” to a “B”. It does not happen like that. We have been building this for years and then it finally showed on the PARCC.”

Roadrunner Elementary School displays characteristics of the Learning quadrant that Reeves (2006) describes in his Learning Framework. They have a strong understanding of the antecedents leading to student achievement. For the 2017-2018 school year, the school showed strong student achievement results over previous years with approximately 49% of students scoring at Levels 3-4-5 on PARCC in both English Language Arts and Math. However, for the 2018-2019 school year, their results on the Transition Assessment dropped in English Language Arts to around 42% of student scoring at Levels 3-4-5 while 49% of students scored at Levels 3-4-5 in Math. While student achievement was not as expected for this past school year, the staff at Roadrunner Elementary School are committed to improvement and growth through their deep data dives and commitment to collective accountability. They continually exhibit the traits of the Leading quadrant in their practice.

Chapter Five

Discussion

Over the years, the pendulum of education has swung from the far left to the far right through various trends and subsequent policies as reformers have demanded increased accountability and return on investment. Student achievement, specifically as it relates to standardized testing and leadership strategies, has been a significant focus of the pendulum swing of educational reform (Dee & Jacob, 2009; Leithwood & Jantzi, 2008; Leithwood & Sun, 2018; US Department of Education, 2004, 2010).

Standardized testing is used by coaches, employers and college admissions offices across the country. These tests are an essential part of assessing skills, certifying the extent of one's content knowledge, and providing measurable indicators of how someone is performing. Rarely, if ever, do these entities get pushback for the use of assessments in these real-world situations. Yet weekly, if not daily, one hears an uproar over the use of standardized assessments in K-12 education. Just as these tests allow for comparison, and even ranking, of individuals in similar stages, this same method, the use of standardized tests that assess the skills of elementary and secondary students and determine comparable rankings across states, should be afforded to K-12 educators without undue bias and disparity. Yet, because of the way these tests are used as criteria for various high-stakes decisions, we have lost our focus regarding the purpose of standardized tests and how they can and should be used.

My research centered on shifting the focus away from looking at standardized tests as a negative, as mere scores and punitive evaluations, and looking more towards positive mindsets and growth mentalities. My research focused on how schools can create a healthy

testing cultures and how principals can use standardized test results to lead learning at the school.

Review of the Methodology

To answer my research questions, I used a mixed method, bounded case study approach to study one small elementary school in a large, urban school district. The school has a principal and sixteen certified staff members who serve 260 students in grades Kindergarten through fifth grade. To gather data, I disseminated an electronic survey, conducted face-to-face semi-structured interviews, and collected artifacts to understand the school's testing culture and principal's use of data. Seven staff members were interviewed and separately, seven staff members completed the survey. During my time at the school, in addition to the staff members who choose to participate in my research, I was also able to observe several of the teachers who did not directly participate in this research. I was able to observe participatory and non-participatory teachers at the data retreat, the assemblies, and interacting with each other. Therefore, despite the fact that less than 50% of the certified staff were interviewed or completed the survey, I believe the findings are still representative of the school as a whole. Through my interviews, artifacts, and observations, I was able to triangulate my data. I used my data to search for common patterns and themes and used the electronic survey to add to the narrative of the interviews and artifact findings.

Interpretation of the Findings

For the question, "How principals use standardized test data to become leaders of learning," what I found is that at this school, everyone uses data to lead learning. The principal, the Instructional Coach, teachers and students are all looking at the data and subsequently, everyone has a role in learning-centered instruction and meeting the individual

needs of all student learners. This includes students. Data is shared with students so that they have ownership in their own learning. Cloud technology makes data easily accessible to all stakeholders and making the data public allows for collaborative discussions.

Roadrunner Elementary School has created a system that has moved them away from the sole demands of high-stakes accountability towards a learner-centered approach whereby staff take responsibility for all learners. The school displays characteristics of the Leading and Learning quadrants that Reeves (2006) describes in his Learning Framework. They have a strong understanding of the antecedents leading to student achievement and are committed to improvement and growth through their deep data dives and commitment to collective accountability. As a principal, this is the culture you want to cultivate, one in which everyone is focused on the data of student-learning.

As for the question, “How schools create healthy testing cultures,” I found that healthy testing cultures are a subset of an overall culture. Testing is stressful, even with planned fun activities and a positive culture. What matters more is not so much the testing culture but the overall culture of efficacy and accountability through collaboration. Specifically at this school, the school structure intentionally supports times for collaboration and data sharing with PLC structures that allow for grade-level and cross-grade-level conversations and subs that allow teacher release time for three half-day data retreats. Time built into the schedule for collaboration is often overlooked by those in charge of scheduling. Built-in time acknowledges the professionalism of teachers and also acknowledges the constraints of a teacher’s duty day. Roadrunner Elementary School illustrates Elmore’s (2014) research on Internal Coherence whereby the school has built capacity for group learning in which teachers work collectively to develop improvement strategies, evaluate

curricular and assessment materials, and professional development experiences are designed that are tailored to teachers' learning needs.

At Roadrunner Elementary School, the Principal employs a “coaching mentality” when holding staff accountable and in addition to the principal, teachers hold each other accountable for student success. “For a school community to work well, it must achieve agreement in each role relationship in terms of the understandings held about these personal obligations and expectations of others” (Bryk & Schneider, 2003, p. 40). This school exhibits a healthy culture because each individual at the school feels safe and empowered to speak their mind about data, about student learning, and about the direction of the school. This does not happen unless school personnel have strategically and systematically built this culture that allows for open and honest dialogue. Even when individuals disagree, they can still feel valued if others respect their opinions (Bryk & Schneider, 2003), and respect is evident in the exchanges amongst staff at this school.

Camaraderie, collective accountability, and a coaching mentality all contribute to a school culture that works hard together on behalf of students. This overall healthy school culture, with structures that allow teachers to feel success and feel like they have done all they can to contribute to a student's learning prior to the test is what this school has worked hard to achieve. Therefore, when the test comes, they feel they have done all they can within the constraints of the system they have created.

Implications for Practice

The staff at Roadrunner Elementary School have shifted their mindset from “testing” to “assessment”. They have embraced short-cycle assessments and have made these assessments work for them to help them better understand specific learning needs for

individual students. They have moved away from testing skills or knowledge as a finite measure and instead, have focused on gathering information about individual student's learning on an ongoing basis. The staff is focused more on measures of growth than proficiency, seeking to understand if they are moving students closer and closer to grade level expectations so that hopefully, by the time they leave elementary school, these students are on grade level.

This notion of growth versus proficiency is one that has started to plague me since starting my research at Roadrunner Elementary School. For years, I advocated for standardized assessments as a measure of students' proficiency. If all students have access to education, and that education includes highly qualified teachers and rigorous content standards, shouldn't all students be measured to determine proficiency, thus allowing us to compare students across schools, districts, and states? Wouldn't this standardized measure of proficiency allow us to know if students in our local district or in our state are academically competitive with other students? Wouldn't this standardized measure of proficiency help us determine if students are college and career ready? While it is true that yearly standardized tests that measure proficiency can show mastery of content and grade level readiness, these tests leave out one very crucial element. That is the element of growth. Not all students start at the same level or learning, nor do they advance at the same rate. Therefore, in addition to proficiency, it is crucial that educators also be able to ascertain growth. How much are students growing and how quickly are they growing toward grade level proficiency is an essential data element that has been missing with proficiency testing alone.

The state of New Mexico recently adopted the SAT as the eleventh grade high school assessment for ESSA requirements. The purpose of the SAT is to measure high school

students' readiness for college, and provide colleges with one common data point that can be used to compare all applicants (<https://collegereadiness.collegeboard.org/about>). There are multiple assessments that are part of the SAT Suite of Assessments. These multiple assessments can be used to measure the same skills and knowledge beginning in eighth grade through high school graduation, so it is easier for students, parents, and educators to monitor student progress (<https://collegereadiness.collegeboard.org/about>). While only the SAT for high school was selected in the state of New Mexico, it opens the door to thinking about the continuum of testing in an educational system.

With this in mind, perhaps the role of elementary school assessments, where students are just beginning the process of learning, should be comprised of measures of growth *rather than* proficiency. Perhaps middle school assessments should be comprised of measures of growth *and* proficiency and then the high school assessments culminate in measuring students' readiness for college and career. It would be helpful for parents, students, and educators to have a clear understanding from elementary school on as to how a student is progressing toward college and career readiness. If a yearly test only measures grade level proficiency, it omits crucial data points of students progressing and growing toward grade level proficiency. Through this research, I developed a greater understanding of the notion of growth measurements versus just measurements of proficiency, and how growth measurements can add to the data narrative of student achievement.

This research also highlighted for me the role of technology in data collection and analysis. Throughout the interviews, many of the teachers discussed wanting assessments that provided immediate feedback to know how their students were progressing. The short-cycle Istation and iReady assessments were favored not only because they showed a

student's growth, but also because results were immediately accessible, and therefore, actionable. A major complaint about the yearly standardized assessment was that results came too late in the year to impact teaching and learning for that particular school year.

Through advancements in online assessments and cloud depositories for data, technology is playing a more crucial role in education and assessment. As evidenced by Roadrunner Elementary School, technology plays a fundamental role in allowing immediate and collaborative access to data. However, it is important to consider the following: How do you protect student confidentiality yet provide much needed data to school staffs regarding each individual student? What data is even necessary to collect? How do you provide a robust system which includes all necessary data points but is user friendly enough so that even novice technology users can quickly and easily access relevant data points? The type of access and collaboration seen at Roadrunner is not universally seen at schools, districts, and state levels, as individuals and organizations have struggled to work with testing companies to answer these questions.

Implications for Future Studies

New balanced assessment system for New Mexico

Under ESSA, multiple data measures are a possibility. States must still measure students' progress annually for students in third through eighth grade and then again in their junior year of high school but they may use a single summative assessment or multiple statewide interim assessments given throughout the year. "This might allow schools to better integrate assessment into curriculum and teaching and provide timely information to inform instruction" (Cook-Harvey et al., 2016, p. 5).

Over the last few months, the NMPED has held stakeholder input meetings across the state and collected data to try to ascertain a more balanced approach to testing and accountability (see Figure 7). According to NMPED, “A balanced assessment system values a variety of ways to measure student success.” NMPED would propose to develop a system where both interim and formative assessments are prioritized and where assessments have instructional value to improve teaching and learning for all students. These assessments include state summative assessments, local practices to measure student learning, and formative assessments and instructional supports.

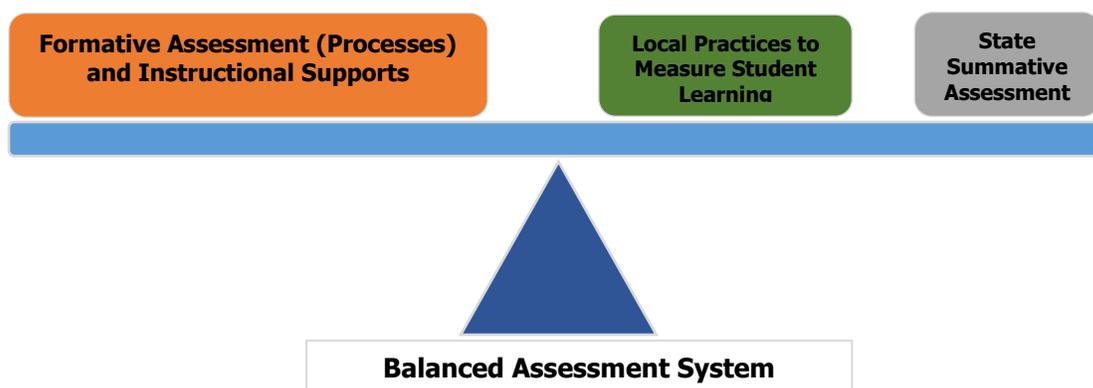


Figure 7. Visual representation of NM PED’s approach to a balanced assessment system.

A key understanding in all of this work is to recognize that there is a true distinction between the meaning of assessment and test. Testing is about measuring the skill, knowledge, intelligence, capacities, or aptitudes of an individual or group whereas, assessment defines the process of gathering information about students’ learning. Assessment is bigger than testing and measurement. In this new proposed model, formative assessments would take place during instruction, as teachers continually gauge student learning and check for understanding. Interim assessments would be given multiple times over the course of a school year and be used as a progress monitoring tool. These assessments would require a pause in instruction. Yearly summative assessments would also

require a pause in instruction. These assessments would be given towards the end of the school year and should corroborate information from the formative and interim assessments.

In addition to redefining the assessment system, the state of New Mexico Public Education department has uncoupled teacher evaluations from assessment. It is their goal to strengthen and improve the assessment system and separately, the evaluation system, and then, if warranted, blend the two. Measuring teachers and using the tests as criteria for various high-stakes decisions has not created the outcomes we thought (DiPaola & Hoy, 2012). Thus, a growing number of researchers believe that a balance of evaluation, supervision, and reflection are the next step in ensuring student achievement (Chenoweth, 2009; DiPaola & Hoy, 2012; Frontier & Mielke, 2016; Goodwin et al, 2018).

DiPaola & Hoy (2012) distinguish supervision and evaluation stating, “Supervision is informal, formative and supportive, with the goal being to help teachers improve. Evaluation is formal, summative and judgmental with the goal being to rate and assess the competence of teachers” (p. 160). Hopefully New Mexico can blend the supervision, evaluation, and reflection components and create an assessment system that is truly balanced, thus slowing the swing of the pendulum.

Content specialists

Next year, Roadrunner staff is making a switch to their instructional practices with half the staff teaching English Language Arts and the other half of the staff teaching Math. Students will be placed with teachers based on the iReady assessment data and then receive additional supports from staff who are acting in an RTI capacity. “We are dividing students by data but then within that division there will also be additional division for low, medium and high learners. We are differentiating within our differentiation,” explains the

Instructional Coach. This was not an easy sell to all of the staff but the need arose from looking at the data and a decision to individualize instruction for specific groups of students.

Employee empowerment is giving employees a certain degree of autonomy and responsibility for decision-making regarding their specific organizational tasks (Pink, 2009). Empowerment allows decisions to be made at the lower levels of an organization where employees have a unique view of the issues and problems (Pink, 2009). The principal at Roadrunner Elementary School involves the teachers in the decision of the school and actively seeks out their input. This in turn creates a sense of ownership and thus accountability by the teachers. Research shows that schools with higher levels of internal accountability are more successful within external accountability systems (Bryk & Schneider, 2003), and they are more skillful in such areas as curricular decision making, addressing instructional issues, and responding to various performance measures (Murphy et al., 2006).

Learning-centered leaders recognize the risk of a school staff acting as a group of individuals rather than as a cohesive organization (Murphy et al., 2006). Mr. Yanez secured a two-year commitment from his leadership team to try this new approach. Holding teachers accountable to a school's vision and specific goals helps to transform a school culture from an organization of individuals to one in which teachers' work is influenced by the collective values and commitments of the school, and they see themselves as part of a larger organization pursuing valuable goals (Elmore, 2014).

One thing that is important to point out is the concept of time that Mr. Yanez uses to guide the work. The school uses the 90-day plan as a short-term strategic planning guide but for more comprehensive changes, the principal secures a longer time commitment.

Furthermore, Mr. Yanez did not make any significant changes his first year in the job. He watched and waited and analyzed and then brought specific changes to light. This watchful stance helps alleviate the stress of quick change and allows time for the teachers to process changes and buy in.

This thoughtful and watchful approach to change is championed by researchers like Elmore (2014) who states, “Learning leaders model learning as a core value by inviting input from faculty in discussions about teaching and learning, asking probing questions, listening attentively, and seeking out multiple points of view. Leaders who encourage learning are directly involved in supporting teachers in the classrooms” (p. 12). Safir (2017) also advocates that listening leaders slow down, use a thoughtful process to get an outcome, listen before making decisions, use the collective wisdom of the group, and distribute leadership to others. In most organizations, people feel pressure to solve problems quickly, to act and therefore minimize time spent diagnosing, collecting data, and exploring options (Heifetz, Grashow, Linsky, 2009). In our rush to reform, being thoughtful and deliberate is a necessary step in school-wide transformation. After the school has had a chance to implement the content specialist approach and start to generate trend data, it would be interesting to see if this method has an impact on student learning.

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Appendices

Appendix A Standardized Testing Survey	142
Appendix B Interview Questions for Teachers	141
Appendix C Interview Questions for Instructional Coach	142
Appendix D Interview Questions for Principal.....	143
Appendix E Informed Consent for Interviews	144

Appendix A - Standardized Testing Survey

Dissertation Project - Standardized Testing Survey

Instructions: As part of my doctoral research, I am studying how can schools create healthy testing cultures and how can principals use student achievement data to lead learning at a school.

At the end of the survey, you will be asked to enter your name. Your name is being requested for data validation purposes only. Your name will not be shared with anyone; during data analysis, you will be assigned a pseudonym.

This survey should take approximately ten minutes to complete. Your time and effort are greatly appreciated.

By continuing with this survey, you agree to participate in the survey portion of this research project.

Dissertation Project - Standardized Testing Survey

1. Indicate the current grade level you teach?

K

5

10

1

6

11

2

7

12

3

8

4

9

2. Which of these subjects do you currently teach?

Language Arts

Math

Science

None of these

All of these

Other (please specify)

3. How many years have you worked in your current position?

4. How many years have you worked in education total?

5. How would you describe the students you teach in terms of...

	Low	Middle	High
Student Achievement Level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Socio-Economic Level?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dissertation Project - Standardized Testing Survey

6. What is your level of agreement about the following statements about standardized tests?

	Strongly Agree	Agree	Disagree	Strongly Disagree	No Opinion
I believe administration of standardized tests improves student learning.	<input type="radio"/>				
I make changes in my instruction because I believe it is unfair to my students to take the test without necessary preparation.	<input type="radio"/>				
I make changes in my instruction because I do not want to lose my job.	<input type="radio"/>				
The standardized tests dictate how I teach what my students learn.	<input type="radio"/>				
The standardized tests dictate how I assess what my students learn.	<input type="radio"/>				
I feel encouraged by my school administration to organize my lessons around the standardized test objectives.	<input type="radio"/>				
Performance differences in student achievement on standardized tests reflect differences in the characteristics of students rather than teacher effectiveness.	<input type="radio"/>				
The standardized tests force me to teach in ways that contradict my own beliefs about effective instruction.	<input type="radio"/>				
The standardized test scores are not an accurate measure of what my English as a Second Language learners (ESL/ELL) students know and can do.	<input type="radio"/>				
Standardized test scores are seen as reflective of a teachers' competence.	<input type="radio"/>				
Standardized tests pressure teachers to improve students' scores.	<input type="radio"/>				
Administration of standardized tests achieves the uniformity of the content being taught across schools and districts.	<input type="radio"/>				
Administration of standardized tests holds all teachers accountable for teaching rigorous content.	<input type="radio"/>				

Dissertation Project - Standardized Testing Survey

7. To what extent do mandated standardized tests influence you to...

	No Influence	Little Influence	Some Influence	Greatly Influence
Include topics not otherwise taught	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Exclude topics otherwise taught	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Increase emphasis on certain topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Decrease emphasis on certain topics	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alter content of teacher-made tests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alter format of teacher-made tests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Dissertation Project - Standardized Testing Survey

8. When thinking about the standardized tests:

	A lot/All of the time	Quite a bit/often	Sometimes	Very Little	Not at all/ever
I worry about adequately preparing my students to take the standardized tests.	<input type="radio"/>				
I wonder how my class will compare to other classes in the school on the standardized test results.	<input type="radio"/>				
I wonder how my school's performance will compare to other schools in the district on the standardized test results.	<input type="radio"/>				
I wonder how my students' performance on the standardized tests will affect my teacher evaluation.	<input type="radio"/>				
I wonder how my students' performance on the standardized tests will affect my reputation as a teacher.	<input type="radio"/>				
I feel pressure from my principal to produce higher student test scores.	<input type="radio"/>				
I utilize the results of the students' standardized test scores for instructional purposes.	<input type="radio"/>				

Dissertation Project - Standardized Testing Survey

D. Regarding the standardized tests:

	All/ All of the time	Quite a bit/ Often	Sometimes	Very little	Not at all/ ever
My principal makes verbal comments regarding the need to raise standardized test scores.	<input type="radio"/>				
My principal places pressure on me to produce higher scores on my students' standardized tests.	<input type="radio"/>				
My principal indicates student test scores are not important.	<input type="radio"/>				
Standardized tests, such as the PARCC or SBA, help motivate my students to learn.	<input type="radio"/>				
Standardized tests, such as the PARCC or SBA, identify students who work hard to learn.	<input type="radio"/>				
Standardized tests, such as the PARCC or SBA, motivate me to be a better teacher.	<input type="radio"/>				
I believe the teacher is responsible for working with their children to improve their performance on standardized tests.	<input type="radio"/>				
The principal works hard to make testing week as pleasant as possible for the teachers.	<input type="radio"/>				
As a teacher, I work hard to make testing week as pleasant as possible for the students.	<input type="radio"/>				

Dissertation Project - Standardized Testing Survey

10. To what extent should standardized tests be used...

	A lot/AI of the time	Quite a bit/Often	Sometimes	Very little	Not at all/ever
for placement in gifted and talented classes	<input type="radio"/>				
for placement in special education classes	<input type="radio"/>				
to group students by ability in a grade	<input type="radio"/>				
to recommend students for graduation	<input type="radio"/>				
to evaluate student progress	<input type="radio"/>				
to assess teaching effectiveness	<input type="radio"/>				
to plan instruction	<input type="radio"/>				
to plan curriculum	<input type="radio"/>				
to give feedback to students	<input type="radio"/>				
to give feedback to parents	<input type="radio"/>				

Dissertation Project - Standardized Testing Survey

11. What is the highest level of education you have completed or the highest degree you have earned?

- Bachelor degree
- Masters degree
- Other (please specify)
- Education Specialist
- Ph.D/Ed.D

12. What is your ethnicity?

- American Indian or Alaskan Native
- Asian or Pacific Islander
- Black or African American
- Other (please specify)
- Hispanic or Latino
- White / Caucasian
- Prefer not to answer

* 13. Please enter your full name below. Reminder: you will be assigned a pseudonym.

Appendix B –**Understanding How Schools Create Healthy Testing Cultures and How Principals Use Student Data to Lead Learning****Teacher Interview Questions**

v 010602019

1. Please tell me a little about your background and teaching philosophy?
2. What do you believe the role of standardized assessments should be in education?
3. How does your principal convey information regarding standardized testing?
4. What changes or adaptations, if any, have you made to your teaching because of the standardized tests?
5. What are the differences in the testing/data conversations for grades K-2 vs 3-5?
How does K-2 prepare their students for the rigorous state assessments taken starting in grade 3?
6. How do you use the results of standardized assessments?
7. Where does the responsibility lie for closing achievement gaps?
8. Please share any additional thoughts you have about school climate and culture and standardized testing

Appendix C

Understanding How Schools Create Healthy Testing Cultures and How Principals Use Student Data to Lead Learning

Instructional Coach Interview Questions

v 010602019

1. Please tell me a little about your background and philosophy of education?
2. How do you use the results of standardized assessments?
3. What assistance or training have you received regarding data analysis of student achievement results?
4. How do you help the teachers you work with analyze student data and achievement results?
5. What do you believe the role of standardized assessments should be in education?
6. How would you define the culture of testing in your school? How was this culture created?
7. How does your principal convey information regarding standardized testing?
8. What are the differences in the conversations you have with grades K-2 vs 3-5 re testing? How does K-2 prepare their students for the rigorous state assessments taken starting in grade 3?
9. What changes or adaptations, if any, have you made to your coaching because of the standardized tests?
10. Where does the responsibility lie for closing achievement gaps?
11. Please share any additional thoughts you have about school climate and culture and standardized testing

Appendix D

Understanding How Schools Create Healthy Testing Cultures and How Principals Use Student Data to Lead Learning

Principal Interview Questions

v 010602019

1. Please tell me a little about your background and leadership philosophy?
2. How would you define the culture of testing in your school? How was this culture created?
3. How do you use the results of standardized assessments?
4. What are the differences in the conversations you have with grades K-2 vs 3-5 re testing? How does K-2 prepare their students for the rigorous state assessments taken starting in grade 3?
5. What assistance or training have you received regarding data analysis of student achievement results?
6. What do you believe the role of standardized assessments should be in education?
7. Please share any additional thoughts you have about school climate and culture and standardized testing.

Appendix E

Understanding How Schools Create Healthy Testing Cultures and How Principals Use Student Data to Lead Learning Consent to Participate in Research - **Observation and Interview** [v03092019]

Purpose of the research: You are being asked to participate in a research project that is being done by Dr. Arlie Woodrum, the Principal Investigator, and researcher Holly Gurule from the Department of Educational Leadership. The purpose of this research is to determine strategies and methods schools use to create healthy school testing cultures, as well as determine how student achievement data can be used by the school leader so that they might lead learning at the school. You are being asked to join because you are a faculty member at Mountain View Elementary School.

This form will explain what to expect when joining the research, as well as the possible risks and benefits of participation. If you have any questions, please ask one of the project researchers.

What you will do in the project: You are being asked to participate in interviews and observations for a research study to determine strategies and methods schools use to create healthy school testing cultures, as well as determine how student achievement data can be used by the school leader so that they might lead learning at the school.

If you agree to participate, you will be scheduled, at your convenience, for a series of 3-4 interviews and observations not to exceed one hour in length. Interviews will be taped using an audio tape recorder. Photographs may be collected during the observations to document various artifacts. No persons will be photographed. You may stop the interview at any time and you may choose not to answer any question.

Participation in this project will take a total of 3-4 hours over a period of 5 months with each interview/observation not exceeding one hour in length.

Risks: There are minimal risks associated with participation in this research. Participants may experience discomfort when answering questions during the interview or observation process. Participants may stop the interview/observation at any time and they may choose not to answer any question(s).

Additionally, because the researcher is interacting with participants on site through observations and during their professional development settings, there may be a loss of privacy for individuals and a risk for breach of confidentiality. All care will be made to protect the security of all personal information, but I cannot guarantee confidentiality. Participants' names will not be used in any published reports about this project.

Benefits: There will be no benefit to you from participating in this research. However, it is hoped that information gained will help school personnel understand and develop ways to create a healthy testing culture at schools and for school leaders to be able to identify ways to use student achievement data to lead learning at the school site.

Confidentiality of your information: All data will be transcribed and kept in a password protected electronic file. The electronic file will be on a computer that is password protected with a separate password. Participants will be assigned pseudonyms. Pseudonyms and corresponding identification will be kept in a locked file cabinet at the home office of the researcher, Holly Gurule. All data will be kept for three years after the closure of my study; then it will be destroyed. I will take measures to protect the security of all your personal information, but I cannot guarantee confidentiality of all research data. The University of New Mexico Institutional Review Board (IRB) that oversees human

subject research may be permitted to access your records. Your name will not be used in any published reports about this project.

Use of your information for future research: All identifiable information (e.g., your name, date of birth) will be removed from the information or samples collected in this project. After we remove all identifiers, the information or samples may be used for future research or shared with other researchers without your additional informed consent.

Payment: You will not be paid for participating in this project.

Right to withdraw from the research: Your participation in this research is completely voluntary. You have the right to choose not to participate or to withdraw your participation at any point without penalty. Should you choose to withdraw from the research project, simply notify Holly Gurule in writing (hgurule@unm.edu). Your audio tape will be destroyed and your information will not be used.

If you have any questions, concerns, or complaints about the research, please contact: Holly Gurule at hgurule@unm.edu or at (505) 220-0345.

If you have questions regarding your rights as a research participant, or about what you should do in case of any harm to you, or if you want to obtain information or offer input, please contact the IRB. The IRB is a group of people from UNM and the community who provide independent oversight of safety and ethical issues related to research involving people:

UNM Office of the IRB, (505) 277-2644, irbmaincampus@unm.edu. Website: <http://irb.unm.edu/>

CONSENT

You are making a decision whether to participate in this research. Your signature below indicates that you have read this form (or the form was read to you) and that all questions have been answered to your satisfaction. By signing this consent form, you are not waiving any of your legal rights as a research participant. A copy of this consent form will be provided to you.

I agree to participate in this research.

Name of Adult Participant

Signature of Adult Participant

Date: _____

Researcher Signature (to be completed at time of informed consent)

I have explained the research to the participant and answered all of their questions. I believe that they understand the information described in this consent form and freely consents to participate.

Name of Research Team Member

Signature of Research Team Member

Date: _____