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Education Data: A Case Study of Three Northern New Mexico School Districts in the Utilization of the Standards Based Assessment Data

Jennifer Sallee

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EDUCATION DATA:

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Standards Based Assessment Data

By

Jennifer Sallee

B.S., Agriculture Biology, New Mexico State University, 2001
M.P.A., Public Administration, Texas State University, 2005

DISSERTATION

Submitted in Partial Fulfillment of the
Requirements for the Degree of

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ABSTRACT

In the current era of standards-based reforms and a new accountability movement research has credited data driven decision making as key to successful schools.

Teachers' and principals' ability to use data can improve student achievement and move schools forward.

This dissertation explores teacher's and principal's perceptions of the successful use of New Mexico Standards Based Assessment student achievement data as it relates to four themes: professional development, collaboration, school and district systems, and leadership. Elementary school teachers and principals were surveyed on what facilitated or posed potential barriers to effectively using the New Mexico Standards Based Assessment data. The survey results were compared with teacher classroom and school-wide performance using two years of student New Mexico Standards Based Assessment data linked to individual teachers that determined students' academic growth.

Additional qualitative data was gained through interviews of four teachers and two principals who were on the extreme ends of growth scores.

Regardless of teachers' classroom growth scores, all teachers face similar barriers in accessing and using data to improve instruction. The study finds that a principal who is supportive and encouraging influences if a teacher will utilize data.

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Chapter 1 Introduction

The American education system is unique as “no other country tests its school children with the frequency and seriousness that characterizes the United States” (U.S. Congress, 1992 p. iii). Schools have been testing for years to assess student learning. The amount of student test data, specifically standardized test scores, has continually increased as new policies require expanding and evolving accountability systems to rate the success of states, school districts, schools, and individual teachers (McDonnell, 2012; Schildkamp, K., Mei Kuin, K., Lorna, E., 2012). These evolving accountability systems have highlighted the relative strengths and weaknesses of how education professionals use the ever-increasing amounts of testing data to improve student outcomes (Wayman, 2005).

As evidenced by current school reform measures, the U.S. Department of Education and many researchers believe using data is one key element to improving academic achievement (Means, Padilla, DeBarger, Bakian 2009; Knapp, Swinnerton, Coplan and Monpas-Huber, 2006; Streifer and Schuman, 2005; Wayman, 2005; Wayman, 2007; Schildkamp, K., Mei Kuin, K., Lorna, E., 2012). No Child Left Behind (NCLB) was enacted in 2001 to broadly improve student achievement through the use of expanded standards-based testing and school accountability reporting. In 2007, the federal Elementary Secondary Education Act (ESEA), which encompasses No Child Left Behind (NCLB), was scheduled to be updated, revised, and rewritten as needed through Congress (NCSL, 2011). Five years later, Congress is still contemplating which reforms to include in the bill.

In New Mexico, post NCLB, the state has moved to a new accountability system. New Mexico has implemented a school grading system that follows the A-F grading scale. The school grading system was implemented to help the public easily understand school performance.

Collection and use of data analysis has become more important than ever as a result of the NCLB testing and accountability requirements. Post NCLB has led to the Common Core, state waivers, and accountability that is linked to teacher assessment scores and the continued use of assessment data (McDonnell, 2012). Arnie Duncan, U.S. Secretary of Education, and President Barack Obama have pushed to change the teacher and principal evaluation systems to add a new component linking student achievement to principals' and teachers' work (McDonnell, 2012). With their new competitive federal "Race to the Top" funding initiative, the phenomenon of accountability has become more important and focused, specifically on teachers and principals as opposed to NCLB focusing more broadly on district and school-level performance (McDonnell, 2012; Wayman, 2012).

The new Race to the Top competitive grants and the ESEA both include reforms to improve academic achievement measured by a standardized assessment (McDonnell, 2012). Many involved in the reform efforts have weighed in on what their constituents want in reform. Teacher unions, specifically the National Education Association (NEA), support "raising achievement and closing the [achievement] gap" (NEA, 2012, p.1). The NEA also believes that the "ESEA should end the obsession with high-stakes, poor-quality tests by developing high-quality assessment systems that provide multiple ways for students to show what they have learned" (NEA, 2012, p.1). The National

Conference of State Legislatures (NCSL) states they are in support and are “pleased that the draft bill recognizes the standards-based reforms and next generation assessments that states are pursuing” (NCSL, 2012). Assessments and associated data are not going away and will likely be incorporated into the ESEA that passes both the House and Senate and is signed into law. It is imperative that teachers and school leadership utilize testing results to improve academic achievement.

The idea of improving academic achievement has been legislated through different reforms and policies. Some reforms and policies such as NCLB have “proven unevenness of standards across states which have renewed calls for national standards and tests. This has strengthened the calls of the civil rights and business communities for school accountability measures” (DeBray-Pelot, 2009, p. 39). Recently, “Common Core represents the most comprehensive example of how accountability policy has produced new political dynamics which, in turn, have generated a major change within the broader accountability” (McDonnell, 2012, p. 11). Common Core is a way for states’ to adopt National Standards and be measured against the National Standards. The adoption of the Common Core has “preserved standards-based accountability while changing states’ unique standards to a National Standard” (McDonnell, 2012, p. 15).

Newer and older education reforms such as ESEA, NCLB, Common Core and State Waivers include using assessment data to drive changes and improve student achievement. These reforms have a solid foundational basis in practice and a logical approach for improved student achievement using assessment data (Schildkamp, K., Mei Kuin, K., Lorna, E., 2012). When considering reforms one must ask: How are leaders currently using data? How are teachers currently using data to change instructional

practices? What barriers exist that prevent leaders and teachers from using the data?
What might those barriers look like? What facilitates data use?

As school leaders are held more responsible for improved academic achievement, the necessary tools for data analysis can be difficult to acquire. One such tool that Schildkamp, K., Mei Kuin, K., and Lorna, E. (2012) consider important is a data system. A data system is an electronic database that allows educators to view results electronically and query for information. The data systems can “include elemental data for individual students related to demographics, educational history, grades, assessments, special education, etc., as well as biographical data about educators” (Schildkamp, K., Mei Kuin, K., & Lorna, E., 2012, p. 172). The list described above offers examples of what categories a data system might contain.

The debates and discussion that are taking place nationally are also taking place in New Mexico. As schools move towards student achievement data analysis, some districts and schools face barriers to using data. For example, administrators do not receive data disaggregated in user-friendly forms for data analytics by teachers and principals (Legislative Finance Committee, 2009; Legislative Finance Committee, 2011). Instead, the supplied student profile sheets for New Mexico students have limited data. However, the student profile sheets offer a good conversational tool for discussions with students and parents. In addition, currently the potentially useful reports that disaggregate the data by teacher and make growth comparisons to the previous year are not available in easy to use formats for schools or classroom teachers (Legislative Finance Committee, 2009; Legislative Finance Committee, 2011). Other missing data includes user-friendly reports generated by benchmark standard and disaggregating the

data down to the student level. Such data is available but buried in a large spreadsheet with over 50 columns. There is not one quick snapshot or reference tool allowing teachers or principals to review and evaluate data.

Reviewing assessment data can be a challenge without easy-to-query databases. Another barrier some face when trying to utilize data is knowing if there is a defined strategic process developed to analyze and look at student data systematically. The Data First website states that “Data is just a bunch of numbers until you use it correctly, and the data cycle they use teaches a systematic way of turning data from a bunch of numbers into the reasons behind school improvement” (Data First, 2012).

The current state data system in the state of New Mexico, STARS, has not yet developed to its full and potential (Legislative Finance Committee, 2009). Guthrie and Schuermann (2010) discuss the importance and highlight the value of a developed data system that serves as a tool to improve student achievement. “When strategic education leaders have access, can compile, assess and utilize school and community data they are in a better position to serve as catalysts for problem solving” (Guthrie and Schuerman, 2010, p. 263).

School staff, teachers and administrators have looked at data but often not utilized it because of a lack of access (Schildkamp, K., Mei Kuin, K., Lorna, E., 2012; Wayman 2005; Legislative Finance Committee, 2011). Some administrators and district office staff have spent countless hours hand-pulling student data into user friendly formats. Others have invested hours or days entering their own data into spreadsheets or “creating elaborate displays on office walls of last year's data just to get a sense of student and class needs” (Wayman, Jimerson, & Cho, 2010, p. 13). Furthermore, “school leaders

sometimes need to combine information from as many as three different systems to get the information they need” (Schildkamp, K., Mei Kuin, K., Lorna, E., 2012, p. 61).

Educators waste time trying to hand-pull data instead of using data to drive or change instructional practices. Many times data are not available for analysis in a simple spreadsheet or program. Instead, in order to meet their needs staff spend countless hours aggregating data line-by-line in Excel worksheets to meet their needs, including adding teachers next to student names one at a time.

On a national level, the electronic data systems districts utilize vary (Means, Padilla, DeBarger and Bakia, 2009). In New Mexico, the electronic data systems and capabilities vary from district to district. Some districts have chosen to purchase additional computer software such as the Data Driven Classroom, which will do all the tallies and calculations to a principal’s or teacher’s specification (Legislative Finance Committee, 2011); however, an additional cost is associated. Given site administrator’s complex modern duties and expectations and tight district budgets, central support that offers time-saving data solutions and training becomes more important. This dissertation asks the following:

- How do staff use the New Mexico Standards Based Assessment (NMSBA) data?
- What barriers do staff face when using the NMSBA data?
- What makes a successful data user?
- What systems could be implemented to improve the use of data?
- Is there a model for data use?

Background of the Study

The federal No Child Left Behind Act of 2001 (NCLB) is part of a larger standards-based reform movement and accountability effort to improve education for all students. Post NCLB accountability includes state waivers that measure teacher and principal effectiveness linked to student performance. These reforms are rooted in the notion that schools should ensure that all students can demonstrate proficiency on common content standards in reading, math, and, in some cases, other subjects. States must set expectations for content standards to assess whether students have learned the material through annual state assessments to hold schools and school districts accountable for results through annual public reports. Some have suggested putting NCLB into the context of ESEA. Although the expansion of high-stakes assessments and consequences is new, particularly to schools not receiving Title I, ESEA has been around since its landmark inception in the 1960s (McDonnell, 2012).

The assessment system has changed dramatically since NCLB implementation and will continue to change with revisions to NCLB and ESEA. While ESEA awaits reauthorization, state waivers are being approved (Klein, 2012). A waiver approved by the federal government has given states flexibility in the education accountability system the state designs (McNeil, 2012). For New Mexico, the approved waiver has meant a new A-F grading of schools, a new Effective Teacher Task Force which recommended changes to the evaluation system, acceptance of Common Core standards and a new assessment in 2014-2015. The assessment, better known as PARCC (the Partnership for the Assessment of Readiness for College and Careers) will measure “individual student growth toward college and career readiness and provide data that can inform decisions

regarding teaching and learning, program improvement, and educator effectiveness” (Doore, 2012, p. 29).

High-stakes testing occurs yearly in schools, while short cycle assessments occur between six weeks and quarterly during a school year. The high-stakes testing is considered a summative assessment while the short cycle assessments are known as formative assessments. The NMSBA is a summative assessment. In New Mexico, students in 2004-2005 started taking the NMSBA. Each year, in March and April, students in 3rd-8th, 10th, and 11th grades take the NMSBA. In school year 2013-2014 the New Mexico Public Education Department added 10th graders to those taking the assessment, in an effort to determine if growth is taking place from 10th grade to 11th grade.

The accountability movement has been driven by NCLB regulations that mandate results testing and disaggregation by subgroups. However, many accountability systems do not indicate growth by individual students from year to year (Zimmerman and DiBenedetto, 2008). Instead, data is reported publicly by school and district level for tested grade levels of students. The goal of NCLB is that all students in all subgroups in grades 3rd through 8th and 11th will reach 100% proficiency by 2014.

NCLB gave states the flexibility to determine standards and the definition of success when students were measured against the standard. Therefore, each state has a test and sets the proficiency levels, or cut score, for what students are required to meet each year. In addition, each state also sets the benchmark for the percentage of students that each school level and student group must meet in order to make adequate yearly progress (AYP) towards 100% proficiency by 2014. As a result, there are 52 different

AYP assessment systems in the United States. If a school does not meet AYP consistently, strict accountability measures and sanctions are placed on districts and schools in an effort to help improve the following year. According to Shrieg (2007), "the NCLB Act of 2001 has had a profound impact on educational practices and will likely continue to have a strong impact for many years" (p. 147). The strong impact that Shrieg refers to is on accountability and assessments.

The Public Education Department (PED) recently made changes to the NMSBA system. For the 2010-2011 school year, PED approved changes to the scoring of the assessment including both cut and scale scores (Legislative Finance Committee, 2011). Previously, New Mexico used a vertically aligned scale scoring system from 3rd through 8th grade (Legislative Finance Committee, 2011; Skandera, 2011). Now the state is using a scale from 0 to 80 for each grade tested (Measured Progress, 2011; Legislative Finance Committee, 2011). Cut scores were also changed to reflect the modification to more multiple-choice questions (Measured Progress, 2011). A bridge study was released so districts can make comparisons from one year to the next. The New Mexico School Leadership Institute is providing training on the change in the testing system. The bridge study is even more important because the current Administration is rolling out major reform initiatives that require an emphasis on data-driven decision making and the use of high-stakes testing. However, there is evidence that widespread barriers exist to using the data that may impede efforts to increase accountability tied to the data and, ultimately, to improvements of educational programs for students (Schildkamp, K., Mei Kuin, K., Lorna, E., 2012; Legislative Finance Committee, 2009; Legislative Finance Committee, 2011). In New Mexico, the Legislative Finance Committee (2009) issued a

report, “The Three Tiered Licensure System,” which highlighted high poverty schools beating the odds in New Mexico using data-driven decisions and proving the value of improving data analysis.

Context of Study

New Mexico’s achievement consistently ranks near the bottom when compared to that of other states. The National Assessment for Educational Progress (NAEP) ranked New Mexico 50th among the states in 4th grade reading proficiency (NM Kids Count, 2012). Nationally, New Mexico currently ranks 48th in high school graduation rates (N.M. Public Education Department, 2011). According to the 2010-2011 New Mexico Standards Based Assessment (SBA) results, of the 89 school districts, 96.6% or 86 districts and 86.6% or 720 schools statewide did not make Adequate Yearly Progress (AYP) (NMPED, 2011). Educators, parents, school board members, and students agree that achievement is too low in the state and that New Mexico has room for improvement. But how do we improve and where does the state focus improvement efforts?

In New Mexico, Governor Martinez stated that “the first step to ensuring every student has access to a quality education is establishing a strong foundation of accountability” (Darnell, 2011). On the national stage, President Barack Obama, other politicians, and teacher unions all agree on increasing accountability for student achievement (McDonnell, 2012). Unions such as the American Federation of Teachers (AFT) and the National Education Association (NEA) are calling for a fair testing system that accounts for a student's academic growth but includes a multitude of other evaluation factors (NEA, 2012).

In 2011, New Mexico convened the New Mexico Effective Teaching Task Force to look at changing the teacher and principal evaluation to include student achievement. The work group met weekly during the summer of 2011 to develop a new teacher accountability system and tie student achievement to individual teacher evaluations. The Task Force recommended linking student achievement data to the classroom teachers in tested grades. Student performance would comprise 50% of the evaluation (New Mexico Effective Teaching Task Force, 2011) for teachers. In school year 2013-2014 the new evaluation system was implemented. With a large emphasis put on student achievement, New Mexico has elevated accountability for teachers and principals.

The Task Force recommended the use of data for evaluations. The challenge nationally and here in New Mexico is to ensure that student data can be used effectively by teachers. On the national stage and in New Mexico, districts and schools are doing a good job of generating data but are weak in analyzing data to improve achievement (Schildkamp, K., Mei Kuin, K., Lorna, E., 2012; Wayman, 2012; Legislative Finance Committee, 2010). As accountability increases for individual teachers and principals, so do the expectations that they effectively use data. It is important to understand what student data is available in school districts that staff can utilize.

I have conducted a study in three New Mexico school districts that have been assigned pseudonyms. Table 1 demonstrates the data available from different assessments for Aspen School District, Cedar School District and Pinon School District.

Table 1. Common Assessments for Three New Mexico School Districts for School Year 2012-2013

<i>Grades</i>	<i>Test</i>	<i>Subject</i>
<i>Kindergarten – 2nd Grade</i>	<i>DIBELS (Dynamic Indicators of Basic Early Literacy Skills) and IDEL (Indicadores Dinamicos del Exito en la Lectura)</i>	<i>Literacy</i>
<i>3rd – 8th Grade & 10th -11th Grade</i>	<i>Standards Based Assessment (SBA)</i>	<i>Math, Literacy, and Science in 4th grade</i>
<i>All Grades</i>	<i>IDEA Proficiency Test (IPT)</i>	<i>Bilingual Assessment</i>
<i>3rd – 10th Grade</i>	<i>Discovery Education Formative</i>	<i>Math & Literacy</i>
<i>Kindergarten – 12th</i>	<i>Access to ELL</i>	<i>English Screener test for bilingual students</i>

The New Mexico Effective Teaching Task Force (2011) report recommended basing 50% of a teacher’s evaluation on a Value Added Model (VAM) using student achievement data. This took effect in school year 2013-2014. Observations account for 25% and the other 25% are based on locally adopted measures. The Task Force recommended to first focus on teachers in the NMSBA tested grades, which include grades 3rd - 8th and 10th- 11th for reading and mathematics. However, the Task Force also recommended and implemented a model for non-tested grades that include 25% observations conducted by their school administrator, 50% locally approved measures, and 25% on school performance (New Mexico Effective Teaching Task Force, 2011).

The report recognizes Hess's assertion that "given the testing system's heavy emphasis on reading and math allows for a large number of employees to either be excused from results-driven accountability or be held accountable for activities over which they have no control" (Hess, 2009 p. 4). For example, in the recommended model for non-tested grades, 25% of a teacher's evaluation will not be based on his or her own data but on the school's performance. The model is significant because some teachers will be "held accountable for activities which they have no control over" (Hess, 2009, p. 4). It is important to note that the PED implemented the task force recommendations for a new statewide teacher evaluation system in school year 2013-2014 in an effort to improve student achievement.

Statement of the Problem

Each year students in New Mexico test in math, reading, writing, and science and schools are ranked based on their performance. Teachers collect a significant amount of performance data on students, but what do they do with the data? The Legislative Finance Committee in 2009 highlighted this issue. Nevertheless, one must ask what barriers may or may not exist, such as timely access to data, which impede this reflection? What do successful districts, schools, and teacher groups look like that are effectively using the data?

Teachers are using a variety of assessments which are producing student achievement data. Teachers administer student assessments that range from weekly assessments to monthly benchmark exams and the statewide assessment. In New Mexico, the standardized state testing results are most commonly shared with students in the form of proficiency status (1 = beginning steps of proficiency, 2 = Nearing Proficient,

3 = Proficient and 4 = advanced) (Measured Progress, 2011). The assessment results are delivered in various forms. As for the state assessment, the student results for the NMSBA are on a proficiency level with a scale score, where as traditional classroom grades are delivered in the form of A-F such as in Santa Fe Public Schools. In some districts such as Las Cruces Public Schools grades are on a 1 to 4 scale based on proficiency level.

While there is a great deal of information to be derived from assessment data, teachers are still not quite sure how to use it (Thornton and Perreault, 2002; Schildkamp, K., Mei Kuin, K., Lorna, E., 2012). Some teachers use assessments simply for grading students while others can use assessment data and are shifting towards using assessments to drive instruction. Assessments are considered either summative or formative assessments. Formative assessments are given throughout the school year to inform progress while a summative assessment is given once a year and informs progress for the year.

The NMSBA is a summative assessment while short cycle assessments are considered formative assessments. According to Popham (2008), formative assessments can provide data to drive instruction during the school year: "Formative assessments are a process used by teachers and students during instruction that provides feedback to adjust ongoing teaching and learning to improve student achievement of intended instructional outcomes" (Popham, 2008, p. 5).

Nationally, some districts are making great progress toward data sharing while other districts are further behind in implementing a process to look at data and begin the important conversations around student instruction (Schildkamp, K., Mei Kuin, K.,

Lorna, E., 2012; Steele, J., Boudett, K. 2008). In New Mexico, some districts are implementing Professional Learning Communities (PLC) and making progress toward sharing data (Legislative Finance Committee, 2006). A PLC is a group that works together to ensure all students are learning. However, the level and depth of data conversations in New Mexico vary around the State.

District educators who improve their learning and use of student achievement data are becoming "data literate" (Schildkamp, K., Mei Kuin, K., Lorna, E., 2012; Steele, J., Boudett, K. 2008). Educators proficient in data literacy "must have the skills to evaluate and analyze the data put before them" (Gunter, 2007, pg. 24) and use it to improve instruction. "Schools are no longer judged by the processes in which educators engage, but by the results that students achieve.... Schools are also responsible for universal access to education, and for universal proficiency in learning" (Albuquerque Public Schools, p. 10, 2011). Data literacy helps teachers understand exactly what students need and in what areas the student needs to improve (Gunter, 2007; Schildkamp, K., Mei Kuin, K., Lorna, E., 2012).

The problems in utilizing data are evident nationally and across New Mexico. The Legislative Finance Committee (2009) discovered that some districts around the state are using data to improve but also encounter barriers to using data. District's data literacy varies by school, principal and teacher.

Purpose of the Study

The purpose of this study is to explore how principals and teachers in Aspen School District, Cedar School District and Pinon School District, specifically those teaching 4th and 5th grade, use the New Mexico Standards Based Assessment (NMSBA)

student test data and what barriers they may experience in that process. It is important to focus on principals and teachers in tested grades as the New Mexico Public Education Department has implemented a new evaluation for principals and teachers. The new evaluation model has a higher standard for accountability linked directly to student achievement data. Teachers in tested grades (3rd – 8th, 10th and 11th) that teach a tested subject on the NMSBA will have their evaluation linked to students' performance in order to assess the connection between pedagogy and student performance.

This study is important to explore principals' and teachers' perceptions on using the NMSBA data. Data is crucial for the A-F school report card and the teacher evaluation system. The school report cards indicate a large number of the subgroups of students are failing to meet standards. However, this study is an important opportunity to study schools and districts in New Mexico in different achievement zones and how the schools are utilizing the achievement data.

Research Questions

Accountability, school report cards and teacher evaluations all heavily rely on data. Looking at how principals and teachers use data is important to this study. The overarching question for this study is: What are principals' and teachers' perceptions of the conditions that support or the barriers that inhibit the use of NMSBA data for student achievement? Based on the literature, there are four major themes surrounding using data successfully

- Professional Development,
- Collaboration,

- Systems and,
- Leadership.

In studying the components, the following four research questions will be investigated:

- What are principals' and teachers' perceptions regarding the successful use of NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems, and leadership?
- What do principals and teachers believe to be the barriers to using the NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems, and leadership?
- What are the relationship among principal and teacher survey by themes (professional development, collaboration, systems, and leadership) and Teacher NMSBA growth?
- What are the relationships among age, gender, ethnicity, license level, years of experience, education (MA/BA), and principals and teachers with high and low growth scores to student achievement as measured by the NMSBA?

Significance of the Study

The intent of this research is to explore how teachers are using the NMSBA student test data and the staff perceptions of barriers and successes when utilizing data.

This study relies on a foundational belief that data literacy influences data-driven decisions and the ways that teachers and principals can improve student academic achievement.

Research nationally confirms that some schools are making progress from year to year using data-driven decisions and data analysis (Reeves, 2000: Legislative Finance Committee, 2009). Likewise, a Legislative Finance Committee report shed light on schools in New Mexico that are improving; schools in this report were using their student achievement data to make decisions (Legislative Finance Committee, 2009).

Accountability no longer depends on the principal or superintendent performance but rather on modern accountability systems that require districts and schools use data to prove their students are performing well. Nationally, a great deal of money is being spent each year on assessments, and most schools are just barely using assessment data (U.S. Congress, 1992). If we measure whether or not the assessments are serving just one purpose to determine grade, then we are selling short what data can do.

Hopefully, the information collected through this study will enable staff to utilize data more effectively and help to identify barriers and successes in using data to make instructional decisions for students. Hopefully, the study will provide leadership a guide for areas to improve data use and areas that are working well. Providing a strong foundation in how to use data will enable staff to meet students' needs more efficiently and effectively.

Policy Implications of Research Study

Data literacy and data-driven decision making in New Mexico are some of the key practices in education necessary to improve academic achievement, decrease dropout

rates, and inform ways to close the achievement gap among groups of students (Gunter, 2007; Legislative Finance Committee, 2009; Legislative Finance Committee, 2011; Schildkamp, K., Mei Kuin, K., Lorna, E., 2012). Considering current state budget cuts, it is particularly important to investigate how funding data literacy to drive instructional decisions will make a difference in student performance and if it is worth the investment. In terms of policy decisions, New Mexico needs to ensure that funding and implementing programs that are effectively meeting the needs of our diverse population. In addition, such a study has the potential to create a New Mexico-specific framework around discussing data and to help start the transition to effectively using the data in schools.

Organization of Study

This dissertation is divided into five chapters including this introduction as Chapter One. The first portion of Chapter Two provides a literature review beginning with the history of accountability, the evolution of NCLB, current accountability of waivers and Common Core and finally progressing with how the accountability movement fits into a study of New Mexico. The second portion of Chapter Two reviews how assessment data influences instruction, and the last portion develops major themes from the research that build data literacy and influence a successful data user including:

- Professional Development,
- Collaboration,
- District and School Level Systems and,
- Leadership.

Chapter Three discusses the methodology used to conduct the study focused within the bounded system of three New Mexico public school districts. The unit of analysis for the research was three New Mexico school districts. This chapter provides background of the study site and data collection methods including the data survey and interview techniques. Chapter Four includes descriptive data participants, districts and correlations. The last chapter, Chapter Five includes a discussion on the leadership implications, policy implications and next steps for research.

Chapter 2 Literature Review

Introduction

The NCLB Act of 2001 emphasized accountability, which has led to the emphasis on testing to improve student performance. This chapter includes information on the history of accountability, the evolution of NCLB, waivers, post NCLB and accountability in New Mexico, assessments, and the pros and cons of testing. Also included are the barriers to using data and a framework of solutions to overcoming the barriers. The framework developed from the four themes within the research include:

- the need for professional development in data use,
- collaboration with other staff on data,
- a system that develops a framework for data use in the school and district and,
- leadership that supports data.

The chapter concludes with a conceptual framework from the themes that emerge and supported by the literature.

“Since the birth of mass public education in America some 150 years ago, innovation in tests and testing has been most attractive during periods of heightened public anxiety about the state of the schools” (U.S. Congress, 1992). The history of education accountability can be traced back to the 1800’s where land and buildings were donated to educate children (Standerfer, 2006). The federal government did not play a major role in education nor did the government try to dictate to states how to educate because, constitutionally, education was left to the states. However, in the 1960’s the federal government and the Johnson administration became concerned with the

educational gap between minority, lower socioeconomic status, and Caucasian student performance (Kantor, 1991). In an effort to equalize education in 1965, “The Elementary and Secondary Education Act (ESEA) passage under President Johnson’s administration” (Standerfer, 2006, p. 26) elevated education accountability to a new level. The bill focused attention “on the educational needs of poor children and established federal standards” (Kantor, 1991, p. 49). Kantor (1991) describes the legislation as intended to give economically disadvantaged parents information regarding schools’ performance so that the parents could then demand better for their children.

In the 1980’s, the “Nation at Risk” report described U.S. schools in jeopardy of failing (Gardner, 1983). According to the report, U.S. schools “were failing and that if corrective measures were not implemented into the educational system, the nation would not remain economically competitive in the global market” (Gardner, 1983; Standerfer, 2006, p. 27). Almost a decade later in the 1990’s, President Bill Clinton led the reauthorization of the ESEA, which included mandating that states develop standards for core content areas for assessment (Standerfer, 2006).

Even though ESEA had been in effect since 1965, the achievement gap is present and the resolution of closing the achievement gap and improving student achievement had not been met. However, under President George W. Bush came No Child Left Behind (NCLB), which was intended to improve student achievement and close the achievement gap. Within NCLB, states are required to monitor accountability known as Adequate Yearly Progress (AYP) towards state standards. Districts were required to have 100% of students proficient in the year 2013-2014. Standerfer (2006) summed up NCLB as having the following required mandates for each state

- Students demonstrate proficiency on state standards
- States judge schools and have a process for all students to be proficient
- Teacher quality standards
- States report to public progress toward standards and making Adequate Yearly Progress
- States report highly-qualified status of teachers
- States report sanctions on schools not meeting Adequate Yearly Progress

Seeing that “the No Child Left Behind Act of 2001 (NCLB), which is the reauthorization of the Elementary and Secondary Education Act of 1965 (ESEA), has been unable to move through a stagnated Congress” (Forum, 2012), state waivers are now being accepted in place of NCLB. The waiver “initiative offers states the flexibility to move away from provisions of NCLB and give states a chance to design new accountability systems that incorporate the Common Core State Standards (CCSS) and common assessments” (Kober, N., Riddle, W. 2012, p. 2).

Standardized Assessments

The high-stakes testing movement has come under a great deal of scrutiny from educators and researchers on the impact it is having on education. Without a doubt, high-stakes testing policies have been well intended to focus on instruction and learning, but, according to some researchers, have had a negative impact on instruction (Mandus and Russell, 2010). Opponents of high-stakes testing believe it creates a negative education system, such as narrowing the focus on limited subjects and watering down the curriculum to focus on test-taking skills (Vogler, 2002). However, other authors argue

that the emphasis on testing and accountability has improved education (Nichols and Berliner, 2008; Olson, 2001).

According to Mandes and Russell (2010), high-stakes testing does not focus on developing the child but instead focuses on test scores. In their view, the curriculum is narrowed, corruption is taking place, and teachers are focusing on students known as "bubble kids." Students that are one or two questions below the cut score of proficiency are termed "bubble students." Burnner, Fasca, and Heniz (2005) state that, from an accountability standpoint, the bubble student makes sense, however focusing on test-taking skills for a small group leaves behind the failing students. Nichols and Berliner (2008) would agree, "Under the current system of high-stakes testing the pressure to score well is so intense that it leads to teaching manipulation (p. 45)."

According to some authors, standardized testing takes the human factor out of teaching. Students are viewed as widgets instead of well-rounded citizens (Nichols and Berliner, 2008). Teachers are also viewed as widgets, as the decision of "what to teach and how to teach" is predetermined before each school year starts (Reich and Bally, 2010). In a study by Olson (2002), one-fourth of teachers surveyed reported cutting back on instruction in untested areas. Herbert (2007) found that "teachers believe student scores are a direct reflection of the teachers' ability to teach and the quality of instruction they provide" (p.156). Therefore, in the aforementioned studies, teachers were teaching only what was tested.

School and district officials are feeling pressured to do whatever it takes to improve student achievement. According to Herbert (2007), educational policy makers and their relationship with testing intend to influence the behavior of students and

teachers alike through a rewards or sanctions system. Additionally, Shriberg and Kruger (2007) state that the wellbeing of the child, school community, and surrounding areas are all impacted negatively by the push for high-stakes testing. The authors (Shriberg and Kruger, 2007) also point out that little evidence exists that communicates a positive relationship between high-stakes testing and academic achievement.

Supporters of standardized testing argue that the test holds students and teachers accountable while improving education (Nichols and Berliner, 2008). Vogler (as cited by Popham, 1987) agrees, "if you test it, they will teach it" (Vogler, 2007, p. 40). Barton (2002) states, "for programs to improve and students to become skillful, accountability is essential" (p.1). The accountability movement and testing is meant to close the achievement gap between disadvantaged students and minority students and their peers (Hebert, 2007; Kantor 1991).

Researchers Metin and Ozmen (2011) examine teacher attitudes towards assessments. They found that teachers "thought that they could understand their students better" (p.14) once assessed. The researchers also found that assessments "increased students' confidence and enabled students to evaluate themselves" (p.14). In California, teachers use an "assessment tool that gives information they need to change the curriculum for improved reading" (Olson, 2001, p.38). Assessment data has value and also shows "how much a student has grown compared to his/herself as well as how much he/she has grown compared to others" (Olson, 2001, p.38).

Standardized testing is a norm in education and traditionally takes place every spring. The U.S. has two main differing philosophies on assessments. Some researchers believe standardized assessments have had a negative influence, such as narrowing the

focus or watering down the curriculum (Vogler, 2002). Other researchers believe testing has had a positive impact on teaching as assessments inform teachers where to focus (Olson, 2001). Regardless of which research philosophy, “the standardized assessment trend is likely to persist and intensify, therefore it is important to focus and use the results effectively” (Herbert, 2007, p. 149).

Assessment Data Influences Instruction

The previous and current accountability systems provide data disaggregated by student subgroups. Who uses the data and where does it go? Means, Padilla, DeBarger, and Bakian (2009) assert that the more sophisticated and higher quality a computer data system, the more likely there would be a positive influence on a district’s data use and, more importantly, on a specific school and classroom’s data use. Supovitz (2009) states that America seeks educational change through the assessment and accountability system. In a study by the Grow Network (2005) in New York City schools (Growth report), the mission is to assist with and transform data into results conducive to instructional tools that will help teachers, parents, and administrators. In addition, the same report asks "administrators and teachers to think very different about educational decisions with the use of data" (Brunner, C., Fasca, C., Heinze, J., Honey, M., Light, D., Mardinach, E., et al., 2005 p. 243).

The Grow Report is extremely important because it gives insight into how assessment data is used in the classroom. The report found that teachers are using data to: (a) meet the needs of diverse learners with decisions about classroom priorities; (b) support conversations with parents, students, fellow teachers; (c) shape teachers’ professional development by reflecting on their own practice; and (d) encourage self-

directed learning by giving the data to students (Brunner, C., Fasca, C., Heinze, J., Honey, M., Light, D., Mardinach, E., et al., 2005). Vogler (2010) agrees that teachers use assessment data to improve instruction in a superficial effort to help students graduate and to help improve their school's assessment scores. The Grow Report encourages teachers to move beyond the elementary use of data to a more sophisticated approach of using data to improve student learning.

In another study on data mining, Streifer, and Schumann (2005) discuss data-driven decisions based on assessments. The focus is on using data to accurately predict how students will perform based on many variables, including educational programs. Drilling down into the data on a very detailed level helps influence instruction by pinpointing which programs will improve student learning and which programs have little to no impact. Data mining is used to influence instruction and, ultimately, programming.

Vogler (2010) determined that teachers are changing their instruction by implementing best practices such as increasing use of open-response questions, creative/critical thinking questions, problem solving activities, rubrics, writing assignments, and inquiry/investigations. Vogler (2010) also finds that instructional practices are decreased in the areas of lecture, true-false questions, multiple choice questions, and textbook-based assignments in an effort to improve test results.

The influence of data on instruction in the classroom has not yet met its full potential. Classroom teachers, counselors, and administrators need to move beyond the old system of feedback that is "rarely viewed in rendering instructional decisions" (Zimmerman and Dibenedetto, 2008, p. 206) and move forward to a system that provides

"information about student performance that enables children academically" (Won-Pyo and Young, 2008, p.14). According to Wayman (2005), we must engage educators in rich student data to improve everyday instruction. However, changing any processes takes time and requires enormous support (Darling-Hammond, 1990).

Accountability in New Mexico

In 2003, the New Mexico Legislature passed HB 212 requiring a standardized accountability system in accordance with NCLB (Assessment and Accountability Act, 2003). The bill added "language that the purposes of the Assessment and Accountability Act are to comply with federal requirements, provide means to assess the progress of students and schools, and ensure an accountability system in which public schools, districts, and the state are held accountable for ensuring student success" (Legislative Education Study Committee, 2003). The language in the legislation holds "teachers, students, schools, school districts and the state accountable" for student success (Assessment and Accountability Act, 2003). In 2003, the legislature defined broad leadership expectations for teachers, leaders and the state by stating, "that a well-designed, well-implemented and well-maintained assessment and accountability system is the linchpin of public school reform and must ensure that:

- students who do not meet or exceed expectations will be provided additional attention and assistance through extended learning programs and individualized tutoring;
- teachers who do not meet performance standards must improve their skills or they will not continue to be employed as teachers;
- public schools make Adequate Yearly Progress toward educational

excellence; and

- school districts and the state are prepared to actively intervene and improve failing public schools” (Assessment and Accountability Act, 2003).

HB212 required students in grades 3rd – 8th and 11th to be tested according to the state standards (Assessment and Accountability Act, 2003). The NMSBA fulfills the assessment requirement of the Assessment and Accountability Act of 2003 and measures whether or not a student is proficient based on the NM standards. Schools are judged on 35 categories in reading and math. “The state set Adequate Yearly Progress (AYP) determinations for districts and schools, the ultimate goal of AYP is to have all students proficient in reading and math by the year 2014” (NMPED, 2007 p. 1). Each year, NMPED annually releases AYP results in August. If a school was not meeting AYP, the school faced increasing sanctions applied by the state. Table 2 below summarizes the sanctions school face as they continually fail to meet AYP.

Table 2. AYP Schedule of Events for Not Making AYP

School Year	AYP Designation	Action Required by NCLB	Action Required by State Law
SY 1	1st year Not Making AYP	None	None
SY 2	2nd year not making AYP	None	None
SY 3	School Improvement	School must develop an improvement plan;	School and district must prepare an improvement plan, which the district submits to PED;
		Local education agency (LEA, that is, the school district) must provide technical assistance; and	School applies to PED for financial or other assistance per improvement plan; and
		All students must be offered public school choice, that is, the option of transferring to a higher performing school.	Public school must provide or pay for transportation, within available funds, for students who transfer to a higher ranked school.
		Option of transferring to a higher performing school.	
SY 4	School Improvement	In addition to the earlier measures, LEA must offer supplemental educational services to low-income students.	In addition to the earlier measures, Public school must provide supplemental educational services to its Title I-eligible students, within available funds.
SY 5	Corrective Action	In addition to the earlier measures, LEA must do one or more of following: Replace school staff responsible school's not meeting AYP; Implement new curriculum; Decrease management authority at school level; Appoint outside expert to advise the school; Extend the school day or year/ or change the school internal structure.	In addition to the earlier measures, the school district, together with PED, must Replace staff as allowed by law; Implement a new curriculum; Decrease management authority of the school; Appoint an outside expert to manage the school; Extend the school day or year; or Change the school's internal organizational structure.
SY 6	Restructuring 1	In addition to the earlier measures, LEA must prepare a plan and arrange to reopen school as a charter school; Replace the principal and staff; Contract with a private management company of demonstrated effectiveness; submit the school to state takeover; or conduct any other major change of the schools governance.	In addition to the earlier measures, the school must begin planning for restructuring in the event that the school fails to make AYP the next year.
SY 7	Restructuring 2	Alternative governance plan (from the preceding year) must be implemented first day of school.	In addition to the earlier measures, the school district, together with PED, must: Recommend reopening the public school as a charter school as provided in law; Replace all or most of the staff as allowed by law; Turn over management of the school to PED; or other governance changes.

In 2012, New Mexico was cleared for a U.S. federal waiver to implement a new accountability system that continues to incorporate testing but is easier to understand and hopefully provides better accountability for schools (New Mexico Public Education Department, 2012). This means the state must follow the rules and regulations in the waiver “to serve as the state’s ESEA accountability method for future years, replacing AYP” (Goldschmidt, 2012, p. 2). The new accountability system, the A-F school grading, was implemented with the intent that it would be easier for the community and parents to understand a letter grade assigned to a school (New Mexico Public Education Department, 2012). Students in grades 3rd – 8th, 10th and 11th continue to be assessed on the NMSBA (New Mexico Public Education Department, 2012).

The results from the NMSBA and other metrics are used to calculate a school’s letter grade (Goldschmidt, 2012). Schools are assigned points in different categories. For elementary and middle schools, points are awarded in the following categories: current standing, growth of school, growth of lowest performing students (quartile 1), growth of highest performing students (top three quartiles), opportunity to learn, and bonus points (Goldschmidt, 2012). For high schools, there are two additional categories: college and career readiness and graduation (Goldschmidt, 2012). Table 3 below shows a matrix for how elementary and middle school points are awarded and Table 4 shows a matrix and the explanation for how high school points awarded.

Table 3. Elementary and Middle School Grading System Matrix

Elementary and Middle School Grading System Matrix			
School Grade: Indicator and Points	Elementary & Middle Schools	Points	
<u>Current Standing</u>	Percent Proficient	25	40
<u>Conditional Status</u> How did students perform in the most recent school year	Value added accounting for a school's student characteristics for the past 3 years.	10	10
<u>School Growth</u> In the past 3 years did schools increase grade level performance?	Value added accounting for a school's student characteristics for the past 3 years.	10	10
<u>Growth of Highest Performing Students</u> How well did the school help the top 75% of individual students improve?	Individual student growth model using 3 years of student performance.	20	20
<u>Growth of Lowest Performing Students</u> How well did the school help the lowest 25% of individual students improve?	Individual student growth model using 3 years of student performance.	20	20
<u>Opportunity to Learn</u> Does the school foster an environment that facilitates learning?	Attendance for All Students	5	10
	Classroom Survey	5	
Total			100
<u>Student and Parent Engagement</u> Does the school encourage parents and students to be involved? Pts		Bonus	+5

Source: Legislative Education Study Committee, Craig, D., Amador-Guzman, S., and Force, K. (2012).

Table 4. High School Grading System Matrix

High School Grading System Matrix			
School Grade: Indicator and Points	Elementary & Middle Schools	Points	
<u>Current Standing</u>	Percent Proficient	20	30
<u>Conditional Status</u> How did students perform in the most recent school year?	Value added accounting for a school's student characteristics for the past 3 years.	10	
<u>Growth of Highest Performing Students</u> How well did the school help the top 75% of individual students improve?	Value added accounting for a school's student characteristics for the past 3 years.	15	15
<u>Growth of Lowest Performing Students</u> How well did the school help the lowest 25% of individual students improve?	Value added accounting for a school's student characteristics for the past 3 years.	15	15
<u>Graduation</u> How does the school contribute to on-time graduation and improve over time?	Percent graduating in 4 years	8	17
	Percent graduating in 5 years	4	
	Vale added model of school growth, estimating growth over the past 3 years.	5	
<u>Career and College Readiness</u> Are students prepared for college and career and what lies ahead after high school?	Percent of all students that participated in one of the alternatives	5	15
	Percent of participants that met a success benchmark	10	
<u>Opportunity to Learn</u> Does the school foster an environment that facilitates learning?	Attendance for All Students	3	8
	Classroom Survey	5	
Total			100
<u>Student and Parent Engagement</u> Does the school encourage parents and students to be involved? Bonus Pts			+5

Source: Legislative Education Study Committee, Craig, D., Amador-Guzman, S., and Force, K. (2012).

Once schools earn points and are assigned letter grades, NMPED ranks some schools in four categories. The top ranking schools are labeled “reward schools.” According to the state, “reward schools are schools that are high performing and high progress and are about 5.0 percent of the total state Title 1 schools” (Craig, Armador-Guzman, Force, p. 3, 2012). The state has designated a different group of schools, called focus schools, which are “lower performing schools and are 10 percent of the total state Title 1 schools” (p. 3). The next category, strategic schools, represents “10 percent of schools that are not identified in the first two categories” (p.3). The last category, priority schools, includes the “lowest performing schools and must equal at least 5.0 percent of the total state Title I schools” (Craig, Armador-Guzman, Force, 2012, p. 3).

While New Mexico has implemented accountability and associated testing requirements over the last decade as part of NCLB and HB212, the state is now charting new horizons with its federal waiver from many of those same NCLB requirements. The waiver still requires assessments and more complex accountability systems for both teachers and schools that incorporate student growth in achievement over time. As such, both nationally, and in New Mexico the importance of data driven decisions and effective use of data to improve outcomes will continue into the foreseeable future. The following section describes four themes developed from the literature that lead to successful use of data in schools.

Four Themes

According to Wayman (2005), there are four important aspects to implementing educators’ data use to influence instruction: professional development, collaboration time, a data warehouse (system), and a supportive leader. The themes that Wayman has

discussed are parallel to themes in this research: professional development, collaboration, systems, and leadership. In the next sections, each theme is developed and ties into the conceptual framework which is linked to the data survey.

Theme 1: Professional Development. The first theme explores professional development and training around data use. Bloom and Vitcov (2010) discuss professional development that involves teachers using data that “leads to higher levels of teaching and student learning (p. 24).” The most successful professional development for a school site is to identify a person who can train others on data use (Wayman, 2005). Professional development must be ongoing.

Whose responsibility is it to provide training and teaching in the use of data to improve academic achievement for students? According to Goodnow and Wayman (2009), leadership should model data use for teachers. "Principals must help teachers develop answers to questions such as; (a) how will data help me become a better teacher? (b) how can data be used to solve building and classroom problems? and (c) how do I find the time to do the additional work?" (Thornton and Perreault, 2002, p. 90). Leadership can model solutions and share findings of data at staff meetings (Thornton and Perreault, 2002, p. 90).

A supportive leader committed to providing quality professional development is important (Wayman, 2005). “Leaders cultivate learning communities by listening, honoring the good work that has already been done, surfacing new and existing leadership, and by putting data on the table and asking questions that lead to organizational transformation and changes in instructional practice” (Bloom, 2010, p. 25). However, Thornton and Perreault discuss how many leaders "lack the skills

necessary to collect, interpret, analyze, and utilize the data available within their school" (2002, p.89). Effective professional development includes collaboration time involving frequent discussions centered on teaching and a common data goal (Wayman, 2005).

Another aspect of professional development involves formal education and teacher training. The types of data analysis taught vary from college to college. Teachers also vary in the "knowledge and skills they have to interpret and know what to do next in terms of instruction" (Marion, 2010, p. 23). Some colleges have embedded student data training into course work. Regardless, staff who "do not participate in making sense of and interpreting assessment evidence are much more likely to focus on finding fault with the conclusions than on considering ways that the evidence might be related to their teaching" (Banta and Blaich, 2011, p. 24). Therefore, it is important that staff and new graduates learn or have been taught the skill of interpreting assessments and data analysis and follow up with instructional changes (Banta and Blaich, 2011; Marion, 2010).

Bloom and Vitcov (2010) discuss professional development and argue "there is a fundamental and urgent commitment to student learning and the use of data to inform immediate changes in teacher practice" (Bloom & Vitcov 2010, p. 26). Wayman would agree that professional development is important for teachers to utilize data (2005). Other researchers (Blanch, 2011; Marion, 2010) believe professional development training and education on the use of data should start with the colleges. Nevertheless, training and professional development are important for teachers and leaders to use data successfully.

Theme 2: Collaboration. A major barrier for staff when analyzing and discussing data is too little time allocated to collaboration (Thornton and Perreault, 2002). It is critical for leaders to be aware of the importance of scheduling collaboration time. Leithwood (1994), Goodnow, and Wayman (2009) discuss the importance of "providing teachers with frequent and routine time and opportunities to share specific teaching techniques, provide teachers with ongoing classroom observations and feedback, and incorporate collaborative planning and evaluation for instructional lessons" (Goodnow and Wayman, 2009, p. 11). "A school that facilitates collaboration among teachers leads to greater consistency in the application and assessment of standards" (Reeves, 2000, p. 71).

Means, Padilla, DeBarger, and Bakian (2009) outline steps for district and school data analysis. First, a common dialogue must take place around collaboration. Second, districts and schools must interact with the data and find trends and patterns and make corresponding inferences. Third, districts and schools should then make generalizations about what happened involving deep thinking about root causes for a symptom within the data. Finally, districts and schools must take action and brainstorm actions that are solution-based.

Goodnow and Wayman (2009) discuss a cycle of inquiry that creates "conditions that spark intellectual stimulations and the teachers' intrinsic motivation to use data effectively to improve classroom instruction" (2009, p. 19). A cycle of inquiry is a formalized process to talk about data regularly that "brings teachers together to discuss and examine teaching and learning relative to student data" (Goodnow and Wayman, 2009, p. 20). It is important to determine "which classroom practices employed by

teachers are most important in promoting student achievement" (Kane, Taylor, Tyler and Wooten, 2010, p. 589). Without time to collaborate and analyze student data, teachers will not necessarily improve student achievement or know which areas need improvement.

Furthermore, staff need time to reflect on current practices in relation to the data and collaborate with colleagues. However, one must set a formalized process to discuss data because, as Steele and Boudett (2008) point out, "data can wound" (2008, p. 2). The process, according to Steele and Boudett, *starts with a non-threatening discussion protocol* that incorporates "looking at data, conducting frequent and focused conversations about student learning" (2008, p.2). Thorton and Perreault believe that data collaboration should begin in the school with "teachers looking at data, interpreting results, developing assessments to evaluate progress and planning for improved instructional strategies" (2002, p. 92). Goodnow and Wayman believe "in order to promote the linkage between data use and instructional improvement efforts, data-informed dialogue must be guided by language and procedures that cultivate productive inquiry, analysis and action" (2009, p. 25). The overall goal is to create "teachers who are intelligent consumers of school-generated data" (Thorton and Perreault, 2002, p. 92).

Data use is more than using the data to hold teachers accountable. "When sharing data and pedagogical insights is a natural part of everyday and online interactions, one can envision data use as being more than just about accountability" (Wayman, Jimerson and Cho, 2010, p. 14). Using data can be powerful in determining where to improve and what exactly students need. Zimmerman and DiBenedetto (2008) discuss providing

teachers with “timely feedback about the progress and deficiencies of students to meet instructional goals” so that students can gain mastery (p. 215).

Another main barrier to collaboration among staff is the allocation of time during the day (Means, Padilla, DeBarger, Bakian 2009; Wayman, Jimerson, and Cho, 2010). Formalizing and incorporating when data collaboration will take place is necessary. Protheroe (2010) discusses how a key component to an effective system is the provision of time for teachers to discuss the data and to work together to develop all teachers. Leadership must work to ensure time is built into daily schedules for staff to collaborate.

When implementing a collaborative environment, it is important to have teacher commitment and buy-in to the system. Some teachers who are inundated with data are resistant to the initiative (Goodnow and Wayman, 2009). Other teachers want a safe environment to explore and improve their use of data with impunity. Leadership must ensure a safe environment to explore with data. Staffs want to know that “disappointing findings will be met with offers of assistance” (Banta and Blanich, 2011, p. 26). Resistance to data often accompanies a natural fear of failure (Thorton and Perreault, 2002).

Steele and Boudett (2008) discuss how leadership can overcome teacher fears by “convincing staff that looking at data will not be yet another distraction from their work but will help them do their work more efficiently” (p.1). Talking with staff about trust and empowering them to use the data also helps overcome fears of possible failure (Thorton and Perreault, 2002). Banta and Blaich “encourage the use of assessment data to guide change that is much more about collaborating with colleagues to decide what to improve than it is about measurement” (Banta and Blaich, 2011, p. 23). Regardless,

transparency and effective communication regarding the use of data for improvement rather than punishment are required to have staff commitment to the initiative or system.

Theme 3: Systems. A system refers to two areas: the district electronic system and the school electronic system. Reeves (2000) discusses creating a basic system to allow for data to flow and have time in the day to dialogue about data. Zimmerman and DiBenedetto (2008) discuss the importance of providing information in a timely manner for staff. Both statements apply to both a district system and a school system.

A major barrier when working with data is the lack of a comprehensive computer data system, which can be a "clear hindrance to effective data use" in districts (Wayman, Jimerson and Cho, 2010, p. 2). Some districts and schools utilize several stand-alone computer systems that don't align or do not talk to each other. This misalignment creates a barrier as someone has to be designated to download data sets from one stand-alone computer system to the next stand-alone computer system, which is time consuming, costly, and takes away from the intent of using data to drive instructional change. In some cases, schools have purchased their own computer data software that doesn't align to the district or state computer systems (Legislative Finance Committee, 2011). When a student leaves a school where different software programs capture information on the student, it creates a barrier and bottleneck where information might not be shared.

Another barrier that districts and schools often face is technical. "Although schools have been data rich for years, they are also information poor because the vast amounts of available data they have are often stored in ways that are inaccessible to most practitioners (Wayman 2005, p. 296). The keepers of data are technical staff. Often teachers and principals don't have easy access to pull reports to review data.

The school and district systems lack policies that support data use and analysis (Legislative Finance Committee, 2011). Wayman's (2005) answer to overcome this barrier is by encouraging schools and districts to implement a policy on data use. Such as, when staff are given a "policy of accountability, the staff embrace the implementation and respond to the learning needs of their students" (Wayman, 2005, p. 298).

Theme 4: Leadership. A barrier that is often faced by school leaders is ensuring goals are successful, attainable, and coordinated. This is not always easy as some teachers are pessimistic because of continuously changing goals or other changes in their school and district. The new goal could be a "fad" that the teacher or staff member will outlast. Wayman (2005) discusses "successful implementation of using data requires that the data initiative be supported by strong school leadership" (p. 302).

Effective analysis, review, and dialogue about data rely on strong leadership in districts and schools. "School leaders play a major role in setting expectations for staff," (Protheroe, 2010 p. 28) and for using data. It is also important for leaders to implement a common understanding that "working together to clarify the how and why of what we do with data can foster commitment to data initiatives" (Wayman, Jimerson, and Cho, 2010, p. 6). For example, leaders may provide clear guidance and expectations of using data to improve student achievement.

One way to give clear guidance is to set a mission and vision around common goals. Goodnow and Wayman (2009) discuss the importance of building a collaborative culture and setting shared goals. The authors state, "having developed a common vision and priorities through setting directions and having provided individual and modeling practice through developing people, the leader focuses on cementing the structures and

practices critical to sustaining continuous improvement practices" (p. 23). Leadership and staff development are mutually important to sustain continuous improvement and to benefit student achievement. Goodnow and Wayman (2009) agree that leaders who implement a common direction with staff will lay the "foundation through the establishment of structures and practices" (p. 24).

Thorton and Perreault (2002) discuss data leadership as a condition that includes a shared vision. "Without a shared vision, attempts to implement data-based leadership become little more than the principal's personal preference. Conversely a vision that is truly shared and supported provides the school team with guidance...strategic planning that can track progress toward goals" (Thorton and Perreault, 2002, p. 88). Goodnow and Wayman (2009) would agree that a common vision "enables members of the organization to share understandings and meanings relative to how to use data to improve teaching and learning" (p.15).

Summary

As the accountability of using data increases, it is important to look at what facilitates data use and the barriers to data use. Data is not only being used to judge a school's performance per NCLB and state waivers but is now also being used with teachers to judge and weight their evaluations. Teachers are expected to know how to use the data to drive instruction, improve student outcomes, provide interventions, and decide where to focus their instruction (Bloom & Vitcov, 2010). Likewise, principals are asked to look at data to evaluate their teachers, decide whether programs or interventions are working at the school site, and, more importantly, help their teachers to determine where to focus next steps (Wayman, Jimerson and Cho, 2010).

It is important to study what facilitates data use, and what the barriers there are to using data because, without knowing the successes, one can't know in which direction to start; without knowing the issues, one can't determine where or how to correct the problem. Determining if the problem stems from the system or with staff data illiteracy is important to improving student achievement. Finally, staff may not value and may even fear this approach to continuous improvement.

Figure 1 represents the conceptual framework presented for successful data use to improve student achievement. The four main themes that have emerged are professional development, collaboration, systems, and leadership, which are consistent with the literature on this topic. Table 5 follows the conceptual framework and ties the main themes to research.

Figure 1. Conceptual Framework

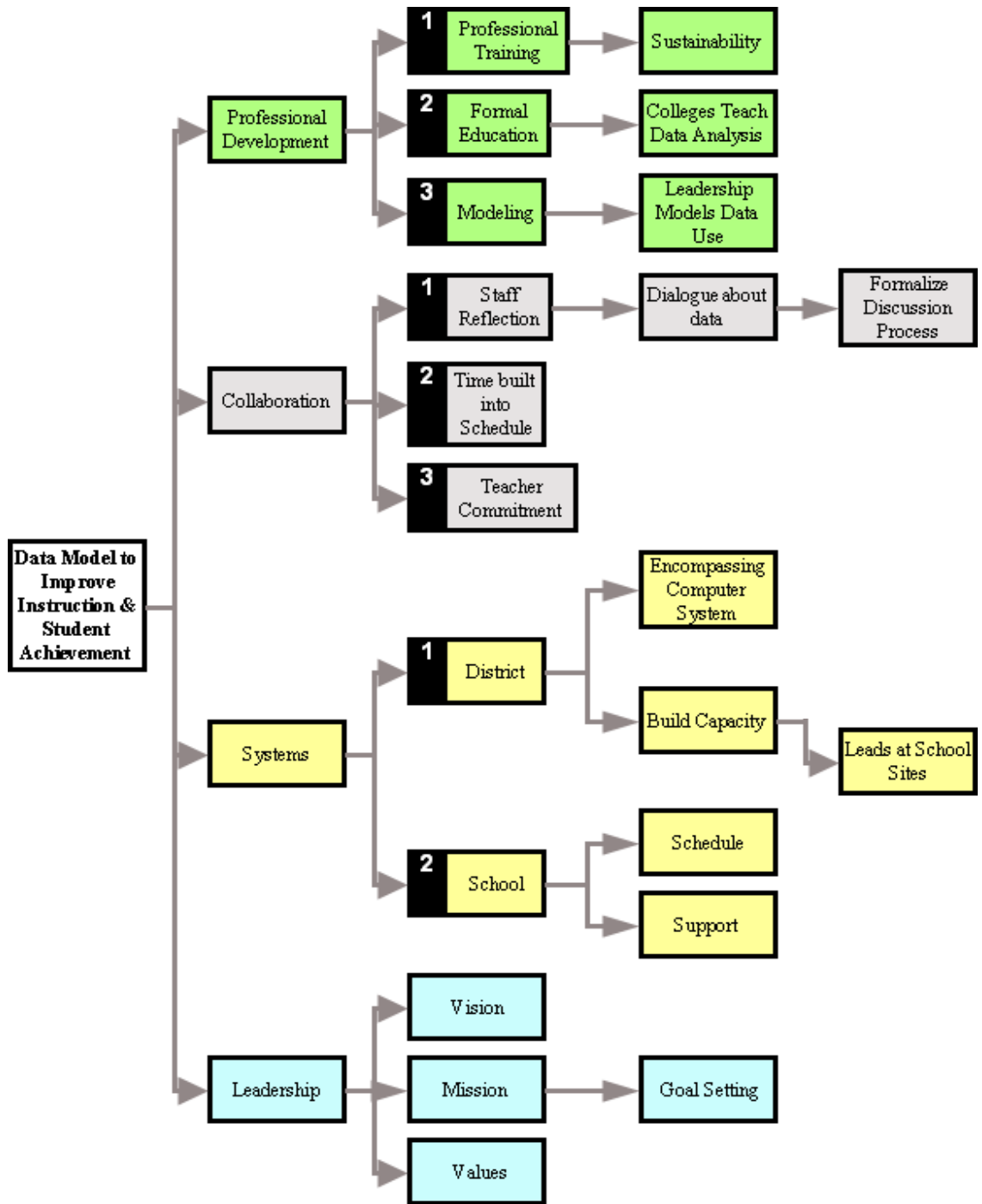


Table 5. Conceptual Framework Linked to Authors

Tools	Authors
Professional Development - Training - Modeling - Support	<ul style="list-style-type: none"> • Goodnow & Wayman, 2009 • Wayman, 2005 • Thornton & Perreault, 2002 • Marion, 2010 • Banta & Blaich, 2011 • Bloom & Vitcov, 2010
Collaboration - Build time in schedule - Teacher commitment - Dialogue about the data	<ul style="list-style-type: none"> • Wayman, Jimerson & Cho, 2010 • Goodnow, Wayman, 2009 • Means, Padilla, DeBarger, Bakian, 2009 • Leithwood, 1994 • Kane, Taylor, Tyler & Wooten, 2010 • Steele & Boudett, 2008 • Reeves, 2000 • Banta and Blaich, 2011 • Thorton & Perreault, 2002 • Protheroe, 2010 • Zimmerman & DiBenedetto, 2008
Systems (internal process) - computer system - building capacity	<ul style="list-style-type: none"> • Wayman, Jimerson & Cho, 2010 • Goodnow, Wayman, 2009 • Reeves, 2000 • Zimmerman & DiBenedetto, 2008 • Wayman, 2005 • LFC, 2011
Leadership - create a vision, mission, values - goal setting	<ul style="list-style-type: none"> • Goodnow, Wayman, 2009 • Thorton & Perreault, 2002 • Protheroe, 2010 • Wayman, Jimerson & Cho, 2010 • Wayman, 2005

Chapter 3 Research Design

Introduction

The purpose of this study is to add to the understanding of how teachers and principals are using the NMSBA data in three New Mexico public school districts. The research question explores teachers' and principals' perceptions of the successful use of student achievement data and the barriers to data use within the four themes: professional development, collaboration, systems, and leadership. Finally, this study explores relationship between a teachers' NMSBA growth score and the 4 themes (professional development, collaboration, systems, and leadership). This study uses a mixed methods case study approach that enables the researcher to gather a wealth of data that illustrate teachers' use of data.

John Creswell (2003) discusses mixed-method research and a system for the data collection. First, the researcher must determine which criteria or strategy will be used for the study. In this study, the data collection methods were concurrent: both qualitative and quantitative data were collected together. Second, does any part of the research have a priority or need emphasis when collecting or studying? In this study, both qualitative and quantitative data collected had equal priority; the research interviews, survey, and data analysis were equally important. One question that may be asked is: how was the data integrated? The framework for this specific study integrated data during the analysis, interpretations, and findings stage, (Creswell, 2003), also known as mixing the data (p. 212).

Creswell (2003) stated that the researcher must define early what methods will occur when collecting data. There are many approaches such as pattern matching (Yin, 2003) or looking for themes within the case study that may or may not be generalized outside the research (Creswell, 2007). Case study research continues to develop the focus on the triangulation of data. Baxter and Jack (2008) looked at case studies through more than one lens by also looking at many data sources and triangulating the data using multiple sources. Authors Yin (2003), Glaser and Strauss (1967), Baxter and Jack (2008) all agree that viewing multiple data sources around complex topics builds the case of validity in the research. In addition, looking at the study from different angles of data instead of a single case can build credibility to the case study. This case study delved into teachers' and principals' perceptions of their experiences with using the NMSBA data and was triangulated with the following: survey data, NMSBA data, and teacher interviews.

Site of Study

The school districts studied are in Northern New Mexico and include Aspen School District, Cedar School District and Pinon School District. There are 17 elementary schools between the three districts. The unit of analysis are three New Mexico school districts. The total populations is 9,128 students. The three districts range in Free and Reduced Lunch from 70% to 85%. The district demographics also range from 51% Hispanic to 100% Hispanic students. Most elementary schools serve students from kindergarten through 6th grade classes. Table 6 presents a summary of the district demographics.

Table 6. Demographics SY 2012-2013

District	Demographic	N	Percent
Aspen School District	Total student	3140	100%
	African American	226	7%
	Caucasian	1603	51%
	Hispanic	1276	41%
	Native American	35	1%
	ELL Student	1071	34%
	Economically Disadvantaged (All)	2450	78.03%
	Spec. Ed. (excluding gifted)	545	17%
Cedar School District	Total student	4052	100%
	African American	135	3%
	Caucasian	3571	88%
	Hispanic	242	6%
	Native American	104	3%
	ELL Student	530	13%
	Economically Disadvantaged (All)	3450	85.14%
	Spec. Ed. (excluding gifted)	443	11%
Pinon School District	Total student	1936	100%
	African American	86	4%
	Caucasian	1556	80%
	Hispanic	278	14%
	Native American	16	1%
	ELL Student	404	21%
	Economically Disadvantaged (All)	1360	70.25%
	Spec. Ed. (excluding gifted)	180	9%
District Totals	Total student	9128	100%
	African American	447	5%
	Caucasian	6730	74%
	Hispanic	1796	20%
	Native American	155	2%
	ELL Student	2005	22%
	Economically Disadvantaged (All)	7260	80%
	Spec. Ed. (excluding gifted)	1168	13%

The three New Mexico School districts were selected for the study because they are considered medium-sized school districts in Northern New Mexico. The districts also

range in student performance. For the 2011-2012 school year, 3 of the 17 elementary schools had a school grade of B. For the 2012-2013 school year 4 of the 17 elementary schools had a B or better. Table 7 summarizes Aspen School District, Cedar School District and Pinon School District elementary schools report card letter grades data from school year 2011 to 2013.

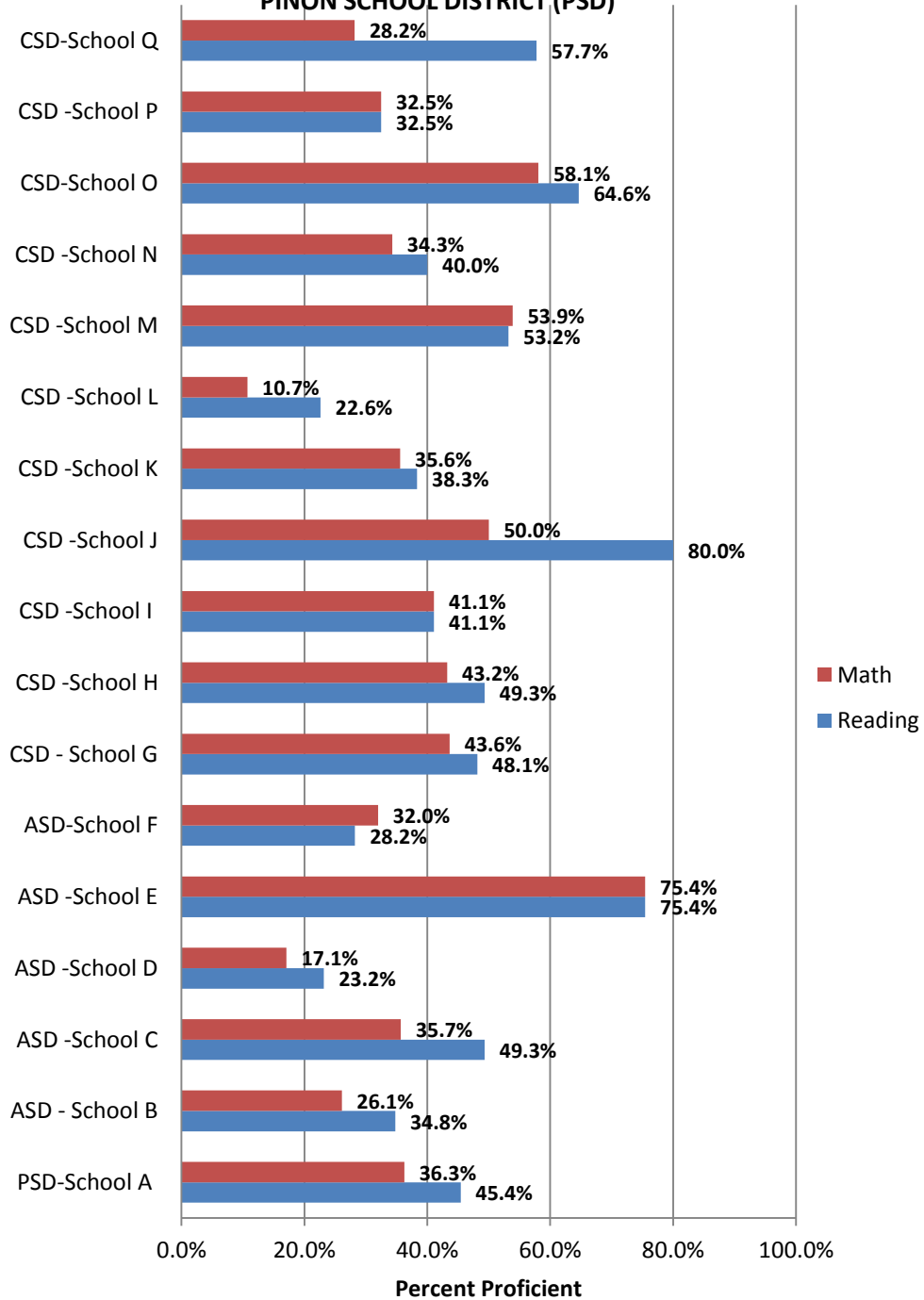
Table 7. Elementary Letter Grades School Year 2012-2013

District	School	2012 Overall School Grade	2013 Overall School Grade
Pinon School District	School A	C	F
Aspen School District	School B	D	D
	School C	D	D
	School D	D	F
	School E	C	B
	School F	F	F
Cedar School District	School G	B	D
	School H	C	D
	School I	C	C
	School J	C	B
	School K	D	D
	School L	D	F
	School M	B	B
	School N	C	C
	School O	B	B
	School P	D	D
School Q	D	C	

There is a broad range in the percent proficient as measured by the NMSBA scores. In math the “All Students” category, scores range from 10.7% proficient to 75.4%. In reading, the “All Students” category scores also have a wide a range with 80% proficient to 2.6% proficient. Graph 1 is a summary of NMSBA scores for school year 2011-2012 in the “All Students” category.

2013 NMSBA PERCENT PROFICIENT ALL STUDENTS

CEDAR SCHOOL DISTRICT(CSD), ASPEN SCHOOL DISTRICT (ASD) & PINON SCHOOL DISTRICT (PSD)



Graph 1. NMSBA Percent Proficient for School Year 2013

Research Methodology

The purpose of this study is to understand the experiences of 4th and 5th grade elementary teachers in utilizing NMSBA data to improve student achievement. The study utilized a mixed qualitative and quantitative method. The first part of the study involved surveying participants and then conducting interviews with four elementary 4th and 5th grade teachers. Quantitative methods consisted of survey data and the qualitative method involved interviews. A mixed methods approach limits the researcher's potential biases, as multiple methods neutralize or cancel the biases that may appear (Creswell, 2003).

The research methodology followed a case study using mixed methods because "it is expected to capture the complexity of a single case within the social sciences" (Johansson, 2003). As the case study evolves, the researcher must define, within the bounded system, the units of analysis, link the data, and, finally, interpret the data if it applies to a single case or multiple cases (Yin, 2003; Creswell, 2007). Yin (2003) provides a general guide of a unit of analysis as defined by the research question. The research questions for this case study was narrowed to 4th and 5th grade teachers in elementary schools in three Northern New Mexico school districts, thus creating a bounded system.

Although the sample was derived from three medium size school districts in Northern New Mexico the sample is considered one of convenience. "Convenience sampling - or as it sometimes called, accidental sampling - involves choosing the nearest individuals to serve as respondents and continuing the process until the required sample size has been obtained" (Cohen and Lawrence, p. 88, 1994). The sample was

conveniently located in Northern New Mexico and close in proximity to Santa Fe, New Mexico. The convenience sample was targeted to include 4th and 5th grade teachers as they have two years of NMSBA data and students are considered elementary students with one teacher of record.

Drawing conclusions from a convenience sample is dangerous and is constrained by external validity issues (Yinn, 2003). For example, convenience samples lack representativeness of available and target populations. Generalizations of such findings for the whole state are not statistically sound or ethical. The danger with drawing conclusions in this research is misinterpreting the data as representative of the state. Convenience sampling is “the most widely used and it is the least justifiable” (Voigt, 2007, p.87).

Within the three districts a very narrow sample participated, 4th and 5th grade teachers and elementary principals. The data for this study had a small N (41) size for growth scores and surveys completed. Forty one teachers is a very small population of all the 4th and 5th grade teachers in the state of New Mexico. The data cannot be generalized to a larger population because the sample was small (Voigt, 2007). The grade levels represented were only 4th and 5th and the demographics of participants were similar and not a representative sample of the population. Therefore, the sample was not representation of New Mexico, but only representative of the participants that participated in the research.

These methodological limitations are extremely important for this study because the topic of this dissertation is test scores, measuring student growth and teacher effectiveness. These are all highly contentious topics and need to be addressed carefully.

Generalizing from these limited findings would be inappropriate. This is intended to be an exploratory study and I am making a number of assumptions about using test scores as a way to categorize teachers.

Mode of Inquiry. The study used mixed methods qualitative and quantitative techniques in order to maximize the understanding and interpretations of the data (Onwuegbuzie and Leech, 2006). I used concurrent procedures as the overarching perspective, which enabled me "to provide a comprehensive analysis of the research problem" based on qualitative and quantitative data collected throughout the study (Creswell, 2003, p.16). The information was integrated in the overall results and interpretation (Creswell, 2003).

Data Survey Methodology. Elementary teachers in 4th and 5th grade and elementary principals in Aspen School District, Cedar School District and Pinon School District were surveyed regarding their perception of the use of assessment data and of the barriers that prevent them from using assessment data. Survey research was appropriate as there was a large geographical area with 15 elementary schools to survey and a large sample of teachers and principals (64) who were surveyed. The surveys included demographical and biographical questions such as licensure levels, experience, opinions, and values in regards to data and the limitations and barriers to using data (see Example - Appendix 1). Teachers' in 4th and 5th grade were selected because, 1) their students have two years of test data and 2) all elementary schools in the sample contain 4th and 5th grade. Elementary principals were also included as leaders set the tone and environment for data use.

Principals and teachers were recruited to take the survey during a school staff meeting, where they were introduced to the study and asked to complete the survey. Refreshments were provided for participants. It was critical in the study to work with principals to gain access to staff. The data survey was explained to staff, and they were assured that all surveys would be coded so that no data survey answers can be tied to a staff member. The codebook can be viewed in Appendix 3.

Instrumentation – Data Survey. I reviewed a number of existing surveys that might serve as the basis for the data survey to be used. Two existing surveys, in particular, were helpful. The first survey reviewed was from Coyne (2006) who studied the elementary schools engaged in data base collaboration. After reviewing the instrument, I determined that it lacked in-depth questions about a schools electronic data system. The second instrument reviewed was the Wallace Foundation Data–Driven Decision Making Leadership Group survey, led by Winograd (2006). The original instrument was developed to survey principals with four main areas of focus:

- Section 1 – different kinds of data that are often related to the work of principals,
- Section 2 – how well prepared principals were as first year principals,
- Section 3 – difficult questions once data is collected and analyzed, and
- Section 4 – review of the challenges principals face with data and their expertise.

(Winograd, 2006).

The purpose of the Wallace Foundation survey was to learn more about principal use of accountability data (Winograd, 2006). After reviewing the two surveys, the Wallace Foundation survey proved to be the best match for the research as it aligned with the four main themes. For additional questions, I added a few questions from Coyne, questions

31-37. The last section of the Wallace Foundation survey, section 4, aligns with the 4 themes from the literature. Appendix 4 represents the alignment of each theme with the literature to each research question.

However, I made a number of revisions to the Wallace Survey. The first major revision for the data survey instrument was the Likert scale. The original instrument was constructed for principals on a Likert scale of 1 to 5. For this research the instrument was revised for principals and teachers. The original Likert scale, participants chose from (1) Completely Agree to (4) Completely Disagree and (5) Unsure. For this research, I modified the Likert scale to (1) Strongly Agree to (5) Strongly Disagree with (3) being Unsure. The next major revision was the elimination of sections 1-3. These three sections were eliminated because they were specifically to only one group of participants. The next change involved the rewording of questions to frame the questions for teachers' and principals'. Section 4 contained 34 questions that were rewritten in some cases to survey both teachers and principals. The last major revision made to the instrument was section 4 contained 34 questions; however four were not aligned to the study. Therefore, questions that were not aligned were removed, resulting in a base survey of 30 questions. Finally, seven questions were added from the Coyne survey to tease out additional information on how teachers' and principals' use data. The final survey contained 37 questions and is in Appendix 2, Data Survey.

Dissemination of Data Survey. Arrangements were made with the site principal to provide an overview of the project. It was clearly explained to staff that the survey was voluntary. After the overview and explanation of the research, staff surveys and an informed consent letter was disseminated at each elementary school to 4th and 5th grade

teachers in tested subjects and the principal. Staff took the data survey at their school site during a staff meeting, which allowed for a higher return rate. Staff had an opportunity to decide if they would like to participate or not via a signed consent form administered before survey distribution.

Interview Methodology. Four teachers in grades 4th and 5th and two principals were interviewed to further explore further teacher and principal perceptions about the conditions that support the use of NMSBA data for student achievement in the sample. Teachers were selected for interviews based on the NMSBA growth data for their classroom. A description of growth data is discussed in the section on data collection methods. Two teachers with a high growth score and two teachers with a low growth score were selected. A principal with a high growth score and a low growth score were also selected. All interviews will be kept confidential and teachers assigned pseudonyms.

Instrumentation – Interview Questions. The instrument for the interview portion of this research was developed in an Education Leadership course taught by Dr. Arlie Woodrum (Sallee, 2010). The interview questions were piloted in an elementary school in Santa Fe Public Schools for a class research project. The purpose of the original interview questions was to explore teachers' perception regarding assessment data. After reviewing the interview instrument small changes were made. Two questions were added to match up with the 4 themes developed from the literature. The final interview instrument had 10 questions and is contained in Appendix 1.

Data Collection Methods. The data collection in this case study research involved 64 surveys, 4 interviews with teachers, 2 principal interviews and secondary data analysis for all principals and teachers in grades 4th and 5th (NMSBA). When

looking at identifying "the data collection in case study research, it is typically extensive, drawing on multiple sources of information, such as observations, interviews and documents" (Creswell, 2007 p. 13).

I used the approach of pattern matching survey data and teacher interview data (Yin, 2003) and looked for themes that may or may not be generalized (Creswell 2007). In addition, I used NMSBA growth data by teacher in grades 4th and 5th to see if there was a correlation between a low growth or a high growth score and the participant's survey data. Survey scores were summarized into one score based on how staff members answer questions 1-30. The summarized score can range from 30 to 150. Scores were calculated for each major theme creating 4 additional categories for each teacher. The summarized range of scores by theme include the following:

- Professional Development – range 6-30
- Collaboration – range 8-40
- Systems – range 10-50
- Leadership – range 6-30.

Growth scores were calculated for each teacher in the sample. All data were coded and individual information kept confidential. Each teacher was matched to their own students from the 2011-2012 school year. Students have two NMSBA scores for school year 2010-2011 and 2011-2012. Growth was determined by points moved forward on the scale of 0-80 for each student (Goldschmidt, 2011). For example, a student who scores a 40 on the NMSBA test one year and then scores a 41 the next year has a growth score of +1. PED has defined a full year of growth as a scale score change of 0 (NMPED, 2011). PED has not defined a negative score nor has the Department

defined a positive score. However, from the definition of a full year of growth, one can conclude that a negative number means the student did not grow a full year and a positive number means that the student grew more than a full year. The formula used to calculate growth was:

$$(NMSBA \text{ scale score SY } 2011-2012) \text{ minus } (NMSBA \text{ scale score SY } 2010-2011) = \text{growth}$$

Teacher growth scores were calculated using a class average of all student growth scores. To identify overall high performing and low performing teachers, math and reading growth scores were averaged for one total growth score per teacher. This overall score was only used to identify teachers for interviews. However, teacher growth score data for math and reading will be used to determine a possible relationship to the teachers' survey data upon analysis.

Data Analysis. The data collected was triangulated looking for themes or patterns in the survey data, interviews, and NMSBA data. Yin (2003) discusses for a case study, once the data were collected, the researcher interpreted the findings. Yin (2003) discusses two vehicles for generalizing results as a level one or level two analyses. The level one analysis is a basic generalization of one or two cases; a level two analysis can be generalized more broadly. For this study, the focus was on a level one analysis because the findings could not be generalized to the larger population. The sample size is small also means the findings cannot be generalized to the larger population of New Mexico (Voigt, 2007). I looked for repeated themes and patterns and included in the data gathered during interviews.

The following two tables connect the research sub-questions with survey and interview questions. Table 8 directly links each survey question to the research sub-questions. Table 9 directly links each interview question to research sub-questions.

Table 8. Research Question Linked to Survey Question

Research Sub-Question	Question from Survey
<p>What are principals’ and teachers’ perceptions of the successful use of NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems, and leadership?</p>	<ul style="list-style-type: none"> • Professional Development – 1-6 • Collaboration – 7-14 • System – 15-21 & 30 • Leadership –24-29
<p>What are principals’ and teachers’ perceptions to the barriers of using the NMSBA student achievement data use as related to the four themes: professional development, collaboration, school and district systems, and leadership?</p>	<ul style="list-style-type: none"> • Professional Development – 1-6 • Collaboration – 7-14 • System – 15-21 & 30 • Leadership –24-29
<p>What is the relationship between staff survey by theme (professional development, collaboration, systems, and leadership) and Teacher NMSBA growth?</p>	<ul style="list-style-type: none"> • Professional Development – 1-6 • Collaboration – 7-14 • System – 15-21 & 30 • Leadership –24-29
<p>What is the relationship among age, gender, ethnicity, license level, years of experience, education (MA/BA), and teachers with high and low growth scores to student achievement as measured by the NMSBA?</p>	<ul style="list-style-type: none"> • Professional Development – 1-6 • Collaboration – 7-14 • System – 15-21 & 30 • Leadership –24-29

Table 9. Research Question Linked to Interview Question

Research Sub-Question	Question from Interview
<p>What are principals' and teachers' perceptions of the successful use of NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems, and leadership?</p>	<ul style="list-style-type: none"> • Professional Development – 1,2,6 • Collaboration – 3, 4, 5, 6, 10 • System – 9,8 • Leadership –9,7
<p>What are principals' and teachers' perceptions of the barriers to using the NMSBA student achievement data use as related to the four themes: professional development, collaboration, school and district systems, and leadership?</p>	<ul style="list-style-type: none"> • Professional Development – 1,2,6 • Collaboration – 3, 4, 5, 6, 10 • System – 9,8 • Leadership –9,7
<p>What is the relationship between staff survey by theme (professional development, collaboration, systems, and leadership) and Teacher NMSBA growth?</p>	<ul style="list-style-type: none"> • Professional Development – 1,2,6 • Collaboration – 3, 4, 5, 6, 10 • System – 9,8 • Leadership –9,7
<p>What is the relationship between age, gender, ethnicity, license level, years of experience, education (MA/BA), and teachers with high and low growth scores to student achievement as measured by the NMSBA?</p>	<ul style="list-style-type: none"> • Professional Development – 1,2,6 • Collaboration – 3, 4, 5, 6, 10 • System – 9,8 • Leadership –9-7

Survey data for each participant was added together and divided by the total number of questions for one overall participant score. The survey data collected was also added together for each subcategory (professional development, collaboration, systems and leadership) and divided by the total number of questions in the subcategory. Each teacher had 5 scored areas. An excel spreadsheet was utilized to collect all the survey data. Within the same excel spreadsheet, a new worksheet was used to capture sub scores and a total data survey score for each teacher. The sub score and total score was reflected on the codebook in Appendix 3.

Teacher 1	Total Data Survey Score
	Score Sub Category Leadership
	Score Sub Category Collaboration
	Score Sub Category Systems
	Score Sub Category Professional Development

Interview Data collected for each participant was coded and developed into themes. Afterwards, data collection in the form of interviews was recorded, documented, and transcribed. I looked for themes or general ideas that emerged. Creswell (2003) explains that the idea is to look for common themes or threads that emerge across all data collected.

To determine a relationship between a teacher NMSBA growth score, the 4 themes (professional development, collaboration, systems and leadership) and demographics including age, gender, ethnicity, school type, years of experience, and

license Level, I used the Statistical Package for the Social Sciences (version 19) to calculate descriptive statistics, frequency tables, and correlations. Data was compared across high growth score and low growth score teachers as well as compared to the demographic section of the data survey.

Standards of Quality. The standards of quality are criteria to ensure that a mixed methods study meets standards of quality. The researcher used the methods outlined in Johnson and Onwueguzie (2004). The authors recommend using eight distinct steps: (1) “determine the research questions, (2) determine if the mixed method design is appropriate, (3) select the mixed method or mixed model design, (4) collect the data, (5) analyze the data, (6) interpret the data, (7) legitimize the data, and (8) draw conclusions and write the formal report” (Johnson and Onwueguzie, p. 21, 2004).

All participants were assured of their privacy and confidentiality. Data collection and analysis were examined at multiple levels (Creswell, 2003). Data analysis included checking the validity of the data. For quantitative data, this included checking the accuracy of the data and looking for outliers. For the qualitative phases of the study, the data was triangulated. Once the data collection was complete, the study focused on interpretation of the results. The electronic file was shared with interviewees, participants, and school sites to ensure the data collected was correct (Creswell, 2003).

Summary

The focus of this research was to gain more information on what facilitates teachers’ and principals’ use of the NMSBA data and the barriers teachers’ and principals’ face when utilizing data. Using a mixed method approach provided more information for New Mexico. The ability to look more in depth at the research question and create a framework with teachers and principals

was beneficial as the accountability movement continues. This study was important as it helped identify strengths and challenges to using data and can lead to improved student achievement.

Anecdotal evidence indicates that New Mexico's teachers vary in their ability to use data to drive instruction and improve student learning. This study helped document that variation and could lead to changes in the support provided to use data and how teachers value data and promote movement towards the next step of using the data to drive instruction.

Chapter 4 Results

Data literacy and data-informed decisions are essential skills for educators to improve student achievement. Principals and leaders play an important role to improving data literacy and data-informed decisions as the leader ensures the conditions and environment encourage data use. The literature discussed at least four aspects to data literacy and data-informed decisions, which include the following:

- Professional Development
- Collaboration
- Systems
- Leadership.

This study focused on four research questions:

- What are principals' and teachers' perceptions of the successful use of NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems, and leadership?
- What are principals' and teachers' perceptions of the barriers to using the NMSBA student achievement data use as related to the four themes: professional development, collaboration, school and district systems, and leadership?
- What are the relationships among principal and staff survey by theme (professional development, collaboration, systems and leadership) and Teacher NMSBA growth?

- What are the relationships among age, gender, ethnicity, license level, years of experience, education (MA/BA), and principals and teachers with high and low growth scores to student achievement as measured by the NMSBA?

In Chapter 4, I have organized and present the information in the following order:

- District demographics information,
 - Student
 - Staff
- NMSBA growth score information,
- Research sub-question 1, facilitators,
- Research sub-question 2, barriers,
- Research sub-question 3, relationships among four themes and growth scores,
- Research sub-question 4 relationships among age, gender, ethnicity, licensure level, years of experience and the growth scores,
- Additional Questions 31-37 – questions examine in what capacity staff use data.

District Demographics

Three districts were selected to survey elementary principals and teachers in 4th and 5th grade. I assigned pseudonyms to districts, teachers, and principals for confidentiality. The districts selected were Aspen School District, Cedar School District,

and Pinon School District. All districts are considered medium size school districts in New Mexico as they range from 1,900 to 4,000 students. The districts are all located in Northern New Mexico and have similar student demographic information.

Aspen School District has six elementary schools. One of the elementary schools was removed as a research site because it only contained PreK through 2nd grade. Therefore, five elementary school sites were surveyed. Cedar School District has 11 elementary schools. For this research, one of the elementary schools was not included because the principal did not return phone calls to participate. Therefore, 10 elementary school sites were surveyed from Cedar School District. Pinon School District has one intermediate elementary school that serves all 4th and 5th grade students in the district. Overall, 16 school sites were surveyed.

Student Demographic Information. The school districts range in population of students from 51% (1,603) Hispanic to 88% Hispanic (3,571). One district, Aspen, has 40% (1,276) Native American students. Most districts have a low percent of Caucasian students ranging from 7% (226) to 3% (135). All three districts have a high population of students who qualify for free and reduced lunch, ranging from 70% (1,360) to 85% (3,571). One of three districts has a higher number of special education students, 17% (545) and 34% (1,071) English Language Learners (ELL). Each district is highlighted in Table 10.

Table 10. District Demographic Data

Demographic Category	Aspen School District		Cedar School District		Pinon School District		District Totals	
	N	%	N	%	N	%	N	%
Total Enrollment	3,140		4,052		1,936		9,128	
Caucasian	226	7%	135	3%	86	4.7%	447	5%
Hispanic	1,603	51%	3,571	88%	1,556	80%	6,730	74%
Native American	1,276	40%	242	6.1%	278	14%	1,796	20%
Other	35	1%	104	3%	16	1%	155	2%
Special Ed.	545	17%	443	11%	180	9%	1,168	13%
Eco. Dis.	2,450	78%	3,571	85%	1,360	70%	7,260	80%
ELL	1,071	34%	530	13%	404	21%	2,005	22%

For this research, the unit of analysis is the total of all three districts. Therefore, I will also present the information for the combined unit of analysis. The total population of all three districts is 9,128 students. Of the 9,128 students 74% (6,730) are Hispanic, 20% (1,796) Native American, 5% (447) Caucasian, and 2% (155) are other. The total population has 80% (7,260) qualify for Free or Reduced Lunch, 22% (2,005) are English Language Learners (ELL), and 13% (1,168) qualify for special education.

Staff Demographic Information. The participants for the study were 4th grade teachers, 5th grade teachers, and elementary principals in 16 elementary schools in three Northern New Mexico school districts. In this study, eight principals (53%) completed the survey instrument representing 16 schools. Two principals each oversee two small schools sites; thus, there are only 15 possible principals in the sample. The return rate for

principals was 53%. Through the survey, I collected demographics including gender, ethnicity, licensure, years of experience, and where they received their credentials.

There were seven (87.5%) female principals and one (13.5%) male principal in this study. There were six Hispanic and two Caucasian principals. All principals hold a Master’s degree from various Universities in and outside of New Mexico. One holds an Education Specialist certificate. The average years of experience for the principals in this study was 19 years; the principal with the most experience had 37 years, and the least experienced had nine years.

In the study 64 teachers participated in the survey. The majority of teachers were Level II, 48% or 31 of 64. Level I and Level III teachers were similar size groups. Level III teachers were 27% (17 of 64) and Level I teachers were 25% (16 of 64). Forty-one teachers (64%) were at the same school site teaching the same grade level and have a calculated growth score. The average teaching experience in this study was 12.7 years. The range of years of teaching service ranged from one to 37 years. Table 11 presents the years of service in teaching by district.

Table 11. Cross-tabulation of Numbers of Years Teaching and District

	Aspen School District	Cedar School District	Piñon School District	Unit of Analysis Totals
1st year	2	1	3	6
3-5 years	2	6	0	8
Number of 6-10 years	7	4	2	13
Years 11-15 years	5	10	3	18
Teaching 16-20 years	4	5	0	9
Experience 21-25 years	3	1	0	4
25 or more years	2	3	1	6
Totals	25	30	9	64

The majority of teachers self-reported their ethnicity as Hispanic 40 of 64 (62.5%), Caucasian 15 of 64 (24.6%), Native American one of 64 (1.6%), and five classified themselves as other (8%). Three teachers did not report an ethnicity. Table 12 presents teacher ethnicity.

Table 12. Teacher Ethnicity

	Frequency	Percent	Valid Percent	Cumulative Percent
Caucasian	15	23.4	24.6	24.6
Hispanic	40	62.5	65.6	90.2
Native of Mexico	2	3.1	3.3	93.4
Native American	1	1.6	1.6	95.1
Other	3	4.7	4.9	100.0
Not Reported	3	4.7		

NMSBA Growth Scores

The growth scores for teachers are calculated on the NMSBA for students and are intended to reflect the relative academic improvement of students or a classroom being taught by a specific teacher. The NMSBA is aligned to state content standards, and scoring is vertically aligned with each grade level so that educators can easily calculate student academic improvement over time between grade levels. The scale is on an 80-point scale where a “scaled score” of 40 is proficient for each tested grade and subject. PED has defined a year of growth as a net change of 0 on the scale from one year to the next for each student. For example, a student scoring 40 on the test in 3rd grade reading and then scoring a 40 on the test in 4th grade reading would be presumed to have grown one academic year (40-40=0).

However, a student can grow a full academic year and still not achieve “proficiency” in the subject, and the vertically aligned scoring systems allow for analysis of student growth separate from content mastery. For example, a student scoring a 38 on the 3rd grade test and then scoring a 38 on the 4th grade test would be considered to have grown one academic year but still not be proficient. As a result, a student may achieve academic improvement but still fall short of grade level expectations. Likewise a student could score above proficiency, but slip academically. An example would include a student who scores a 42 in 3rd grade and scores a 40 in 4th grade has not grown a full academic year and has a scale score change of -2 but is still considered proficient.

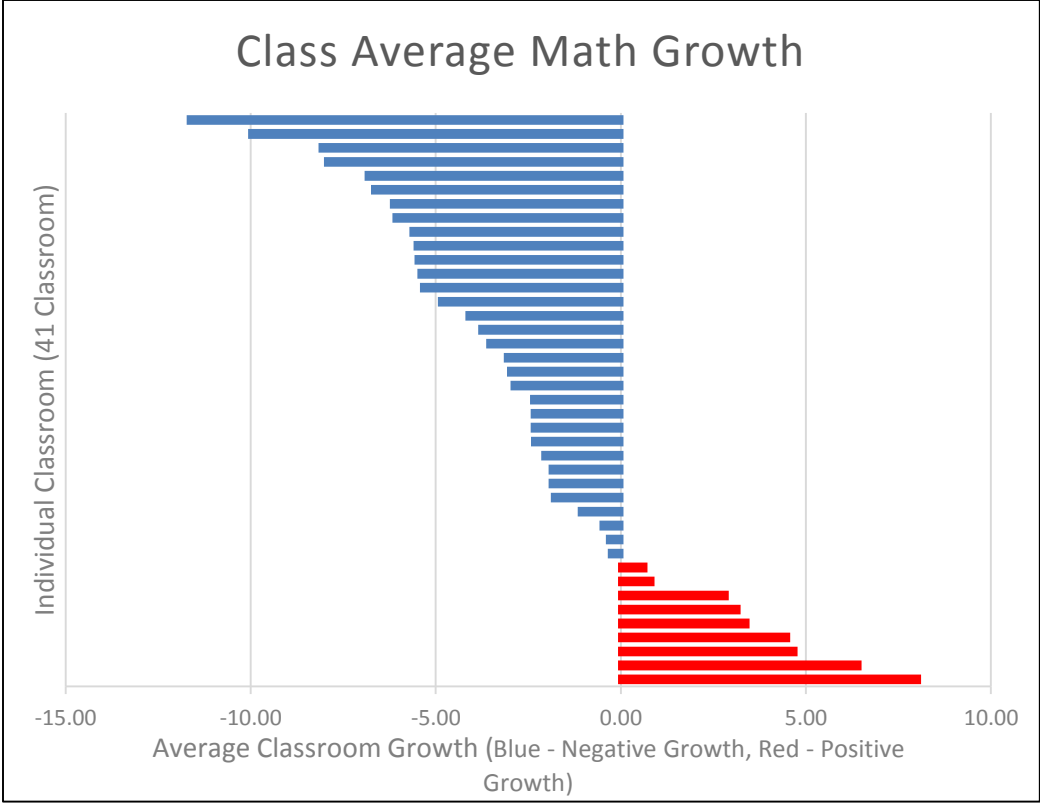
For this study, a growth score was calculated for all students in math and reading based on the difference between the test score prior to the student entering the teacher’s class and the test score achieved while in the teacher’s class. An example of this calculation is a student who scores a 40 in 3rd grade and then in 4th grade scores a 41 has a scale score difference of +1. Then, a class average was calculated so that each 4th and 5th grade teacher had a growth score for math and reading.

For math growth, the high class growth score was 8.04 scale score points and the low growth class was -11.66 scale score points with a mean of -2.46. On average, students in the sample group of teachers’ classrooms for math did not achieve a full year of academic growth. Reading had a high class average of 11.75 scale score change and a low of -6.66 scale score points with a mean of .109. On average, students in the sample group of teachers’ classrooms achieved more than a full year of academic growth. Table 13 presents the descriptive statistics for the average teacher growth for reading and math on the NMSBA.

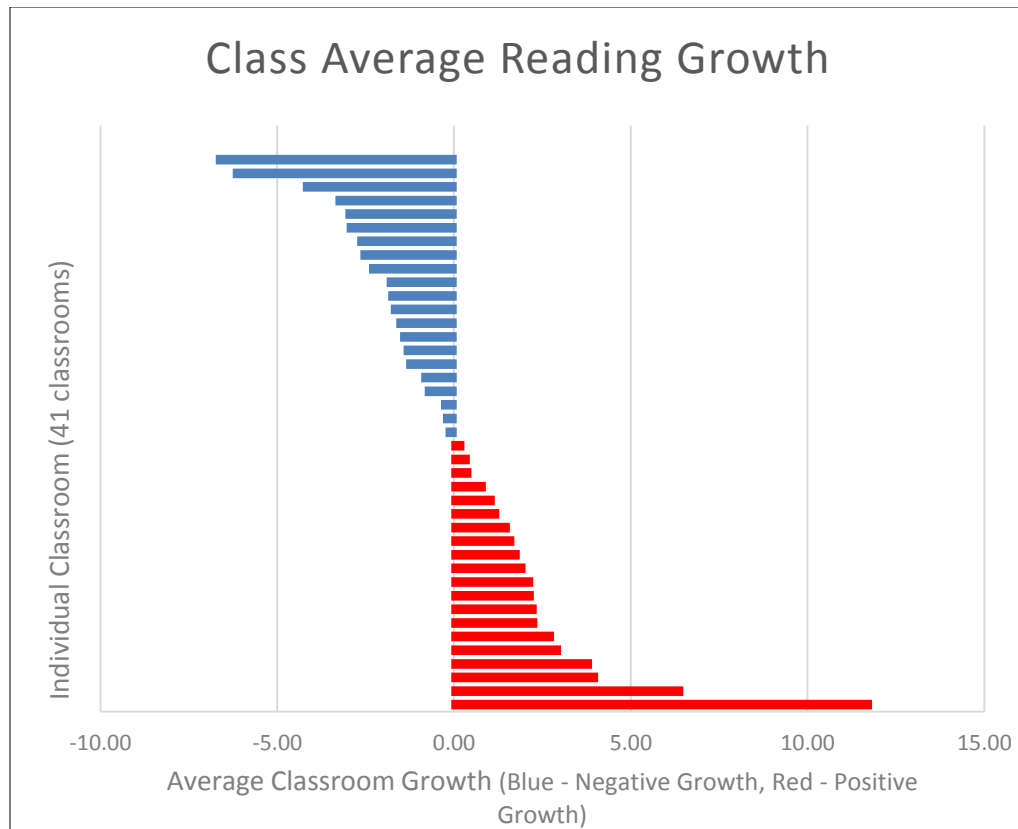
Table 13. Descriptive Statistics Class Average Growth Scores for Reading and Math on the New Mexico Standards Based Assessment Data

	N	Minimum	Maximum	Mean	Std. Deviation
Class Average Math Growth	41	-11.66	8.04	-2.46	4.32
Class Average Reading Growth	41	-6.66	11.75	.11	3.27

When analyzing how many teachers had a positive growth for math versus a negative growth, only nine teachers out of 41 (21%) had a positive class average growth. For reading 49% or 20 out of 41 teachers had a positive class average growth score. Only eight teachers out of 41 (19.5%) had a positive growth score in both reading and math. The charts below represents the average class scale score change for each teacher in reading and math.



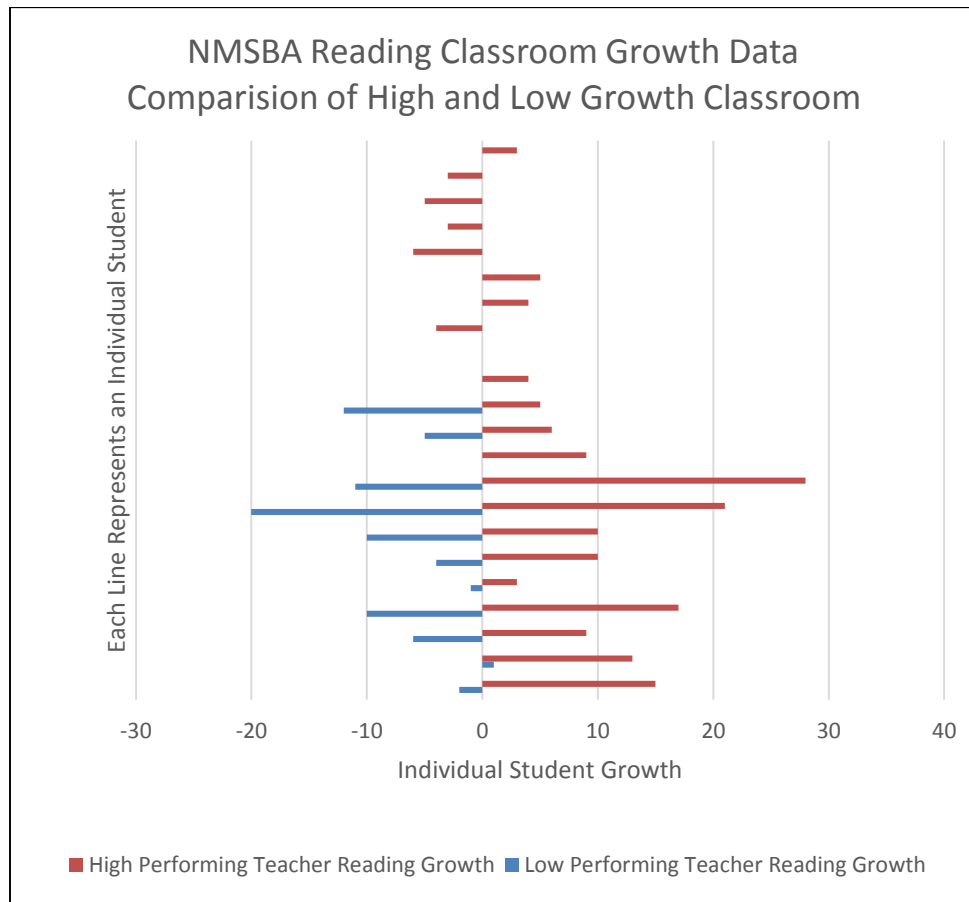
Graph 2. Class Average Math Growth Scores (N=41)



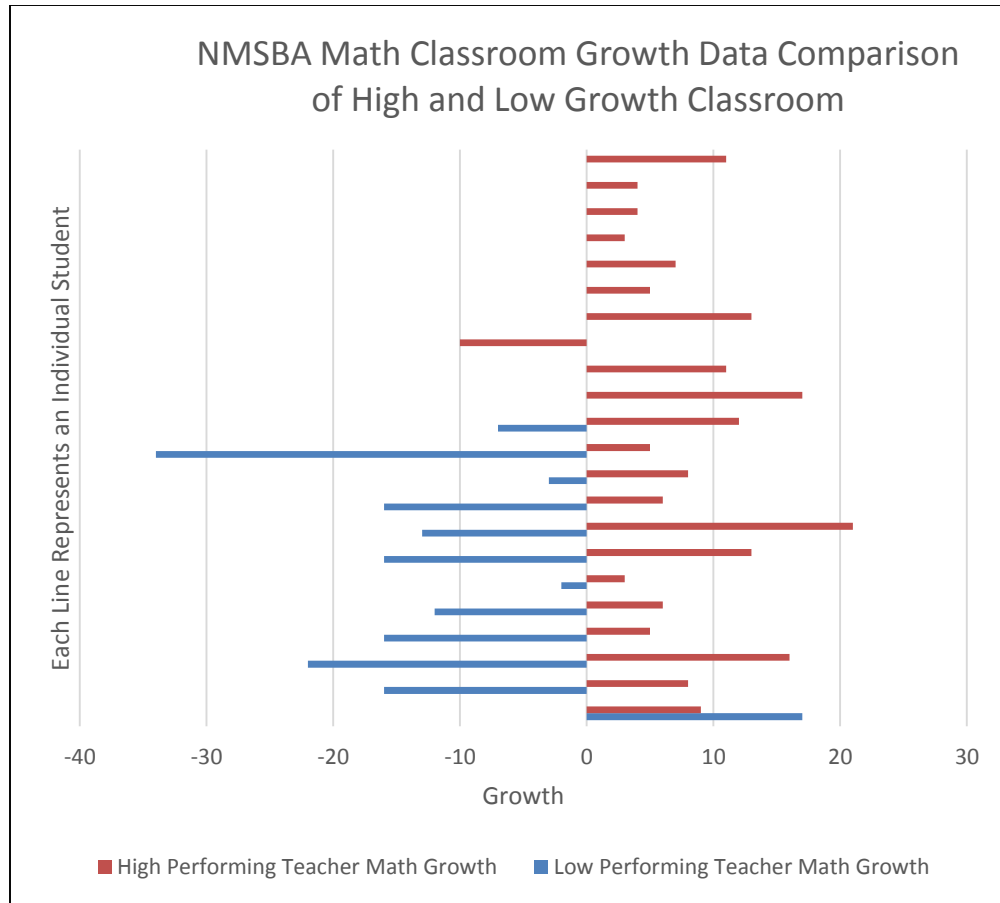
Graph 3. Class Average Reading Growth Scores (N=41)

The data of a high growth score teacher and the data of a low growth score teacher, present differences when comparing individual student growth. Students in a reading, low growth classroom had 10 % (1 of 11) of students achieving one-year of growth. In Comparison, students in a reading high growth score classroom had 76% (16 of 21) of students achieving one-year growth or more. For math, the results are similar. In the lowest growth math classroom, 9% (1 of 12) of students achieved one-year growth or more. In a high growth math classroom, 95% of the students grew a year or more in math on the NMSBA. The graphs below represent a high growth classroom and a low growth classroom for reading and math based on the NMSBA data. Each color represents a classroom and each line within the color represents an individual students’

growth in the teacher classroom. Red represents a high growth score classroom and blue represents a low growth classroom.



Graph 4. NMSBA Reading Classroom Growth Data Comparison of a High (N=21) and Low (N=11) Growth Classroom



Graph 5. NMSBA Math Classroom Growth Data Comparison of a High (N=22) and Low (N=12) Growth Classroom.

Research Questions

For the overall research questions, I asked, “What are principals’ and teachers’ perceptions about the conditions that support the use of NMSBA data for student achievement?” To measure successful data use, I first administered a survey and then followed up with interviews of high growth and low growth teachers and principals. For teachers, growth scores were calculated to identify high and low performing classroom teachers. Principals’ growth scores were already calculated on the PED A-F report card and the section labeled “school growth for reading and math.”

The first step of the research involved contacting districts and then visiting the school to disseminate a survey to teachers in 4th and 5th grade. Once the survey was completed, data was coded in excel for questions 1 to 30 on a Likert scale. For questions 31 to 37, questions were coded as a 0 or 1 (0= No, 1= Yes) and considered additional questions. For questions 1-30, I calculated a composite score for each theme (professional development, collaboration, systems and leadership) by adding together all items within one theme as discussed in Chapter 3 and available in Appendix 4.

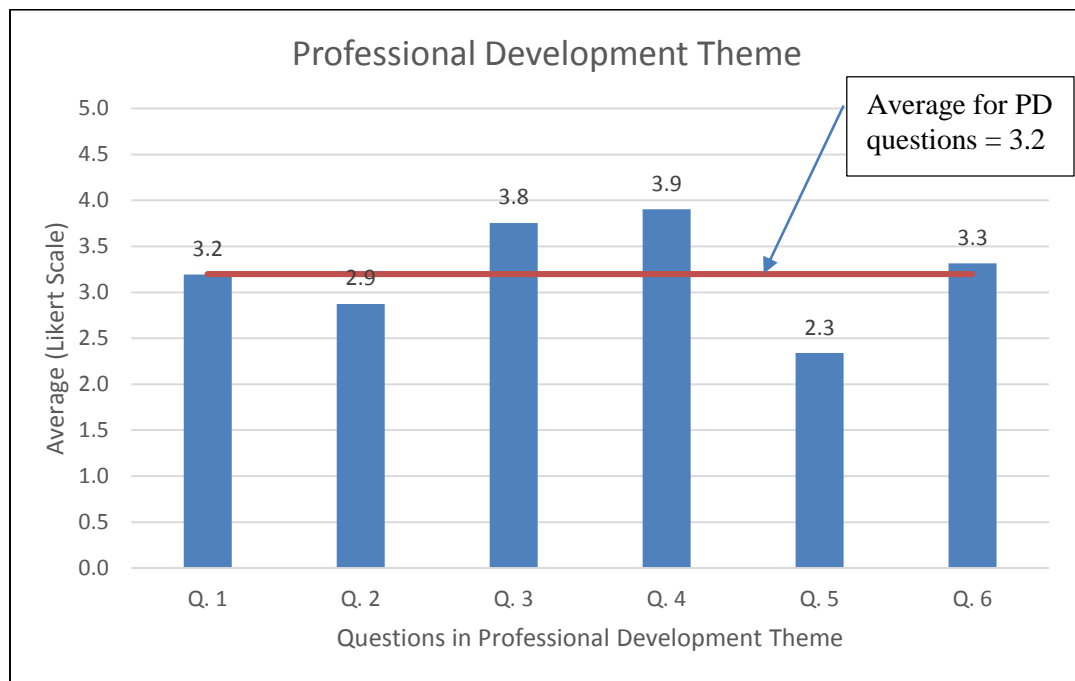
Overarching Research Question. Research question one asked, “What are principals’ and teachers’ perceptions about the conditions that support or the barriers that inhibit the use of NMSBA data for student achievement. The survey questions 1-30 were categorized into the four themes. The scores are based on a Likert scale of one to five, where five is strongly agree and one is strongly disagree. This is the overarching question to the study. Table 14 contains the total possible points for each theme presented with the min, max, mean, standard deviation, skewness, and kurtosis for the survey questions 1-30.

Table 14. Descriptive Statistics for Survey Questions 1-30

	Total Possible	Mean	Min	Max	Std. Deviation	Skewness	Kurtosis
Professional Development (6 items)	30	20.03	6	29	4.54	-.592	.67
Collaboration (8 items)	40	26.36	2	39	6.77	-1.28	3.44
Systems (10 items)	50	24.36	9	35	5.63	-.319	-.42
Leadership (6 items)	30	28.45	15	38	5.16	-.408	.13

Research Sub-Question 1 – Facilitators. The first sub-questions asks, what are principals’ and teachers’ perceptions regarding the successful use of the NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems and leadership? To answer this question participants were surveyed, interviewed and growth scores calculated. The results are highlighted below by theme.

Professional development theme. The professional development theme rated 20.3 out of 30 possible points for questions 1 – 30. Four of the six questions rated above three and the average for all questions in the theme was 3.2. Graph 6 displays the six questions in the professional development theme and their average scores.

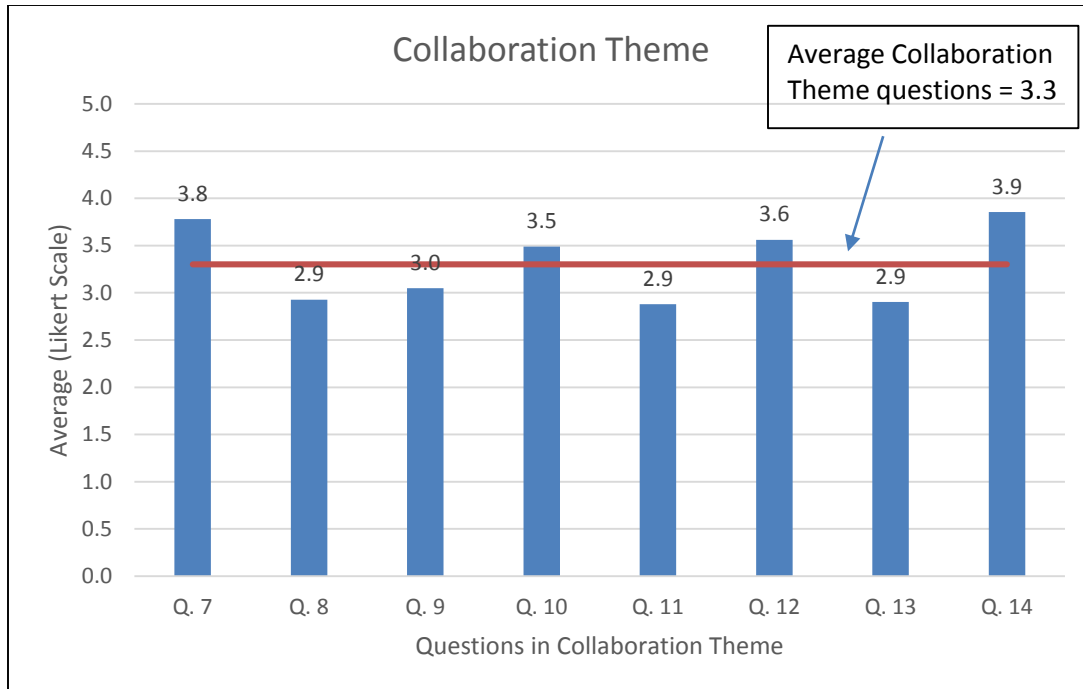


Graph 6. Professional Development Theme Average Score Per Question

Questions within the theme that rated high were principals (87.5%) and teachers (79.7%) agree and strongly agree they can easily work with data (Question 1). Overall, for Question four, teachers (79.7%) and principals (75%) agree they understand the NMSA data. Other questions that rated high within the theme, 3.3 out of 5 was Question 6, “My school site has someone who models how to analyze data.”

Jimmy discusses the support he receives from central office and stated, “The deputy superintendent collects the data and shares with individual schools”. Tom a high growth teacher describes how data is disseminated at the beginning of the year, “The district provides us with the data. It’s all broken down by school site, grade, and its graphed. The material is presented at the beginning of the year and is easy to understand.”

Collaboration theme. Collaboration had a mean of 26.36 out of a total of 40 points for the theme indicating that participants rated the theme more towards the middle of the Likert scale 1-5. Four questions out of the eight in the collaboration theme rated above a three and the average for all questions was 3.3. The four questions that rate above a 3 are considered areas that are facilitating data use. Graph 7 below presents the data from the collaboration theme.

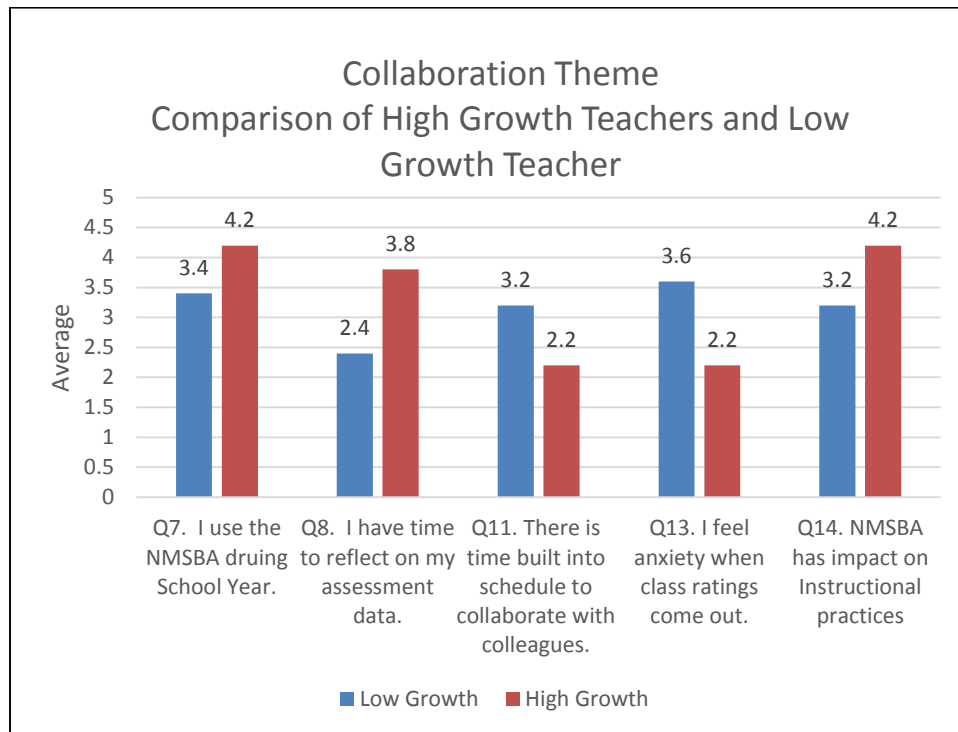


Graph 7. Collaboration Theme Average Score Per Question

Participants rated Question 14, “The NMSBA has had an impact on my instructional practices,” as the highest (3.9 out of 5) within the collaboration theme. Other areas within collaboration that facilitated data use was Question 7, “I use the results of the NMSBA data during the school year.” Principals strongly agree at 100% that they use their NMSBA data during the school year and teachers strongly agree at 75% that they use their NMSBA data during the school year. Another area that participants rated high that facilitates data use is Question 10, “I frequently discuss student achievement data with colleagues. The last area that rated high was teachers vary in how they use the NMSBA data.

High and low growth teacher perceptions differed on key questions relating to the collaboration theme. Again, the survey was a Likert scale with 1 being strongly disagree to 5 being strongly agree. The top five high growth teachers’ and the bottom five low

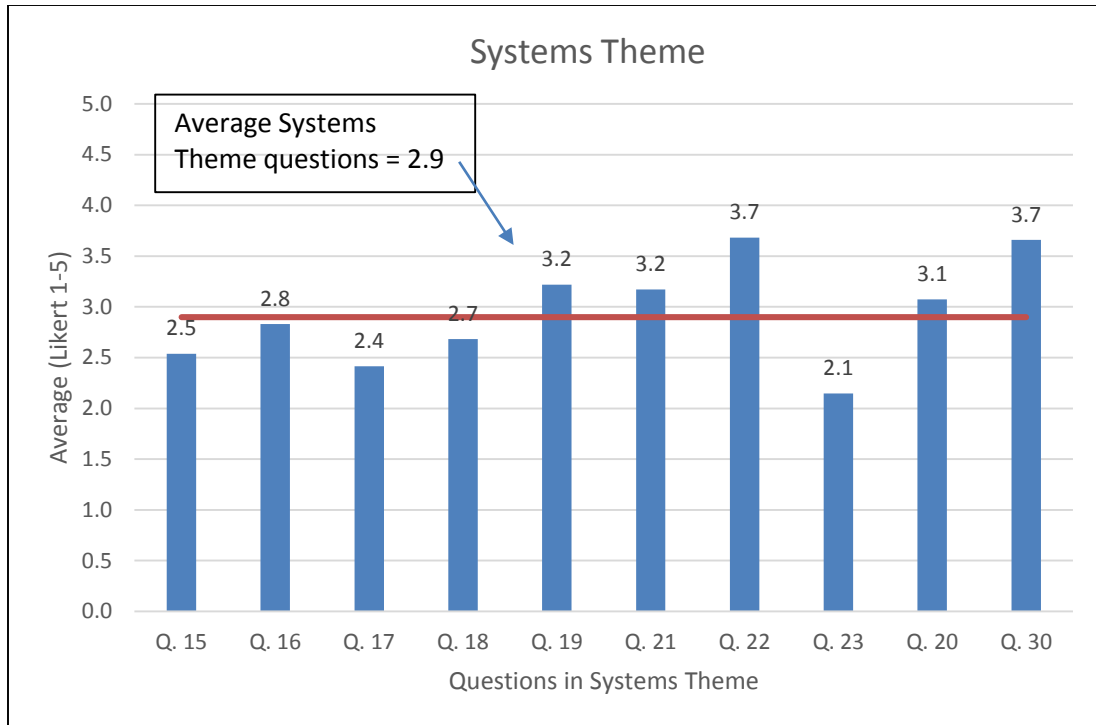
growth teachers' answers were averaged for each question and compared. For example on Question 8, I have time to reflect on my data, the low growth teachers average was 2.4 and the high growth teachers average was 3.8. On Question 13, I feel anxiety when class ratings come out, high growth teachers were more likely to agree with an average of 3.6, whereas low growth teachers were more likely to disagree with an average of 2.2. Graph 8 presents the findings for the differences in the collaboration theme.



Graph 8. Comparison of Collaboration Theme for High Growth and Low Growth

Ashley, a high growth teacher states, “The school collaborates all the time. We have PLC meetings every Friday.” Ashley discussed how she collaborates with other teachers, “When we need to meet with a lower grade teacher or interventionist we have informal meetings to show new data, areas of growth and review student work.” A high growth principal also shared that his teachers collaborate and have PLC time every Friday.

Systems theme. The systems theme rated the lowest of the four themes by participants. The participants rated it 24.36 out of 50 total possible points. When analyzing individual questions five out 10 rated above three and the average of all questions was 2.9. Graph 9 presents the findings for each individual question within the systems theme.



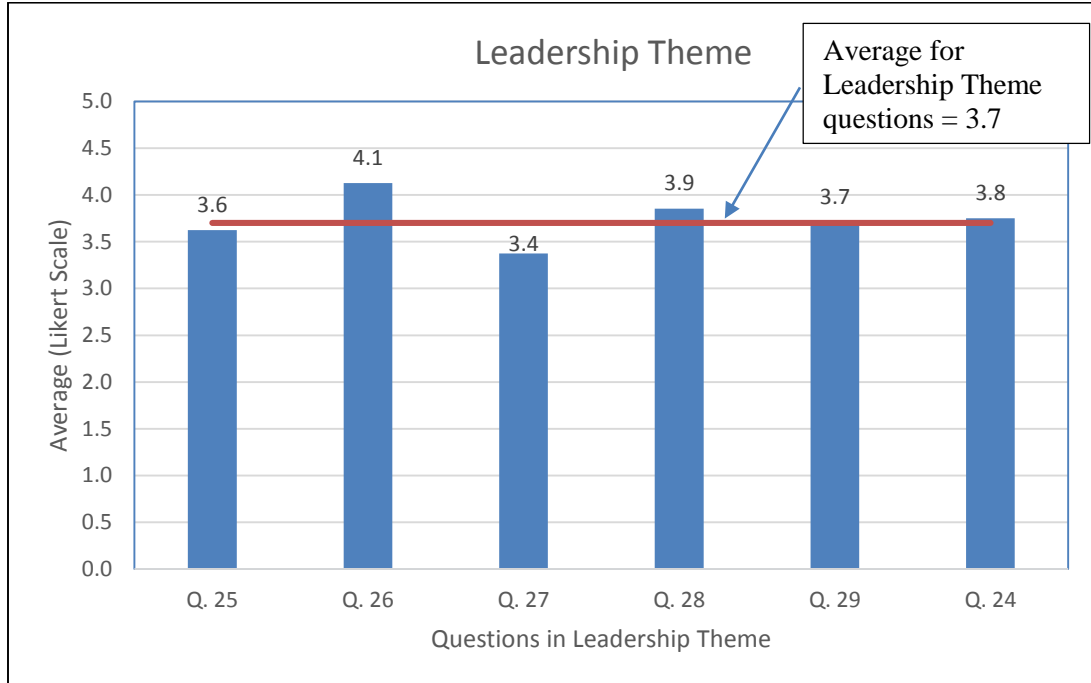
Graph 9. Systems Theme Average Score Per Question

Participants on average (3.2 out of 5) rated that data was formatted and organized so it could be easily understood (Question 19). The question that rated the highest within this theme was Question 30. Participants perceived the data they received from the district was helpful. Fifty (N=4) percent of principals believed they had their data in a timely fashion. Principals rated the data provided by the district was helpful 50% (N=4) of the time. When principals work with the NMSBA data, 50% (N=4) of participants agreed they feel they have the tools needed.

When comparing high and low growth teacher perceptions for the top five high growth and the lowest five in the systems theme two questions stood out. Question seven, the data I need is available in a timely fashion, low growth teachers average was 2.2 and high growth teachers' average was 3. The biggest difference was in Question 23, I have the time necessary to use data effectively, the low growth teacher average was 1.8 and the high growth teacher average was a 3.2.

Jimmy a high growth principal states that he uses the STARs system to work with his data. "My teachers are continually pulling data informally and formally that we have access to. Everything is very much data driven." Jimmy also provides teachers with time to collaborate and use the data.

Leadership theme. On average, the 64 teachers rated the leadership theme 28.45 out of a possible 30 points. Within the leadership theme all of the questions rated above a three and the average for all six questions was 3.7. Any question above the red line is considered an area that is facilitating data use. Graph 10 represents the averages per question.



Graph 10. Leadership Theme Average Score Per Question

The highest rated area was Question 26 where teachers agreed and strongly agreed that they set yearly goals to improve student achievement outcomes. They also believed that the leader valued data (Question 28), set measurable goals (Question 27), and encouraged staff to use NMSBA data (Question 29). However, when analyzing the difference in the top five high growth teachers and the bottom five low growth teachers, Question 29 stood out. On average low growth teachers' perception of leaders' encouragement to use the NMSBA data was a 3.2 and high growth teacher perceptions was a 4.4.

Ashley, a high growth teacher, discusses how her school uses data and sets instructional goals: "Our goal each year is to always make sure that all the students will improve, so we don't create our goals saying that all the students will be proficient, but

we know that each student should be doing better this year than they did last year; so, the goal is realistic, but is challenging. We try to challenge the students and challenge ourselves, but we try to be realistic.”

Research Sub-Question 2 – Barriers. Research question two investigates, what are principals’ and teachers’ perceptions of the barriers to using the NMSBA data as related to the four themes: professional development, collaboration, systems and leadership. To answer question two, the same format from question one will be used. Table 13, the descriptive statistics from questions 1-30 is reported in themes and will help answer the question along with Graphs 6-9 and interview data.

Professional development theme. Even though principals and teachers rated the professional development theme as 20 out of 30 possible points there were some areas that rated low and are considered barriers. Two out of the six questions rated below the average of three pushing them below the red line. Principals and teachers rated Question 5 as a barrier, the lack of their formal education training did not teach them this skill. Only 25% of teachers and 25% of principals agreed that their formal education training taught them to use the NMSBA. Teachers agree that professional development opportunities are available to help teachers’ and principals’ understand the NMSBA. However, only 40% of teachers agreed they have access to professional development (Question 2).

Jessica, a low growth teacher, stated, “We don’t get that much support. All the support we are provided is giving the data to the teachers who don’t know how to disaggregate the data.” It is important to recognize where teachers and leaders have barriers so that leaders can help provide the support.

Collaboration theme. The collaboration theme had a mean of 26.36 out of a possible 40 points indicating that participants rated theme towards the middle. Three of the eight questions rated below the average of three. The biggest challenge that teachers and principals reported in the collaboration theme (Question 11) was time built into the schedule to collaborate. Fifty percent of teachers reported that they disagreed they had time built into their schedules to collaborate with colleagues. Only, 37.5% (3 out of 8) of principals reported that they had time built time into their schedules for collaboration with colleagues. An area that was rated low by participants was they did not perceive they had time to reflect on data.

A low growth principal who was interviewed said, “We try to collaborate with other principals but time is one of those things we just don’t have enough of. At principal meetings we share basic information.” Jessica, a low growth teacher interviewed talks about collaboration with colleagues. “We really haven’t gotten together yet. We haven’t collaborated on even test scores. We are still wondering when we are going to get the data and the breakdown of scores.” The barriers reported from the low growth staff included time and not having the data.

Systems theme. Systems rated the lowest of the four themes again with 24.36 out of total possible points indicating that participants don’t always agree there are systems in their district. Five of the ten questions rated below the red line in Graph 8. Areas that rated low by the principals were Question 8, “My district has software in place to utilize the NMSBA data.” One principal out of eight (12.5%) agreed that their district had the software to utilize the NMSBA data. Twenty-five percent (N=16) of teachers rated this question as the perception they have the software necessary to utilize the

NMSBA data. However, 75% of teachers don't believe they have the software. When determining if data is available in a timely fashion (Question 17), only 30% (N=19) of teachers agreed or strongly agreed. Principals rated 50% of the time as having to use multiple computer systems to work with student data and teachers reported 36.5% (N=23) of the time using different computer systems to work with student data.

David, a low growth score teacher, states, "We use multiple systems for student data because some of us are not privy to some of the data. We have to receive it from the administration." Victoria, a teacher with a low growth score, states, "You don't really have the time to break up the student data and search it, and figure out where kids need help." Major barriers within this theme that were highlighted in the survey included access, time and the technical skills to disaggregate the data.

Leadership theme. Leadership rated 28.45 out of 30 indicating that participants more likely agreed that leadership supported data use. No questions in the leadership theme rated below the average of 3 in Graph 6. This indicates that leadership is a facilitator and not a barrier to staff utilizing data.

The area that rated the lowest within the theme, was to what degree do you agree that school leaders set measurable goals. The low growth principal discussed how her site sets goals each year using the NMSBA data. She stated that, "each year students take responsibility for their achievement data." She never discussed how she used the achievement data herself but rather how students were responsible for goal setting. Jessica, a low growth teacher stated, "The school misses out on setting instructional goals as the data stays at the district curriculum level." The interviews highlighted barriers the

survey didn't capture. One was the principal taking ownership and using the data and the other was ensuring the dissemination of data to the teachers.

Research Sub-Question 3 – Relationships Among Themes and Growth

Score. Research question three asks, “What is the relationship between principal and staff survey by theme and teacher NMSBA growth scores.” I conducted a Pearson correlation between staff surveys of the four main themes: professional development, collaboration, systems and leadership by teacher NMSBA class average growth for math and reading. The purpose of running this specific correlation was to determine if a relationship existed. Table 15 presents the results from the correlation.

Table 15. Pearson Correlation

		CLASS MATH AVG	CLASS READ AVG
Prof. Development	Pearson Correlation	.146	.183
	Sig. (2-tailed)	.363	.251
Collaboration	Pearson Correlation	.047	.003
	Sig. (2-tailed)	.771	.987
Systems	Pearson Correlation	.061	.140
	Sig. (2-tailed)	.703	.383
Leadership	Pearson Correlation	.020	.185
	Sig. (2-tailed)	.901	.246

The sample size for running correlations on this data set is 41 teachers; there were no correlations that were statistically significant in the large themes. However, when looking at individual questions within the themes, some questions analyzed showed correlations. The sample size is small (N=41), therefore it is interesting that some questions had correlations which cannot be generalized to a larger population. The first question that had a correlation, “I have the time necessary to use data effectively,” showed a moderate, positive, statistically significant correlation with class average

reading growth ($r=.458$, $p=.003$). This suggests that giving teachers' time to use their data has a positive impact on growth scores. The second individual question, "The NMSBA data has an impact on my instructional practices," had a moderate, positive, statistically significant correlation between a teacher class average math growth scores and their curriculum.

In the literature review, leadership is cited as one of the key components to impacting teacher use of data. In the question, "To what degree do you agree that school leaders encourage the use of NMSBA data," there was a moderate, positive, statistically significant correlation between class average math growth scores ($r = .318$, $p = .043$) and class average reading growth scores ($r=.330$, $p=.035$). This is the only question where both math and reading growth are affected positively. When asking teachers about the frequency of reviewing NMSBA data from annually to daily, I found a moderate, positive statistically significant correlation with math class average growth ($r=.424$, $p = .006$).

Another area in the literature review that is critical to facilitating teachers using data is collaboration time. In the question, "Teachers collaborative practices include a formalized process to share data and collaborate," showed a moderate, positive, statistically significant correlation with class average reading growth ($r = .375$, $p = .016$). The last question, "We have been able to increase student achievement," had a moderate, positive, statistically significant correlation with class average math ($r = .496$, $p = .001$). Although some questions had statistically significant correlations, this study cannot be generalized to a larger population and did not include all 4th and 5th grade teachers in the state. Table 16 summarizes the statistically significant correlations for this research.

Table 16. Correlations

		CLASS MATH AVG	CLASS READ AVG	Magnitude
I have the time necessary to use data effectively	Pearson	.299	.458**	Moderate Positive
	Correlation Sig. (2-tailed)	.058	.003	
The NMSBA data has an impact on my instructional practices	Pearson	.313*	.144	Moderate Positive
	Correlation Sig. (2-tailed)	.046	.369	
To what degree do you agree that school leaders encourage the use of NMSBA data	Pearson	.318*	.330*	Moderate Positive
	Correlation Sig. (2-tailed)	.043	.035	
Frequency of reviewing NMSBA data Annually to Daily	Pearson	.424**	.191	Moderate Positive
	Correlation Sig. (2-tailed)	.006	.231	
Teacher Collaborative practices include a formalized process to share data and collaborate	Pearson	.247	.375*	Moderate Positive
	Correlation Sig. (2-tailed)	.120	.016	
We have been able to increase student achievement	Pearson	.496**	.220	Moderate Positive
	Correlation Sig. (2-tailed)	.001	.166	

** Correlation is significant at the .01 level (2 tailed)

*Correlation is significant at the .05 level (2-tailed)

Research Sub-Question 4 – Relationships Among Demographics and

Growth Score. The last research question investigated, what relationships exist among age, gender, ethnicity, licensure level, years of experience, education and the principals' and teachers' growth scores. I conducted a Pearson two-tailed correlation between the teachers' NMSBA class average growth for math and reading and teacher demographic information. The sample size was again 41 teachers who have growth scores calculated. Table 17 represents the correlation findings for teacher demographics.

Table 17. Pearson Correlations for Teacher Demographics

		Class Average Math Growth	Class Average Reading Growth
Teacher Gender	Pearson Correlation	-.221	-.191
	Sig. (2-tailed)	.165	.230
Teacher Ethnicity	Pearson Correlation	-.095	.116
	Sig. (2-tailed)	.562	.476
Years Taught	Pearson Correlation	.293	.128
	Sig. (2-tailed)	.063	.425
Licensure Level	Pearson Correlation	.279	.208
	Sig. (2-tailed)	.077	.193

Not surprisingly, there were no significant correlations among teacher demographics and math and reading class average growth scores. When analyzing the extremes, the lowest 5 growth and the highest 5 growth teachers, for differences in gender, ethnicity, and years taught and licensure level there was a small differences in licensure levels. Low growth teachers had two out of five Level I teachers, whereas, the high growth teachers had two out of five Level III teachers. A weakness is, again, the small sample size. However, I can look at the descriptive statistics and it appears that teachers and principals rate certain theme areas higher than others.

The results for the questionnaire didn't clarify or tease out who values data more: a high growth teacher or a low growth teacher. I can say that another limitation to the study is that I used a simple growth model. Had I used a different method of classifying teachers this study might identify different teachers at the extremes.

Analysis of Additional Questions on Survey. Participants reported using data in a variety of ways. When analyzing when and in which situations the school uses the

NMSBA data to make instructional decisions, the highest ranked area was grade level planning. Teachers said 73% (N=47) of the time the NMSBA data is used for grade level planning; principals rated this area as 100% (N=8) of the time. The next area that rated high by teachers with 69% (N=41) and principals with 88% (N=7) was they used the NMSBA data for individual student planning. Other areas where teachers use the NMSBA data are to identify reading (67%, N=43) and math (61%, N=39) groups. Table 18 summaries in which situations principals and teachers use NMSBA data.

Table 18. In Which Situations Does Your School Use NMSBA Data

	Teacher		Principal	
	N	%	N	%
Whole school planning	29	45.3%	5	62.5%
Grade level planning	47	73.4%	8	100%
Subject area team planning	22	34.4%	3	37.5%
Individual student planning	44	68.8%	7	87.5%
Planning with resource teachers	19	30.2%	4	50%
Planning with specialist teachers	19	29.7%	2	25%
To identify instruction reading groups	43	67.2%	4	50%
To identify instructional math groups	39	60.9%	3	37.5%
Make curriculum & instruction decisions	23	35.9%	2	25%
Make teaching strategy decisions	40	62.5%	4	50%
Make volunteer tutor connections	24	37.5%	1	12.5%
Set whole class goals	28	43.8%	2	25%

Using data is clearly important as it is cited (e.g. Wayman, 2012) as one of the tools to turn around low performing schools. When asking teachers and principals, what a focus on student achievement to improve the NMSBA has done, 69% (N=44) of teachers believe it has given them the ability to respond to student academic needs.

Seventy-five percent of teachers believe that they are better able to identify areas of need.

When teachers were asked what most facilitated their use of data, 61% (44 of 72)

reported that leadership encouragement and support facilitated data use.

Chapter 5

Discussion, Implications and Conclusion

The purpose of this dissertation was to examine teachers' and principals' perceptions of the use of NMSBA student achievement data as related to professional development, collaboration, school and district systems, and leadership. When choosing where to conduct research, I narrowed my focus to Northern New Mexico. I also narrowed my sample size by choosing three northern New Mexico school districts. The student records originally contained 1,356 student NMSBA scores for teachers in 4th and 5th grade. Once the students were linked to teachers, there were 41 teachers with growth scores. The sample was narrowed again by analyzing 4th and 5th grade teachers with growth data and a survey. As a result, I analyzed 41 teachers' growth scores for correlations. I had 64 teacher surveys and 8 principal surveys. The sample size is small and therefore cannot be used to make generalizations outside this study (Vogt, 2007).

In Chapter One, I reviewed the history of assessments and accountability and described the four themes that emerge from the literature. In Chapter Two, I researched what factors facilitate data use and the barriers to data use. I found four main themes that influence data use: professional development, collaboration, school and district systems, and leadership.

As a leader in schools and at the district level, I focused on teacher growth scores. I have always been interested in growth scores and whether a teacher or principal that has a high average growth score as measured by the NMSBA values data differently than does a teacher that has a low average growth score as measured by the NMSBA. First, I found challenges in obtaining basic teacher growth score information from the three

districts. The districts did not have comprehensive data systems to easily link or pull data. Therefore, I made the decision to work with each district and link the NMSBA data for two years to teachers while creating simple growth scores for each teacher. In an effort to go beyond a growth score, I captured teacher and principal voices of high and low growth teachers and principals through interviews. My model is a very simple growth model and captured teacher performance as linked to student performance.

In Chapter Three, I discuss the methods I used to capture descriptive statistics, growth scores, and survey data and run correlations. I used two instruments, one created by Dr. Winograd (2009) and one created by Coyne (2006) that I combined and revised to survey teachers and principals.

In Chapter Four, I discuss the data and findings. My first step was to visit all elementary schools to deliver the survey in person. Out of 17 elementary schools, I was able to survey 15 of the school sites and their staff. Once the surveys were completed, I coded and input the data into EXCEL linking to the teacher growth scores for math and reading. I created subtotal scores for each of the four themes professional development, collaboration, systems and leadership for questions 1-30. Each of the themes has descriptive statistics presented. I also looked at correlations between each theme, growth scores, and teacher demographic data. This last chapter reviews the research questions, leadership implications, policy implications, and recommendations for future research and offers a conclusion to the study.

Research Questions

The overall question for this research study asks, “What are teachers’ and principals’ perceptions of the conditions that support or the barriers that inhibit the use of

NMSBA data for student achievement?” The first sub-question asked, “What are principals’ and teachers’ perceptions regarding the successful use of NMSBA student achievement data as related to the four themes: professional development, collaboration, systems and leadership. When interviewing teachers and principals what facilitates their use of the NMSBA data, both groups highly rated leadership as encouraging and supporting data use. Principals and teachers also highly ranked collaboration time together as an area that facilitates data use. Other areas that participants reported that supported data use were grade level meetings, PLC meetings, time with an instructional coach and their team support from grade level teachers. Teachers and principals also reported professional development, mentoring, training, and a district data coach helped facilitate the use of the NMSBA data

Jimmy, a high performing principal, collaborates with colleagues on NMSBA data at principal meetings and looks for answers one on one to questions that are popping up throughout the year. He is also very proactive. Jimmy supports and facilitates data use by contacting his teachers before the school year begins and “gives a class profile of their new class based on this one exam so the teacher can start planning instead of getting here the first day back and running a thousand miles per hour. It gives them some time to reflect on the kids that they are receiving and really start to sit down and think about what they are going to do this year.”

The second sub-question asked, “What do principals and teachers believe to be the barriers to using the NMSBA student achievement data as related to the four themes: professional development, collaboration, school and district systems, and leadership. Teachers and principals reported barriers to using data included not enough time, no team

teaching, no mentoring, and no coaching. The high growth principal ensured his teachers had the data before the school year began however, the low growth principal was constructing a data wall in October, two months after school started. The difference between the two was the timing of when the data were given to the teachers. The implication for a leader is to ensure data is delivered as soon as possible and there are supports for teachers including time built into the schedule.

The open-ended questions in the survey asked what barriers or supports facilitated data use, returned surprising results that included lack of resources, combo classes, and vertical alignment. Assessments not developed for English Students and no assessments or lack of assessments for Spanish speakers was also listed as a barrier when utilizing the student achievement data. If there is not an assessment, then there is no data to use. Another surprise resulting from responses for facilitated data use was special education support, an additional teaching assistant, and students owning their data. These were surprising because these weren't uncovered in the literature review. Table 19 summarizes the barriers and facilitators to data use.

Table 19. Summary of Barriers and Facilitators for Using Data

	Professional Development	Collaboration	Systems	Leadership	Other
Barriers	<ul style="list-style-type: none"> • Don't Understand Data • College did not prepare for data analysis 	<ul style="list-style-type: none"> • No team teaching • No Mentoring • No Coach 	<ul style="list-style-type: none"> • NMSBA data given too late • Time • Not disaggregated • Access • Data Incomplete • Lack of resources • No Passwords 		<ul style="list-style-type: none"> • Resources • Assessment in Spanish • Language Barrier • Combo Classes
Facilitators	<ul style="list-style-type: none"> • Mentoring • Trainings • PD • Data Coach 	<ul style="list-style-type: none"> • Grade Level / PLC meetings • Instructional Coach • Team Support • Data Collaboration Meetings • PLC specific for bilingual 		<ul style="list-style-type: none"> • Leadership Meetings 	<ul style="list-style-type: none"> • Teaching Assistant • Special Ed. Support • Students own data

The third sub-question asked, “What are the relationships among principal and teacher survey by themes (professional development, collaboration, systems and leadership) and teacher NMSBA growth. There were no statistically significant correlations found. However, this leads me to believe that, regardless of the growth score for teachers, their experiences and use of data vary. Teachers of all levels of growth scores experience barriers in the ability to gain access and have enough time to use the data. The same is true of areas that facilitate data use; teachers of all levels experience

success in utilizing data when they have PLC meetings, an instructional coach, and professional development and mentoring opportunities.

The last sub-question asked, “What are the relationships among age, gender, ethnicity, license level, years of experiences, education and principals and teachers with high and low growth scores to student achievement as measured by the NMSBA. I ran correlations against growth scores. Again, I found no statistically significant correlations among the demographic variables and growth scores of teachers. As I mentioned in the previous chapter, my sample is small, which makes running correlations unstable (Voigt, 2007).

Recommendations for Leaders

This study was useful in that it reveals that there is more to data use than simply looking at a teachers’ or principals’ achievement data. My study extended and corroborated the literature review and extended in other areas that need focus. The themes that emerged from the literature review: professional development, collaboration, systems and leadership all were found to be important in this study.

Areas that need more focus by leaders are setting the expectation to use data. It is imperative that a basic framework be in place that includes setting a schedule with dedicated time to collaborate, utilizing an instructional coach, and ensuring assessments are available in Spanish. This study also illuminates areas for opportunities for leaders to improve, including setting a formalized process to look at data; celebrating successes; and communicating those successes to staff, community, and students.

Leaders have a responsibility for setting the environment and conditions for staff to use data. Ensuring data is available in a timely manner and accessible by staff is

important. Another area that is important is training staff to integrate data-informed decision making into their instructional practices.

As our accountability system steps up the expectation to use achievement data, it is important to know if teachers and principals understand, use, and value the importance of the data. The teachers interviewed with high growth scores and the principal that had a high growth school all valued accountability and the data given by the assessments. On the flip side, the teachers and principal that had low growth scores were struggling with understanding the assessment data and were asking for help.

State leaders might consider the following questions: Is the assessment a fair way to review teacher and principal performance? Is the assessment a valid assessment to calculate a school grade, growth scores and link to teacher performance? The state of New Mexico is currently debating these questions. However, state leaders need to understand that, while the state uses the data to grade schools, and assess sub-group performance teachers often do not have access to data nor has data been systematically provided. Based on two principal's comments, the data delivered to teachers has varied from giving it to them before or after the school year has begun.

Policy Implications

When looking at assessment data to gauge the measure of a teacher or a school, I strongly urge caution. Assessment data is only one variable in the big picture. I also caution as teachers and principals experience barriers when accessing and utilizing the data. As I noted in Chapter Four and this chapter, teachers of all levels experience barriers to access and timeliness of data as well as the ability of the districts to disaggregate data. Teachers and principals of all levels have been trained differently in

analyzing data, and most have been trained informally. Knowing that districts struggle with simple areas of production, access to, and timeliness of the data, then we must look as a state to how we can help solve some of the barriers to the system and how as a state we can support leadership.

As a state, we must also look at how we can support teachers and principals in utilizing the NMSBA data to inform student achievement. In my research, 71% of teachers believed that assessment data helped identify areas of need for students. One of the important things to do in the future is look at the data related course work at different preparation programs across New Mexico. Another recommendation includes providing funding to New Mexico to focus on professional development in data-informed decisions.

Providing professional development and course work in teacher and principal preparation programs is about capacity building. A next step that is specific for using data includes adding courses at the college level for principal and teacher preparation programs. The preparation programs need to include a course on technical skills to manipulate different types of assessment data and include how to use data for data-informed decisions. As the state invests in professional training, it must ensure the data system is easily accessible for teachers and principals to analyze the data. The first step should be developing a system for delivering logons, passwords, and access to the data.

Future Research

After I conducted my research, I have been able to reflect and consider revisions. I would first expand the study to include larger districts and more grade levels, which would increase the N size for teachers and principals. Even though I had a great response

rate because I personally visited sites, I would recommend consider expanding the survey statewide through the use of an electronic survey.

I would also expand the research by including formative and summative assessment data and the correlation between teacher growth score with different assessments. Analyzing growth based on formative assessments (short cycle) might look very different from analyzing growth based on a summative assessment (NMSBA). A comparison could be made between the high stakes testing at the end of the year and how formative assessment data is used by districts to ensure alignment for formative assessments to the summative assessment.

Limitations to the study included using a simple growth model; I would recommend to conduct a value-added growth model to run additional correlations. I would also recommend analyzing leadership and teacher tenure at a school to see if this has an impact on the school-wide letter grade or growth calculated on the school report card. It would also be interesting to review a possible correlation between teacher growth and the tenure length of a principal.

Lastly, to capture the voice of what we designate as low growth and high growth teachers, I would recommend running the value added model to determine the extremes. I would add additional questions to the interview instrument concerning what value the interviewee places on using data.

Conclusions

I began this journey of researching teachers' and principals' data use and growth scores believing there were extreme differences in teacher and principal perceptions of barriers and facilitators to data based on their student achievement scores. My research

has left me with many more questions which I want to eventually answer. After an extensive review of literature and developing a framework of what facilitates data use, I conducted a study and analyzed the data. However, what I have found is that all levels of teacher and school achievement face barriers in basic functions of using data. In New Mexico, we face similar challenges and areas where we can improve. I can conclude from my research that leadership matters. Principals and leaders can make a difference in using data. The key is to ensure that leaders have training to lead in data-informed decisions and inclusive computer systems to deliver data in the 21st century.

I have learned a great deal from conducting this study. First, I have learned, even more than I knew before, that testing, student growth, and teacher effectiveness are controversial topics full of psychometric, fairness, and political issues. Second, I have learned that our teachers and principals face tremendous challenges in trying to address the needs of the students they are about. More than anything else, I hope this study helps build the case for supporting educators and building their capacity. Our students, our teachers, and our educational leaders deserve no less.

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Appendix 1- Data Survey



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Education Leadership Program Ed.D.

Demographic Section

Name:

Gender: _____ Ethnicity: _____ Age: _____

How Long have you taught: _____ What Licensure Level are you: _____

Grade(s) Taught:

What areas are you Licensed in?

Do you have any endorsements, if so please list?

What school did you receive your teaching credentials from?

Do you have any additional Teaching Responsibilities, if so please describe?

Please describe demographics for the students you teach.

Please list any forms of support you receive at your school such as team teaching, data coaching, mentoring.

Please list any barriers you face when trying to utilize the student achievement data?



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Please answer the following questions by filling the corresponding bubble that best describes your opinion of each statement.

Use only Pen or Pencil.

Por favor conteste las siguientes preguntas rellenando el círculo que mejor describe su opinión de cada declaración.

Utilice sólo una pluma o un lápiz.

	Strongly Agree Absoluta-mente de Acuerdo	Agree De Acuerdo	Unsure No Se	Disagree No de Acuerdo	Strongly Disagree Absoluta-mente en desacuerdo
1. I have the training needed to utilize the NMSBA data.	(1)	(2)	(3)	(4)	(5)
2. There are professional development opportunities to help understand the NMSBA data.	(1)	(2)	(3)	(4)	(5)
3. I can easily work with student data.	(1)	(2)	(3)	(4)	(5)
4. I understand the New Mexico Standards Based Assessment.	(1)	(2)	(3)	(4)	(5)
5. My education training taught me to use the NMSBA student data.	(1)	(2)	(3)	(4)	(5)
6. My school site has someone who models how to analyze data.	(1)	(2)	(3)	(4)	(5)
7. I use the results of the NMSBA during the school year.	(1)	(2)	(3)	(4)	(5)
8. I have time to reflect on my assessment data.	(1)	(2)	(3)	(4)	(5)
9. I have time to collaborate with colleagues on assessment data?	(1)	(2)	(3)	(4)	(5)
10. I frequently discuss student achievement data with colleagues.	(1)	(2)	(3)	(4)	(5)
11. There is time built into your schedule for you to collaborate with colleagues?	(1)	(2)	(3)	(4)	(5)
12. Teachers in my building vary in how they use NMSBA data?	(1)	(2)	(3)	(4)	(5)
13. I feel anxiety when class ratings are released for the NMSBA.	(1)	(2)	(3)	(4)	(5)
14. The NMSBA data has an impact on my instructional practices.	(1)	(2)	(3)	(4)	(5)
15. My district has computer software systems in place for utilizing the NMSBA data.	(1)	(2)	(3)	(4)	(5)
16. I have the tools needed to utilize the data.	(1)	(2)	(3)	(4)	(5)
17. The data I need are available in a timely fashion.	(1)	(2)	(3)	(4)	(5)
18. I utilize multiple computer programs to utilize student data.	(1)	(2)	(3)	(4)	(5)
19. The data I need is formatted and organized so I can easily understand it.	(1)	(2)	(3)	(4)	(5)
20. My school has plan in place to utilize the NMSBA data.	(1)	(2)	(3)	(4)	(5)
21. I have the resources in my school to use data.	(1)	(2)	(3)	(4)	(5)



	Strongly Agree Absoluta- mente de Acuerdo	Agree De Acuerdo	Unsure No Se	Disagree No de Acuerdo	Strongly Disagree Absoluta- mente en desacuerdo
22. I can ask for support from school leadership if needed to utilize the data effectively.	1	2	3	4	5
23. I have the time necessary to use data effectively.	1	2	3	4	5
24. The vision of my school supports data use.	1	2	3	4	5
25. The mission of my school supports data use.	1	2	3	4	5
26. I set yearly goals to improve student achievement data outcomes?	1	2	3	4	5
27. To what degree do you agree that school leaders set measurable goals using the NMSBA data	1	2	3	4	5
28. To what degree do you agree that data is valued by school leaders.	1	2	3	4	5
29. To what degree do you agree that school leaders encourage the use of NMSBA data.	1	2	3	4	5
30. The data I receive from the district is helpful to me.	1	2	3	4	5

Section 2 Additional Questions (31- 36 Adapted from Coyne. M.J. 2006)



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Education Leadership Ed.D. Program

31. What types of student achievement data do you use, and how often do you review data

Yes	Type	Daily	Weekly	Monthly	Quarterly	Annually
	NMSBA					
	STAR Reading					
	STAR Math					
	DIBELS					
	Math Quarterly Assessments					
	Treasures Assessments					
	Other _____					
	Other _____					

32. When, or in which situations, does your school use the NMSBA student achievement data when making instructional decisions?

- Whole school planning
- Grade level planning
- Subject area team planning
- Individual student planning
- Planning with resource teachers
- Planning with specialist teachers
- To identify instructional reading groups
- To identify instructional math groups
- To make curriculum decisions
- To make teaching strategy decisions
- To make volunteer tutor connections
- To set who class instructional goals
- Other (please describe)



Education Leadership Ed.D. Program

33. What did school leaders do to encourage NMSBA data use in this school?
- Provide easy access to data
 - Designate time for data review and or analysis
 - Designated time for data based planning
 - Provide support or assistance to teams
 - Provide support to individual teachers
 - Provide assistance with data analysis
 - Created a safe environment for sharing data
 - Organized celebrations around measured improvements
 - Other _____
34. What types of professional development or other support have staff at your school received around NMSBA data and using data when making instructional decisions.
- Formal data analysis training (i.e. from district staff)
 - Informal data analysis training (i.e. from site staff)
 - Onsite support (i.e., a person designated to provide data assistance)
 - Data analysis has been modeled
 - Data based instructional decision-making has been modeled
 - Peer support groups focus on data use
 - Other _____
35. Teacher collaborative practices in the building most frequently include?
- Collaborative planning
 - Collaborative data review
 - Sharing of struggling student data
 - Sharing of general student data
 - Sharing of instructional challenges
 - Sharing of instructional strategies
 - Sharing of student success
 - Formalized process to share data and collaborate
 - Other _____



Education Leadership Ed.D. Program

36. In your opinion, what factors most facilitated the use of NMSBA student achievement data by you and other teachers in the school?

- Leadership (i.e., data use is encouraged and supported.)
 - Professional Development (i.e. Training provides needed skills and supports for continued education around data use.)
 - The Use of Short-Term Data (i.e., focusing on short term goals and enables us to see results quickly and stay focused.)
 - Teacher Collaboration (i.e. working together keeps teachers focused on the data and this data focus improves communications and our desire to work together.)
 - Increases in Student Achievement (i.e., Improvements and success are attributed to the focus on data.)
 - School Culture (i.e., Focusing on data to monitor student progress is just what we do here. It works.)
 - Response to a Mandate (i.e., We focus on data because of the No Child Left Behind, Annual Yearly Progress (AYP) goals.)
 - Other
-
- Other
-

37. A focus on student achievement to improve on the NMSBA had the following result(s) in this school?

- A common language of data has been created, enabling us to better communicate regarding student needs and success.
 - A shared focus among staff, students, and administration keeps us on target.
 - Teachers are better able to identify need areas
 - Teachers are better able to respond to student academic needs.
 - We have been able to increase student achievement
 - We focus only on reviewing data at the cost of other areas (i.e. other professional development activities)
 - Our instructional/curriculum options have been limited. (i.e., We focus only on reading and math as they are the areas tested.)
 - Our instructional/curriculum options have been limited. (i.e., We focus only on reading and math as they are the areas tested.)
 - Other
-
- Other
-

Appendix 2 - Interview Questions



THE UNIVERSITY *of* NEW MEXICO

Education Leadership, Ed.D. Program

Interview Questions for the School Year 2011-2012

Name: _____

Grade: _____

Licensure Level: _____

Years of teaching experience: _____

1. Describe your understanding of the New Mexico Standards Based Assessment (NMSBA).
2. What are your perceptions of high stakes testing data?
3. How do you use the results from the NMSBA during the school year?
4. What impact does the NMSBA test results have on your curriculum?
5. Describe how you think the NMSBA has had an impact on your instructional practice?
6. Please tell me how your school uses the NMSBA data

7. Can you describe how you and your school site set instructional goals for the year using NMSBA data?
8. Describe the electronic data system your school and district use.
9. Describe the support you are provided at your school level and district level that help you use your NMSBA data.
10. Describe how you collaborate with your colleagues regarding the NMSBA data.

Appendix 3 – Code Book

Dataset	DataSurvey.Sav
Overview	A study of teachers' perceptions in utilizing the NMSBA data.
Sample Size	Possible Sample Size = 100
Updated	Today's date:

Structure of the Dataset			
Col. #	Variable Name	Variable Description	Variable Metric/Labels <i>Note: Categorical variables need to have labels for the categories</i>
1	ID	Unique ID Number on the questionnaire	
2	GENDER	Gender	2- Blank 1- Female 0- Male
3	ETHNICITY	Ethnicity	
4	YRSTAUGHT	Length of Services Teaching	
5	LEVEL	Teacher Licensure Level	3-Level III 2-Level II 1-Level I 0-Blank
6	LICAREA	The different licensure levels, ex: K-8, K-12, Admin	
7	ENDORS	Number of Areas teacher is endorsed to teach	
8	ADD	Additional Teaching responsibilities	

9	STUDENTS	Self-described demographics for classroom.	
10	SUPPORT	Areas of School support in classroom	3=2-4 Supports 1=1-2 Supports 0=Supports
11	BARRIERS	Any barriers a teacher describes when trying to use data. Number of Barriers.	3=2-4 Barriers 1=1-2 Barriers 0=None Listed
12*	NMSBATRAIN	Teacher has training need to use NMSBA	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
13	PDOPP	There are PD opportunities in using NMSBA data	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
14	EASY	Can easily work with student data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
15	UNDERSTAND	I understand the NMSBA assessment	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
16	TRAIN	My education and training taught me to use NMSBA data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
17	MODELS	My school site has someone who models data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
18	USES Y	I use NMSBA during school year.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree

19	REFLECT	I have time to reflect on my assessment data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
20	COLLAB	I have time to collaborate with colleagues	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
21	DISCUSS	I frequently discuss student achievement data	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
22	TIMECOLAB	I have time to collaborate with colleagues	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
23	DISCUSS	I frequently discuss student achievement data with colleagues	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
24	SCHEDULE	There is time build into our schedule for you to collaborate with colleagues	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
25	VARY	Teachers in my building vary in how they use assessment data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
26	ANXIETY	I feel anxiety when class ratings are released	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree

27	IMPACT	The NMSBA data has an impact on my instructional practices	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
28	COMPUTER	The district has computer software systems in place for utilizing the NMSBA data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
29	TOOLS	I have the tools needed to utilize the NMSBA data	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
30	AVAILTIME	The data I need are available in a timely fashion.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
31	MUTLI	I utilize multiple computer programs to utilize student data	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
32	ORGANIZED	The data I need is formatted and organized so I can easily understand it.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
33	PLAN	My school has a plan in place to utilize the NMSBA data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
34	RESOURCES	I have the resources in my school to use data.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree

35	LEADSUP	I can ask for support from school leadership if needed to utilize the data effectively	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
36	EFFECTIVE	I have the time necessary to use data effectively	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
37	VISION	The vision of my school supports data use	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
38	MISSION	The mission of my school supports data use.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
39	GOALS	I set yearly goals to improve student achievement data outcomes.	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
40	LEADGOALS	To what degree do you agree that school leaders set measureable goals using the NMSBA data	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
41	LEADVALUE	5 = Completely Agree	3= Somewhat Agree
42	ENCOURLEAD	To what degree do you agree that school leaders encourage the use of NMSBA data	5 = Completely Agree 3= Somewhat Agree 3=Unsure 2= Somewhat Disagree 1= Completely Disagree
43	HELP	The data I receive from the district is helpful to me.	5 = Completely Agree 3= Somewhat Agree

			3=Unsure 2= Somewhat Disagree 1= Completely Disagree
44	GROWTH	Teacher class average growth for class	Continuous
45	TOTALSUVEY	Total Survey Score	Continuous
46	SUBLEADER	Total Sub Score for Leadership category on survey	Continuous
47	SUBSYSTEM	Total Sub Score for the System category on survey	Continuous
48	SUBCOLLAB	Total Sub Score for the Collaboration category on survey	Continuous
49	SUBPD	Total Sub Score for the Professional Development category on survey	Continuous

Appendix 4 - Data Results

Question	Strongly Agree		Agree		Unsure		Disagree		Strongly Disagree	
	N	%	N	%	N	%	N	%	N	%
1. I have the training needed to utilize the NMSBA data.	14	19%	31	43%	6	8%	17	24%	4	6%
2. There are professional development opportunities to help understand the NMSBA data.	3	4%	29	41%	18	25%	17	24%	4	6%
3. I can easily work with student data.	17	24%	41	57%	5	7%	8	11%	1	1%
4. I understand the New Mexico Standards Based Assessment.	21	29%	36	50%	7	10%	6	8%	2	3%
5. My education training taught me to use the NMSBA student data.	3	4%	15	21%	6	9%	34	49%	12	17%
6. My school site has someone who models how to analyze data.	10	14%	36	50%	10	14%	10	14%	6	8%
7. I use the results of the NMSBA during the school year.	26	36%	30	42%	9	13%	4	6%	3	4%
8. I have time to reflect on my assessment data.	5	7%	39	54%	5	7%	12	17%	11	15%
9. I have time to collaborate with colleagues on assessment data?	6	8%	35	49%	7	10%	19	26%	5	7%
10. I frequently discuss student achievement data with colleagues.	9	13%	35	49%	7	10%	18	25%	2	3%
11. There is time built into your schedule for you to collaborate with colleagues?	8	11%	27	38%	4	6%	25	35%	8	11%
12. Teachers in my building vary in how they use NMSBA data?	10	14%	33	46%	21	29%	6	8%	2	3%
13. I feel anxiety when class ratings are released for the NMSBA.	7	10%	19	26%	13	18%	27	38%	6	8%
14. The NMSBA data has an impact on my instructional practices.	13	18%	46	64%	8	11%	4	6%	1	1%

15. My district has computer software systems in place for utilizing the NMSBA data.	1	1%	16	22%	26	36%	19	26%	10	14%
16. I have the tools needed to utilize the data.	1	1%	30	42%	15	21%	22	31%	4	6%
17. The data I need are available in a timely fashion.	1	1%	22	31%	9	13%	28	39%	12	17%
18. I utilize multiple computer programs to utilize student data.	N	%	N	%	N	%	N	%	N	%
19. The data I need is formatted and organized so I can easily understand it.	5	7%	34	47%	11	15%	18	25%	4	6%
20. My school has plan in place to utilize the NMSBA data.	3	4%	32	45%	17	24%	16	23%	3	4%
21. I have the resources in my school to use data.	4	6%	36	50%	9	13%	20	28%	3	4%
22. I can ask for support from school leadership if needed to utilize the data effectively.	11	15%	45	63%	10	14%	4	6%	2	3%
23. I have the time necessary to use data effectively.	2	3%	15	21%	7	10%	35	49%	13	18%
24. The vision of my school supports data use.	10	14%	46	65%	7	10%	6	8%	2	3%
25. The mission of my school supports data use.	11	15%	40	56%	14	20%	4	6%	2	3%
26. I set yearly goals to improve student achievement data outcomes?	21	30%	38	54%	6	9%	5	7%		0%
27. To what degree do you agree that school leaders set measurable goals using the NMSBA data	5	7%	34	48%	17	24%	13	18%	2	3%
28. To what degree do you agree that data is valued by school leaders?	22	31%	34	47%	11	15%	5	7%		0%
29. To what degree do you agree that school leaders encourage the use of NMSBA data?	16	22%	37	51%	13	18%	5	7%	1	1%
30. The data I receive from the district is helpful to me.	9	13%	42	58%	11	15%	9	13%	1	1%

Appendix 5 – Data Survey Questions Linked to Conceptual Framework

Question	Completely Agree (4)	Somewhat Agree (3)	Somewhat Disagree (2)	Completely Disagree (1)	Not Sure	Conceptual Framework – Main Themes	Sub Area Themes
I have the training needed to utilize the NMSBA data.						Professional Development	Professional Training
There are professional development opportunities to help understand the NMSBA data.						Professional Development	Training
I can easily work with student data.						Professional Development	Formal Education
I understand the New Mexico Standards Based Assessment.						Professional Development –	Formal Education, College Teach Data Analysis
My education training taught me to use the NMSBA student data.						Professional Development	Formal Education, Colleges Teach Data Analysis
My school site has someone who models how to analyze data.						Professional Development	Modeling, Leadership Models Data Use
I use the results of the NMSBA during the school year.						Collaboration	Staff Reflection
I have time to reflect on my assessment data?						Collaboration	Staff Reflection
I have time to collaborate with colleagues on assessment data?						Collaboration	Staff Reflection, Dialogue about data
I frequently discuss student achievement data with colleagues.						Collaboration	Staff Reflection, Dialogue about data
There is time built into your schedule for you to collaborate with colleagues?						Collaboration	Time built into Schedules
Teachers in my building vary in how they use NMSBA data?						Collaboration	Staff Reflection – Formalize Discussion Process

Question	Completely Agree (4)	Somewhat Agree (3)	Somewhat Disagree (2)	Completely Disagree (1)	Not Sure	Conceptual Framework	Sub Area
I feel anxiety when class ratings are released for the NMSBA.						Collaboration	Teacher Commitment
The NMSBA data has an impact on my instructional practices.						Collaboration	Teacher Commitment
My district has computer software systems in place for utilizing the NMSBA data.						Systems	District
I have the tools needed to utilizing the data.						Systems	District, Computer System
The data I need are available in a timely fashion.						Systems	District, Computer System
I utilize multiple computer programs to utilize student data.						Systems	District, Computer
The data I need is formatted and organized so I can easily understand it.						Systems	District, Computer System
My school has a plan in place to utilize the NMSBA data.						Systems	School
I have the resources in my school to use data?						Systems	School, Support
I can ask for support from school leadership if needed to utilize the data effectively.						Systems	School - Support
I have the time necessary to use data effectively.						Systems	School - Schedule

Question	Completely Agree (4)	Somewhat Agree (3)	Somewhat Disagree (2)	Completely Disagree (1)	Not Sure (5)	Conceptual Framework	Sub Area
The vision of my school supports data use?						Leadership	Vision
The mission of my school supports data use?						Leadership	Mission
I set yearly goals to improve student achievement data outcomes?						Leadership	Mission, Goal Setting
To what degree do you agree that school leaders set measurable goals using the NMSBA data?						Leadership	Mission, Goal Setting
To what degree do you agree that data is valued by school leaders?						Leadership	Values
To what degree do you agree that school leaders encourage the use of NMSBA data?						Leadership	Values
The data I receive from the district is helpful to me.						Systems	District, Data Literacy

Number of Questions by Conceptual Framework Theme

Main Theme	Sub Category Theme 1	Sub Category Theme 2	Sub Category Theme 3
Professional Development (6) Points Sub Score Range-6-30	Professional Training (2)	Sustainability (0)	
	Formal Education (1)	Colleges Teach Data Analysis (2)	
	Modeling (1)	Leadership Models Data Use (0)	
Collaboration (8) Points Sub Score Range-8-40	Staff Reflection (4)	Dialogue about data (2)	Formalize Process (0)
	Time Built into schedule (1)		
	Teacher Commitment (2)		
Systems (10) Points Sub Score Range-10-50	District (5)	Encompassing Computer System (4)	
		Build Capacity (0)	Data Literacy (1) Leads at School Sites (0)
	School (4)	Schedule (1)	
		Support (2)	
Leadership (6) Points Sub Score Range-6-30	Vision(1)		
	Mission (3)	Goal Setting (2)	
	Values (1)		
Total number of Questions – 30 not including demographic section			