A CASE STUDY OF CRESTWOOD PRIMARY SCHOOL: ORGANIZATIONAL ROUTINES IMPLEMENTED FOR DATA-DRIVEN DECISION MAKING

Kimberly G. Williams

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N. Wayne Tripp, Chair
Mark Y. Lineburg
Susan G. Magliaro
James L. Sellers

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ABSTRACT

The research study investigated how organizational routines influenced classroom and intervention instruction in a primary school. Educators have used student data for decades but they continue to struggle with the best way to use data to influence instruction. The historical overview of the research highlighted the context of data use from the Effective Schools movement through the No Child Left Behind Act noting the progression of emphasis placed on student data results. While numerous research studies have focused on the use of data, the National Center for Educational Evaluation and Regional Assistance (2009) reported that existing research on the use of data to make instructional decisions does not yet provide conclusive evidence of what practices work to improve student achievement.

A descriptive case study methodology was employed to investigate the educational phenomenon of organizational routines implemented for data-driven decision making to influence classroom and intervention instruction. The case study examined a school that faced the macrolevel pressures of school improvement. The study triangulated data from surveys, interviews, and document analysis in an effort to reveal common themes about organizational routines for data-driven decision making.

The study participants identified 14 organizational routines as influencing instruction. The interview questions focused on the common themes of (a) curriculum alignment, (b) common assessments, (c) guided reading levels, (d) professional learning communities, and (e) acceleration plans. The survey respondents and interview participants explained how the organizational routines facilitated the use of data by providing (a) focus and direction, (b) student centered instruction, (c) focus on student growth, (d) collaboration and teamwork, (e), flexible grouping of students, and (f) teacher reflection and ownership of all students. Challenges and unexpected outcomes of the organizational routines for data-driven decision making were also

discussed. The challenges with the most references included (a) time, (b) too much data (c) data with conflicting information, (d) the pacing guide, and (e) changing teacher attitudes and practices. Ultimately, a data-driven culture was cultivated within the school that facilitated instructional adjustments resulting in increased academic achievement.

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CHAPTER 1
INTRODUCTION

No Child Left Behind (NCLB) legislation has transformed public education into a world of accountability resulting in high stakes testing forcing school leaders to analyze, monitor, and make strategic decisions based on student performance data. The term data-driven decision making is used in various facets of educational inquiry in an effort to improve academic achievement and student performance. Wohlstetter, Datnow, and Park (2008) defined data-driven decision making as an effort to capitalize on information available at the school level to improve classroom instruction and ultimately the educational performance of students (p. 254). Since the implementation of NCLB, data analysis has been viewed as a vital component of school improvement (Coburn & Turner, 2012; Park & Datnow, 2009; Wohlstetter et al., 2008). However, the National Center for Educational Evaluation and Regional Assistance (2009) reported that existing research on the use of data to make instructional decisions does not yet provide conclusive evidence of what practices work to improve student achievement.

Some schools are required to employ data-driven decision making because of their involvement in school improvement, while other schools voluntarily embrace the practices of data-driven decision making as a process for continuous improvement. Since student achievement is measured by the results of high stakes testing, leaders in all schools need to understand how to establish organizational routines to promote the use of data. Continued research is necessary to study how organizational routines can be implemented for data-driven decision making to influence instruction.

Definitions of Key Terms

Key terms used in the study and their operational definitions are listed here for reference.

Data-Driven Decision Making – An effort to capitalize on information available at the school level to improve classroom instruction and ultimately the educational performance of students (Wohlstetter, Datnow, & Park, 2008, p. 254).

Instruction – The decisions the teachers make for teaching, enrichment, and/or remediation with a specific focus on what was learned rather than what was taught (Bambrick-Santoyo, 2010).

Macrolevel – The educational expectations established by federal, state, and district policies (Coburn & Turner, 2012; Datnow, A., Park, V., & Wohlstetter, P., 2007; Little, 2012; Spillane, 2012).

Microlevel – The actual practices demonstrated by school personnel to fulfill the expectations established by the macrolevel (Coburn & Turner, 2012; Datnow et al., 2007; Little, 2012; Spillane, 2012).

Organizational Routines – Formalized structures and practices established by school leaders to foster data-driven decision making in an effort to improve student achievement by influencing instruction (Spillane, 2012).

Ostensive Aspect –The formal structures established to analyze and use data to drive decision making (Spillane, 2012).

Performative Aspect – The routines in practice in particular places at particular times that reflect the practices that actually take place within a school regarding data use (Spillane, 2012).

Statement of the Problem

Since NCLB, educators have been told to utilize data to drive instruction, but the actual practice of using data has been vague. NCLB implied that teachers and administrators innately understood how to use data to influence instruction with the premise that if educators used data to drive instruction, then student achievement would increase. Since educational leaders and teachers were directed to use data, many educators became experts at analyzing, sorting, and collecting data. Even after school leaders and teachers collected, sorted, and analyzed data, many educators found the results they achieved fell short of the specified targets for adequate yearly progress. There seemed to be a gap between collecting data and using the data to influence instruction.

While numerous studies have been conducted examining the use of data, additional studies are needed to fill the gap to elaborate on the actual routines of how data are collected, analyzed, and used to influence instruction throughout the school improvement journey (Datnow et al., 2007; Kerr, Marsh, Ikemoto, Darilek, & Barney, 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). Datnow et al. (2007) reported, “Using data to improve decision making

is a promising systemic reform strategy. However, there is a dearth of rigorous research conducted thus far on this practice" (p. 5). Researchers agree that more studies should be conducted to investigate data-driven decision making (Coburn & Turner, 2012; Little, 2012; Spillane, 2012).

One way to examine the actual procedures of data-driven decision making at the microlevel is by examining the organizational routines established by personnel at the school level (Spillane, 2012). The organizational routines provide a formalized structure for data use practices and standardize the instructional program within and across and classrooms making instruction more transparent and more easily monitored through the use of data (DuFour, DuFour, Eaker & Karhanek, 2004; Spillane, 2012). This research study investigated how the organizational routines influenced classroom and intervention instruction in a primary school.

Significance of the Study

The research study has both scholarly significance and practical significance to the field of education. The study will add to the empirical research base at both the macrolevel and the microlevel because the study will detail how one school in improvement navigated the federal, state, and district demands while using data to influence instruction at the school level. The study will also share successes and problems the school staff encountered as they designed and implemented various organizational routines for data-driven decision making to influence classroom and intervention instruction. It is important for educators to understand how organizational routines impact instruction.

Although public education has focused on data use for decades, empirical studies demonstrating significant findings are limited in the field. While the literature references data-driven decision making as a way to improve schools, research studies focusing on organizational routines of data-driven decision making at the microlevel are scarce (Coburn & Turner, 2012; Datnow, et al., 2007; Little, 2012; Spillane, 2012). Experienced researchers have suggested in-depth case studies to examine the practice of data-driven instruction (Little, 2012; Spillane, 2012). The use of data is a major educational issue across the country for both researchers and school leaders. School leaders are searching for solutions to organize their organizational routines better to support the use of data. Goren (2012) stated, "Data do not, by themselves, lead to improvement" (p. 236). For many leaders obtaining the data is easy, but establishing

organizational routines to shape conversations around the data to change instructional practices is more difficult to accomplish. Extant research alludes to the use of data, but does not describe in depth how schools use data to influence instruction.

Purpose of the Study

The purpose of the study is to investigate how organizational routines influenced classroom and intervention instruction in a primary school. Specifically, the study will attempt to

a. Identify the organizational routines that were implemented in the school,
b. Examine how and why certain organizational routines facilitated the use of data to influence instruction in the school,
c. Identify challenges to implementation of organizational routines in the school, and
d. Identify any unexpected outcomes of the implementation of organizational routines in the school.

For the purposes of the study, the terminology "to influence instruction" refers to the instructional decisions teachers make in an effort to teach, remediate, and/or accelerate student learning. By examining the organizational routines at the microlevel, commonalities and differences may be uncovered and shared with teachers and educational leaders. Little (2012) reported, "The field would benefit from microprocess research on data use that accounts for the ways in which local practice both instantiates and constructs more macrolevel organizational and institutional structures, process, and logics" (p. 145).

Research Questions

The following questions guided the research study:

1. What organizational routines for data-driven decision making were implemented to influence classroom and intervention instruction?
2. How did the organizational routines influence classroom and intervention instruction? Why?
3. How did the organizational routines facilitate the use of data to influence instruction?
4. What were the challenges to the implementation of organizational routines within the school for data-driven decision making?

5. What were the unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction?

The research questions are intended to elicit responses that may reveal how organizational routines for data-driven decision making influenced classroom and intervention instruction by bridging the gap between the macrolevels and microlevels of data.

Conceptual Framework

The researcher utilized Spillane's conceptual framework for studying organizational routines (Spillane, 2012). Organizational routines can be categorized as either the ostensive aspect or the performative aspect (Spillane, 2012). The ostensive aspect is the formal structure of idealized and abstracted script for routines such as data-based decision making (Spillane, 2012). Spillane (2012) stated, "Framing data use in practice in terms of the ostensive aspect of organizational routines focuses our attention on school leaders' efforts to design and redesign organizational routines in an effort to transform administrative and instructional practice in schools" (p. 124). One example of an ostensive aspect is the establishment of professional learning communities.

On the other hand, the performative aspect is a routine in practice with specific actions by specific people in specific places at specific times in their effort to carry out the expectations established by the ostensive aspect (Spillane, 2012). One example of the performative aspect is how the educators interact and accomplish tasks within the structure of the professional learning community. The performative aspect reveals how the stakeholders respond to the macrolevel demands of the use of data. It also reveals the types of data educators trust for making instructional decisions.

By conceptualizing routines as both ostensive and performative, the researcher examined how one school in improvement managed the pressures of federal, state, and district mandates while maintaining a focus on data-driven decision making to influence instruction. According to Spillane (2012), "Studying practice as coordinated, patterned, and meaningful interactions of people at work, using an organizational routines framework, necessitates attention to both the performative and ostensive aspect; you can't have one without the other" (p. 124). Spillane (2012) suggested the ostensive aspect of organizational routines "enabled and constrained

interactions among school staff" while the performative aspect becomes the "accompanying artifacts and norms" that are generated and transformed over time (p. 135). Spillane (2012) recommended continued research studies to detail the development of new organizational routines by investigating the design stage through the institutionalization stage to document the interactions between macro and micro levels of data use development (p. 136). Table 1 depicts the relationships between the ostensive aspect, performative aspect, challenges, and unexpected outcomes of data-driven decision making within the framework of the macro and microlevels.

Table 1

Data-Driven Decision Making to Influence Instruction: Pre-Study

Macrolevel – The federal, state, and local policies that shape education	
No Child Left Behind Requirements	
School Improvement	
State requirements	
District requirements	
Microlevel – The specific actions the school leaders and teachers complete to meet the macrolevel mandates	
Organizational Routines	
Ostensive Aspect	**Performative Aspect**
Curriculum Alignment	To be revealed through the research study
Common Assessments	To be revealed through the research study
Data Warehouse	To be revealed through the research study
Professional Development	To be revealed through the research study
Professional Learning Community	To be revealed through the research study
Other Organizational Routines identified through the research study	To be revealed through the research study
Challenges to Data-Driven Decision Making	To be revealed through the research study
Time	
Loss of instructional time due to testing	
Loss of the teacher's personal judgment	
Unexpected Outcomes	To be revealed through the research study

Potential Limitations of the Study

Limitations are sometimes referred to as the weaknesses of the study that may arise from the research design and methodology (Rossman & Rallis, 2012). By acknowledging the limitations, the researcher encourages the reader to judge the study results with the limitations in mind (Rossman & Rallis, 2010). The limitations for the study included the following:

1. The researcher was a full participant in the school improvement process and served as principal of the school investigated during the research study.
2. The study sample was limited by the willingness of the respondents to participate in the study.
3. Data were collected in the form of surveys responses, interviews, and document analysis from teachers and administrators and was limited by the participants' honesty and willingness to share their true feelings.

Delimitations of the Study

Glatthorn and Joyner (2005) describe the delimitations of a study as the boundaries of a study and the ways in which the findings may lack generalizability (p. 168). The delimitations for the case study included:

1. The case study reflected the experience of one primary school in Southwest Virginia and therefore does not represent other primary schools, other geographical areas, or grade levels.
2. The study focused on the development and implementation of organizational routines between 2010 and 2013.
3. The assistant principal in the study retired in 2012, but met the criteria for participant selection. At the time of the study, she worked as a part-time resource teacher within the school.

Organization of the Study and Chapter Summary

The study followed a linear-analytic structure and will be presented in five chapters. Chapter 1 contains an introduction to the study, definitions of key terms, statement of the problem, significance of the study, purpose of the study, research questions, the conceptual framework, limitations of the study, and delimitations of the study. Chapter 2 presents a review of the related literature as it pertained to the use of data in schools. Chapter 3 presents the methodology including an overview of methods, research design, population and sample, school characteristics, study approval process, data sources, data collection, data analysis procedures, validating the findings, and limitations of the study. Chapter 4 presents the findings of the research. Chapter 5 presents the summary of the study, discussion and interpretation of the

findings, implications for practice, recommendations for further research, and personal reflections.

CHAPTER 2
LITERATURE REVIEW

Literature Search and Review Process

A review of the literature was conducted to survey the published literature on how schools use data to influence instruction. Empirical research, theoretical documents, and commentary resources were identified through the Summon tool available through the Newman Library at Virginia Tech. According to Dr. Heather Moorefield-Lang, College Librarian for Education and Applied Social Sciences at the inception of the study, Summon is a discovery tool that searches Virginia Tech's collections of books, subscription data bases, journals, and dissertations as one robust discovery database (personal communication, June 25, 2013). Summon provided access to valuable resources throughout libraries, databases, and journals across the world. The review of the literature has been an ongoing effort since October 2011.

Search terms included school improvement, data-driven decision making, distributed leadership, and professional learning communities. For example, the search included the key term "data-driven decision making" in public schools which resulted in 898 hits. Limiting the search to scholarly publications, including peer-reviewed sources narrowed the search to 295 hits. Another search included the term "school improvement" which resulted in 1,462,609 hits. By limiting the search to scholarly publications, including peer-reviewed sources, the search was reduced to 287,014 results. By combining the terms "school improvement" and "data-driven decision making," the outcome was reduced to 51 results.

After previewing several articles and noting key figures in the fields of school improvement, professional learning communities, and data driven decision making, literature was selected that emphasized the use of data to guide instructional decisions. The literature selected spans over 30 years. The literature review focused primarily on peer-reviewed journal articles, studies, and books. The February 2012 edition of the American Journal of Education was a primary resource for the review due to its focus on data use in public education. The search process provided an overview of the topic of data analysis but demonstrated a gap in the literature related to how organizational routines were implemented for data-driven decision making to influence instruction. The following literature review provides a historical perspective,

highlights current research, discusses research methodologies, and details the significance of data use.

Historical Perspective

Effective Schools Movement

In 1966, the U.S. Office of Education selected James Coleman to lead a group of researchers to conduct a two-year study of public education. The final document was entitled "*Equality of Educational Opportunity*" which became known as the Coleman report. The report received tremendous attention in public education because it claimed that family background was the major determining factor of student achievement (Lezotte, 2001). The researchers concluded that family factors such as poverty and educational backgrounds impacted student achievement more than the instruction schools offered. With the publication of the report, numerous researchers began to conduct other studies that later came to be known as the Effective Schools Movement (Lezotte, 2001).

The Effective Schools research took into account the importance and influence of the family environment, but searched for commonalities within effective schools. Brookover and Lezotte, Edmonds, and Rutter studied the characteristics of both effective and ineffective schools (Edmonds, 1982). Edmonds (1982) reported, "To be effective a school need not bring all students to identical levels of mastery, but it must bring an equal percentage of its highest and lowest social classes to minimum mastery" (p. 4). Edmonds (1982) detailed the characteristics of effective schools that came to be known as the Correlates of Effective Schools.

1. The principal's leadership and attention to the quality of instruction,
2. A pervasive and broadly understood instructional focus,
3. An orderly, safe climate conducive to teaching and learning,
4. Teacher behaviors that convey the expectation that all students are expected to obtain at least minimum mastery, and
5. The use of measures of pupil achievement as the basis for program evaluation. (p. 4)

Edmonds (1982) suggested that a school must implement all of the characteristics at once in order to improve school effectiveness. In 1982, Edmonds stated, "We know far more about the characteristics of school effectiveness than we do about how they become effective" (p. 9). After

30 years of educational research, researchers are still trying to determine how schools become effective.

The concept of data-driven decision making is found within the Effective Schools Research. Edmonds (1982) saw the value of evaluating school improvement measures when he suggested, “Changes in student achievement are an obvious important measure” (p. 9). He continued by saying, “Formative evaluation is distinctly preferred over summative evaluation” (Edmonds, 1982, p. 9). It is clear that Edmonds (1982) believed in the power of school improvement and its impact on all students when he stated, “All of these programs presume that almost all school-age children are educable and that their educability derives from the nature of the schools to which they are sent” (p. 10). Edmonds believed if academic gains were measured for the low-income children, even greater gains might be seen for middle-class children.

Lezotte (2001) said, “The educational researchers who conducted these studies developed a body of research that supported the premise that all children can learn and that the school controls the factors necessary to assure student mastery of the core curriculum” (p. 1). Lezotte (2001) went on to discuss how the Effective Schools Movement has continued to impact education as he summarized the basic beliefs as follows:

1. All children can learn and come to school motivated to do so.
2. Schools control enough of the variables to assure that virtually all students do learn.
3. Schools should be held accountable for measured student achievement.
4. Schools should disaggregate measured student achievement in order to be certain that students, regardless of gender, race, ethnicity, or socioeconomic status are successfully learning the intended school curriculum.
5. The internal and external stakeholders of the individual school are the most qualified and capable people to plan and implement the changes necessary to fulfill the Learning for All mission. (p. 2)

Effective Schools research has evolved and the findings continue to be found in educational practice. Lezotte (2001) identified one such update that originally identified the school as the unit of change but now includes the importance of strong district support (p. 4). Lezotte (2001) also identified organizational management theories, decentralization, empowerment, and continuous improvement as additions to Effective Schools research and policy (p. 4). Even after 30 years of educational research, researchers continue to search for ways

to turn schools around by incorporating aspects of the Effective Schools movement with an emphasis on data-driven decision making. Changes in student achievement measured by both formative and summative assessments were an important measure for school improvement 30 years ago and continue to be a vital measure of school improvement today.

A Nation at Risk: The Imperative for Educational Reform

In 1981, the National Commission on Excellence in Education (NCEE) was charged to conduct a study of the educational system in the United States as compared to other industrialized countries and to offer recommendations to improve the educational system in the U.S. (Hunt & Staton, 1996). The NCEE released a 36-page report entitled *A Nation at Risk* on April 26, 1983, that detailed the commission's findings. President Reagan's secretary of education, Terrel H. Bell, believed the report put education back on the American agenda (Hunt & Staton, 1996). *A Nation at Risk* generated widespread interest and marked the beginning of the modern school reform movement (Hunt & Staton, 1996; Ravitch, 2010). Ravitch (2010) stated, "Academics, educators, and pundits have debated whether the report was an accurate appraisal of academic standards or merely alarmist rhetoric by the Reagan administration, intended to undermine public education" (p. 24).

The media were instrumental in spreading the message of *A Nation at Risk*, warning that U.S. schools were not keeping pace with other countries in the world. The ranking of countries' educational assessment data was determined by student achievement data results from tests such as Scholastic Aptitude Tests (SAT) and international assessments. The document was written in a manner that was understandable to the general public, but had language that appealed to the basic principles of democracy warning that the nation would be harmed economically and socially unless education was dramatically improved for all children (National Commission on Excellence in Education, 1983). Ravitch (2010) summarized the recommendations of the report emphasizing stronger high school graduation requirements, higher standards for academic performance, and student conduct, more time devoted to instruction and homework, and higher standards for entry into the teaching profession along with better salaries for teachers (p. 25).

A Nation at Risk also introduced "The Five New Basics" that detailed graduation requirements to include four years of English, three years of mathematics, three years of science, three years of social studies, and one-half year of computer science (Ravitch, 2010, p. 26). Ravitch (2010) commented, "It was right to point to the curriculum as the heart of the matter, the

definition of what students are expected to learn. When the curriculum is incoherent and insubstantial, students are cheated" (pp. 27-28). While the report increased public and political attention to education, many researchers view *A Nation at Risk* as the precursor to the standards movement (Ravitch, 2010). The commission's recommendations implied that increased graduation requirements would result in increased student performance ranks on SATs and other assessments to improve the United States' educational standing. *A Nation at Risk* was the beginning of the federal government's involvement in basing educational achievement on outcome based measures.

Goals 2000

In 1994, The *Goals 2000*: *Educate America Act*, was adopted under the Clinton administration to promote improvements in the nation's education system at both the state and local levels (Schwartz & Robinson, 2000; Superfine, 2005). *Goals 2000* was a federal initiative that encouraged states to develop academic standards that specified what students were expected to know in the areas of reading, mathematics, science, and social studies at each grade level (Schwartz & Robinson, 2000; Superfine, 2005). Superfine (2005) called *Goals 2000* a revolutionary attempt to promote education reform on a national scale (p. 10). States were also encouraged to develop assessments that aligned with the standards to measure progress toward the expectation (Schwartz & Robinson, 2000; Superfine, 2005). Additionally, *Goals 2000* introduced the idea of accountability to the states by suggesting the development of annual reports of school and district performance as measured by the assessments (Schwartz & Robinson, 2000; Superfine, 2005). Schwartz and Robinson (2000) reported, "We believe that a broad enough consensus exists across the states…to warrant our characterization of standards-based reform as America's de facto national educational policy" (p. 173).

The *Goals 2000* program provided a federal funding stream that released money to each state to be distributed to localities through competitive grants. The initiative provided tremendous flexibility in the ways the funds were used by the states and school districts (Superfine, 2005). Many states used the funds to develop district reform plans, align local curricula with new assessments, build technological infrastructure, and promote professional development activities for teachers (United States General Accounting Office (GAO), 1998, p. 5). A United States General Accounting Office (GAO) congressional report stated, "Most state officials said that *Goals 2000* funding has been an important resource in their states'

development of new standards and assessments" (GAO, 1998, p. 7). In the same report a Nevada state official reported, "Before *Goals 2000*, the state did not even have the terminology for standards based reform. *Goals 2000* brought terminology and a consistency of ideas regarding standards based reform" (GAO, 1998, p. 14). *Goals 2000* provided more than $1.25 billion from fiscal years 1994 through 1997 for improvements in education (GAO, 1998, p. 15).

While *Goals 2000* pushed states to develop state standards, there continued to be a national debate as to whether education policy should be dictated by the federal or state government. Superfine (2005) reported, "*Goals 2000* represented one of the greatest intrusions of the federal government into education policy, an area traditionally reserved to the state" (p. 10). Superfine (2005) described the rise and fall of *Goals 2000*, the problems that developed during the implementation of *Goals 2000*, and the reasons the problems occurred due to the political nature of the initiative in his article "The Politics of Accountability: The Rise and Fall of *Goals 2000*". He went on to describe the foundation that *Goals 2000* established for the federal government's continued involvement in education through No Child Left Behind. With defined standards and common assessments in each state, the foundation was established for accountability and comparisons as measured by outcome-based data that would increase the demands for data-driven decision making within each school. *Goals 2000* introduced the Federal Governments' involvement in public education laying the foundation for accountability demands measured by school assessment data.

No Child Left Behind

With the implementation of NCLB, the federal government determined schools' success based upon standardized test results. Since the passage of the NCLB Act in 2001, policymakers and politicians have focused attention and money on low-performing schools (Duke, 2012; Manwaring, 2011; Smarick, 2010). Duke (2012) suggested that before NCLB, being at risk was considered to be a condition that students brought with them to school, a condition resulting from problems stemming from poverty. The passage of NCLB suggested that the public schools were not ready for the children of poverty. Duke (2012) stated, "Students were at risk by virtue of the school they were required to attend" (p. 9).

The NCLB Act was the beginning of the federal accountability era because federal sanctions were introduced that were linked to the accountability measures (Duke, 2012; Ravitch, 2010). The law introduced the idea of adequate yearly progress (AYP). For the first time in

history, standardized test scores had to be disaggregated by student subgroups that included African American, Hispanic, low socioeconomic status, English language learner, and special needs students (Berkeley, 2012; Duke, 2012; NCLB, 2001; Ravitch 2010). Student in every subgroup were required to meet the same standard for the schools to meet the conditions for AYP with a performance goal of 100% mastery by the year 2014 (NCLB, 2001).

The NCLB Act specified that a school failing to make AYP for two consecutive years had to develop an improvement plan, use a share of its Title I funds for professional development, and provide students with the option to transfer to another school, a procedure referred to as "school choice" (NCLB, 2001). If a school went into Year 3 of improvement, the schools were expected to offer "supplementary education services" that included tutoring services and afterschool programs to struggling students (NCLB, 2001). After four consecutive years of failure to make AYP, a school was required to enter the corrective action phase that included strategies from an approved list that included replacing selected staff, implementing a new curriculum, decreasing the school's managerial authority, appointing an external expert to advise the school, and restructuring the school's organization (Duke, 2012; NCLB, 2001; Ravitch 2010). The final step after five consecutive years of failing to meet AYP was restructuring of the schools (NCLB, 2001). Restructuring might involve replacing all or most of the school staff, contracting out operation of the school, reopening the school as a charter school, or state takeover (Duke, 2012; NCLB, 2001; Ravitch, 2010).

In response to the accountability pressures of NCLB, educational leaders are closely examining district and school level data to identify whether or not they meet the standards for making AYP. School leaders can identify strengths, weaknesses, and areas in need of improvement by analyzing student achievement data. Datnow, Park, and Wohlstetter (2007) reported,

> Since the effectiveness of schools is measured by performance indicators, it is not surprising that educators are now using data for improvement. The theory of action underlying NCLB requires that educators know how to analyze, interpret, and use data so that they can make informed decisions in all areas of education, ranging from professional development to student learning. (p. 10)

School Improvement Models

Both federal and state governments have funneled large sums of money into the school improvement process (Duke, 2012; Manwaring, 2011; Smarick, 2010). The federal government outlined four improvement models that include the Turnaround Model, the Close and Consolidate Model, the Restart Model, and the Transformation Model (Duke, 2012; Manwaring, 2011). Manwaring (2011) commented, "The problem is that no school improvement model has a research base. If there was such a clear research-based model for turning around low-performing schools, then there would not be so many of them" (p. 13). While there have been various intervention efforts targeting low performing schools, researchers have not identified any school interventions that consistently help all students succeed (Herman, 2012). Herman (2012) explained,

> Educators have not yet identified a model or approach that will reliably turn around large numbers of schools. They do know a lot about what does not work however. They know that no single model, approach, or practice, however promising it appears, has universally led to school turnaround. They know that turnaround has not yet been achieved by large numbers of persistently low-performing schools. So far, it appears there is no magic bullet (p. 30).

The weak research base for the school improvement models has resulted in debate over the United States Department of Education's efforts to promote school turnaround (Hansen, 2012).

While the federal government outlined the expectations for all public schools under the NCLB Act, how to determine which standardized tests would be used to measure student performance for each subgroup was up to each state (NCLB, 2001). The Commonwealth of Virginia identified the Standards of Learning (SOL) tests given at grades three through twelve as the assessment administered to meet the NCLB guideline and to measure student performance by subgroups. While federal money was distributed to the states for schools in improvement, it was up to each state to develop its own school improvement models and regulations to carry out the mandates of NCLB (NCLB, 2001).

Goren (2012) suggested that standardized achievement tests connected to annual yearly progress have simply become an accepted practice in public schooling. He stated, "Numerous critics can explain why the tests do not test what teachers are teaching and students are learning, yet they remain a vital component of the current narrative on school improvement and high-

stakes accountability" (Goren, 2012, p. 236). Other researchers argue there is much more to a successful school than just test scores (Berkeley, 2012; Ravitch, 2010). With the pressures of accountability, school leaders continue to look for better ways to analyze data to promote student achievement.

By examining the Effective Schools research, *A Nation At Risk*, *Goals 2000*, and NCLB, the progression of the federal government's involvement in public education is evident. Even though data-driven decision making has been around for decades, the accountability demands from the federal level that rely on high stakes testing as the output measure have forced educational leaders to analyze school-based data to identify areas of strength and areas that need improvement. Coburn and Turner (2012) suggested that a range of federal and state policies promote data use as a key strategy to foster school improvement.

Even though data-driven decision making has received tremendous attention since the passage of NCLB, the foundations for the practices of data-driven decision making were well established over 30 years ago with the Effective Schools research. *A Nation At Risk* created a national concern that public schools were not keeping pace with the rest of the world that eventually resulted in higher standards for graduation for each state in an effort to improve the United States standing globally as measured by national assessments. *Goals 2000* urged states to develop standards that were measured by state assessments introducing the concept of accountability. Finally, NCLB required schools to disaggregate data within the subgroups to determine whether or not schools met criteria for AYP. Data use has been woven throughout the initiatives. While data have been used informally in public education for many years, the federal mandates that have led to data-driven decision making continues to evolve. Schools continue to search for better ways to use data to improve and modify instructional practices to promote student achievement. Despite the federal initiatives pertaining to student achievement, some schools find themselves falling short of the federal expectations for making AYP. As a result, many school leaders turn to implementing organizational routines for data-driven decision making to influence instruction.

Data-Driven Decision Making Research

Policymakers have put tremendous faith into the results of high-stakes testing data (Goren, 2012). When schools do not make AYP, sanctions are put into place in an effort to improve student achievement. Therefore, school leaders have been forced to examine

instructional practices and to develop new organizational routines to monitor student progress through the use of various data sources. Goren (2012) suggested that policymakers and school leaders tend to equate mounds of data with the assumption that schools will improve (p. 233). He stated that the use of data "runs the risk of every other education fad that preceded it: significant rhetoric that yields false promises about improving schools and the life chances of young people" (Goren, 2012, p. 233). He continued by saying that school improvement efforts will require more than delivering data to the schoolhouse door implying that data by itself will not yield results (Goren, 2012, p. 234). Datnow et al. (2007) reported, "The gathering and examining of data is merely a starting point to developing a culture and system of continuous improvement that places student learning at the heart of its efforts" (p. 5).

Coburn and Turner (2012) identified three approaches that have been used to study data. They are (a) focusing on the relationship between initiatives to promote data use and aggregate outcomes such as student performance on standardized tests, (b) describing the activities that are involved with data use initiatives, and (c) writing about data that are normative rather than analytic (Coburn & Turner, 2012, p. 101). While the research has been beneficial to the field, there continues to be a gap in the literature that focuses on data use in practice. Coburn and Turner (2012) stated, "We know little about how people in schools are interacting with data, interpreting it, responding to it, or ignoring it" (p. 101). As a result, practitioners struggle with how to improve data practices to positively impact student achievement. Coburn and Turner also identified another frustration with the research because it is still unclear why some data use practices have positive results in some settings and not in others (p. 101). While many people have great optimism about the power in data use, researchers recognize the need for further studies to uncover what actually happens when people at different levels of the system use data in their practice (Coburn & Turner, 2012, p. 101). Coburn and Turner (2012) elaborated on the practice of data use focusing on understanding what actually happens when people engage with data in their everyday work and how data analysis translates to instructional change and organizational learning (p. 102).

Datnow et al. (2007) developed a conceptual framework that articulated the complexities of the macro and micro processes of data both narratively and graphically (p. 16-17). The macro processes of data use reflect the federal mandates established by NCLB that are passed onto the states and then to the localities. The state agencies react by establishing curriculum standards that

are measured by state tests that determine AYP. The local districts then hold the individual schools accountable by establishing curriculum pacing guides and benchmark assessments. The micro processes of data are the way in which the school actually operates on a day- to-day basis in an effort to meet the accountability demands established at the macrolevels. Datnow et al. (2007) reported, "Schools play an important role by providing time for staff to meet to discuss data, flexibility for re-teaching, and resources in order to facilitate data-driven instruction" (p. 16).

The outside pressures of the use of data and the changes that take place within the schools are elaborated by both Moss (2012) and Little (2012) as they describe the macro and micro connections in data use practices. Moss (2012) suggested that when data use is studied through the lenses that link the micro and macro processes, educational leaders might be able to understand and improve educational practice (p. 223). School improvement efforts are one way struggling schools are working to improve instructional practices. Leithwood, Harris, and Strauss (2010) suggested that the use of assessment data was a key factor in raising achievement in turnaround schools. Spillane (2012) examined the world of data from the macro level that includes the pressures from the federal, state, and local governments and the micro levels that reflect how a school actually proceeds to meet the demands of government. Coburn and Turner (2012) emphasized a better understanding of the relationship between the macro and micro levels of the social system by studying the practice of data use (p. 105).

Another focal point in data research is the social structures of discussions that take place around the topic of data within schools (Little, 2012; Spillane, 2012). There are many questions around how teachers feel when their personal judgments are challenged based on data results. School leaders walk a delicate balance in negotiating the information gleaned from data analysis (Luo, 2008). While conversations need to be open and honest, researchers still question how leaders guide teachers through the process of self-discovery and the realization that instructional practices need to change based on the analysis of data.

The theories behind distributed leadership are key in empowering teachers to work together to come to their own understanding that instructional practices should change based on test results. Educational leaders need knowledge and expertise in the field of data to gain trust, to create buy-in to the data process, and to invoke change. According to Bambrick-Santoyo's (2010) book *Driven by Data: A Practical Guide to Improve Instruction*, the key to data-driven

instruction is changing people's perceptions away from what has been taught to what students have actually learned. Luo (2008) stated, "Data driven decision making is an interactive, multi-faceted, and contextual practice within the school organization" (p. 610). In his book, Bambrick-Santoyo (2010) identified four key principles in creating a data-driven school that included common assessments, data analysis, action, and culture. School leaders need to be able to manipulate, analyze and interpret data so they can guide teachers through the examination of the test results to identify the causes of both strengths and shortcomings. When teachers can recognize the power of data in tracking progress, teachers can then use the information to guide their instruction (Leithwood et al. 2010). Finally, a data-driven culture is cultivated to create an environment in which data-driven instruction can survive and thrive (Bambrick-Santoyo, 2010).

After surveying the literature from a broad perspective, several research studies were closely examined to study organizational routines established by school leaders in an effort to improve student achievement. For the purposes of analyzing the literature, Spillane's (2012) conceptual framework that defined organizational routines as both the ostensive aspect and the performative aspect when examining the practice of data use within schools was used. He defined the ostensive aspect of data use in schools as the formal structures established to analyze and use data to drive decision making (Spillane, 2012). Spillane (2012) defined the performative aspect of data use as the routines in practice in particular places at particular times. The performative aspect reflects the practices that actually take place within a school regarding data use. Spillane (2012) stated, "Organizational routines are an important mechanism in school level efforts to transform work practice in response to standards and high-stakes accountability especially in promoting the use of student achievement data" (p. 116).

When macro processes insist on mandates such as using data, schools establish micro processes in the form of organizational routines to fulfill such expectations. As a result, leaders across the country are exploring ways to promote data use for instructional improvement. For the purposes of the study, organizational routines are defined as the practices established by school leaders to foster data-driven decision making in an effort to improve student achievement by adjusting instruction. In-depth analysis of specific studies identified the organizational routines related to data-driven decision making.

Kerr, Marsh, Ikemoto, Darilek, and Barney (2006)

Kerr, Marsh, Ikemoto, Darilek, and Barney (2006) researched the actions, outcomes, and lessons from three urban districts to explore data use. The team conducted the study using a comparative case study design and mixed methods to examine district efforts to promote instructional improvement. The purposive sample included three urban school districts with a significant percentage of low-income and minority students identified with pseudonyms of Monroe, Roosevelt, and Jefferson. The sites were selected because they had made districtwide instructional improvements and they had worked with the Institute for Learning (IFL) for at least three years. The districts were very large ranging from 30,000 students to 80,000 students. The research questions in the study included:

1. What strategies did districts employ to promote instructional improvement through data-based decision making?
2. How did these strategies work?
3. What constrained or enabled district efforts to promote data use for instructional decision making? (Kerr et al., 2006, p. 502).

Both quantitative and qualitative data were collected over two years for the study. Kerr et al. (2006) designed the study to gain insight from the perspectives of district leaders, school leaders, and teachers. The research team visited each district several times during the 2002-03 and 2003-04 school years to conduct interviews with the superintendent, associate superintendent, and administrators in the areas of curriculum, instruction and professional development. Eighty-five district level interviews were conducted across the districts. In addition, during the spring of 2003 and the winter-spring of 2004, the team visited a sample of schools in each district and observed district meetings and related activities. The researchers also interviewed the principals, assistant principals, and/or instructional specialists during school visits. Additionally, the team conducted focus group discussions with teachers. During the 72 school visits, interviews were completed with 118 teacher focus groups, 73 principals, 30 assistant principals, and 50 instructional specialists. Finally, surveys were conducted during the spring of 2004 including all principals in the three districts, all teachers in Roosevelt and Jefferson, and a sample of teachers in the Monroe district. The response rate from the principals was 68-78% while the teacher response rates across the districts ranged from 31-48% (Kerr et al., 2006). The researchers did not elaborate as to why they only included a limited sample of the

Monroe teachers. The low response rate from the teacher perspective is also a limitation in the study.

The researchers suggested while all three districts implemented different actions to different degrees with varying levels of success, all districts made substantial efforts in promoting data-based decision making (Kerr et al., 2006, p. 504). The strategies investigated in the study for data-driven decision making included:

1. The development of interim assessments and technological systems for housing, analyzing, and reporting data,
2. Professional development and/or technical assistance on how to interpret and use student test results,
3. Revamping the school improvement planning processes,
4. Encouragement of structured review of student work, and
5. The use of an IFL-developed classroom observation protocol called the Learning Walk to assess the quality of classroom instruction. (Kerr et al., 2006, p. 504)

According to the study results, Jefferson and Monroe districts appeared to have placed a greater focus on data-driven decision making than the Roosevelt district.

Kerr et al. (2006) elaborated on the Jefferson district's focus on school improvement planning (SIP). The Jefferson administrators guided their faculties to analyze assessment results by grade levels to identify areas of needed improvement in mathematics and English language arts. In addition, the staffs were asked to develop strategies to address the needs identified through the data analysis. Sixty-two percent of Jefferson teachers surveyed reported the SIP had influenced their teaching practice as compared to 35% and 36% in Roosevelt and Monroe. Even though the SIP process was labor intensive and time consuming, the Jefferson district teachers reported the process helped them work to address student weaknesses through curriculum pacing and instructional strategies (Kerr et al., 2006).

The research team also elaborated on the Monroe district's interim assessments that were linked to a data management system. The administrators described the assessments as something between formative and accountability data (Kerr et al., 2006, p. 509). The sophisticated data management system provided quick access to results and offered the capability to develop additional assessments for identified classes, groups, or individual students. While the majority of principals viewed the system as being useful, some teachers viewed the system as helpful

while others did not. Fifty-nine percent of teachers reported the interim data were moderately or very useful for guiding instruction in their classroom. Sixty percent of teachers reported other classroom assessments provided more useful information for planning. Teachers also expressed concern about the excessive amount of testing, time taken away from instruction, and the lack of time to analyze the data (Kerr et al., 2006, p. 509).

One common factor found in the Kerr et al. (2006) study that affected data use included a history of state accountability which provided incentives for some districts to use data. With the pressures of NCLB, the Monroe and Jefferson districts had outside pressures and strong incentives to analyze student data which may have pushed them to use data more than the Roosevelt district. Another common factor among the three districts was the access and timeliness of receiving data. School district leaders and teachers complained about the timeliness of the data making it difficult to analyze and use the data effectively. The third commonality demonstrated the importance of data validity and its impact on data buy-in and use. Many teachers preferred classroom assessments and student work over the interim assessments because they trusted the results using these data sources to inform their decisions. Another commonality was the perception that teachers lacked the flexibility to alter instruction based upon the data results. The Monroe and Roosevelt teachers felt pushed by the curriculum guides and did not feel they could veer from the districts curricular expectations. The final commonality was the district leaders, school leaders, and teachers' abilities and capacities to use data. The survey responses ranged from 23% to 43% in feeling moderately or very prepared to interpret and use reports of student test results.

The Kerr et al. (2006) study also revealed common challenges to data-driven decision making. The district leaders from all three sites wanted multiple data sets to be timely, valuable, and presented in a user-friendly format so the data could benefit teachers in their daily instruction. Next, the teachers had difficulty using data to guide instructional practice while implementing district reform initiatives such as curriculum pacing guides. Lastly, the study revealed the lack of district capacity to support teachers with data analysis and identifying adjustments to instruction based on the results of the data (Kerr et al., 2006). The study demonstrated the importance of district level support, professional development, data management systems, curriculum alignment, and teacher buy-in.

Luo (2008)

Even though data-driven decision making is discussed in policies and practices, little empirical research has been conducted on the issue especially from the principal's perspective (Luo, 2008). In an effort to fill the gap in the research, Luo (2008) conducted a study of high school principals to identify factors in the principals' work environments that may affect their data-driven decision making practices. Luo used Taylor's model of Information Use Environments (IUE) as the theoretical framework for the study. The Information Use Environments model is based on the idea that a person's behavior is the result of an interaction between the individual person and their work environment (Luo, 2008, p. 605). Luo used the Educational Leadership Constituent Council (ELCC) standards of leadership dimensions for high school principals that included school vision, instruction, organization, collaborative partnership, moral perspective, and larger-context politics (Luo, 2008, p. 605). Luo (2008) summarized the factors related to the principal's practices of data-driven decision making established in the literature as educational attainment, experiences, data analysis skills, problem dimension, school district requirement and support, school data analysis team, accessibility of data, and perceptions of data quality (p. 610). Luo's study focused on the following research questions:

1. To what extent do high school principals practice data-driven decision making in addressing the administrative problems of the leadership dimensions developed by the ELCC/NCATE?
2. Are there any differences in the extent of principals' data-driven decision making practices among these leadership dimensions?
3. What are the models of factors in principals' IUE that influence their data-driven decision making practices in the leadership dimensions? (Luo, 2008, p. 610)

Luo (2008) examined the interactive factors of leadership that impacted principals' use of data to make decisions.

The participants for the study included 183 high school principals from a Midwestern state. The data were collected using an online survey along with mailed surveys. The response rate for the survey was 63.3%. The instruments used for data collection included the Principal Data-Driven Decision Making Index (P3DMI), the Scales of Data Quality, Accessibility, and Analysis Skills (SDQAAS), and demographic information questions (Luo, 2008, p. 611). The principals rated their use of data regarding student test scores, demographics, perceptions of the

learning environment, and school programs and instructional strategies. They also rated the frequency of their use of data on a scale from one to five for a variety of purposes along with their comfort levels in searching information from databases, designing and creating spreadsheets, and doing basic statistical data analysis. In addition, the principals rated data quality, data accessibility, and data analysis skills. The final portion of the survey included questions about the demographics of the schools the principals served.

Luo (2008) was very detailed in the explanation of the instrumentation to portray the rating scales for the survey questions. One limitation acknowledged by the researchers in the study was the assumption that principals defined data the same way when responding to the survey. Survey results could be skewed if principals interpreted the terms relating to data differently. The researcher was very careful to follow multiple steps to ensure content validity that concluded with pilot testing of the instrument with 31 high school principals (Luo, 2008, pp. 611-614). Luo (2008) used factor analysis utilizing varimax rotation to account for a total of 59.98% of the variance. The researchers also used Cronbach's Alphas to conduct reliability analysis that demonstrated high reliability for all constructs (Luo, 2008, p. 615).

The demographic information about the survey participants and the schools they represented was organized in a table for easy access. The survey results from the P3DMI were also presented in a table organizing the data with the mean scores and standard deviations for each of the 30 items divided among the four categories of school vision, school instruction, school organizational operation and moral perspective, and collaborative partnerships and larger context politics. The highest overall mean score among the four categories was in school instruction followed by organizational operations. Luo was also very detailed in the description for developing the structural equation models for data use. Principals reported using data often for the four constructs of school leadership. The study also revealed that perceptions of data quality and data analysis skills are instrumental in a principal's willingness to use data-driven decision making as compared to school district requirements and data accessibility.

Luo acknowledged limitations in the study. The study was delimited to high school principals within a certain region during one year. The sample size for the study was relatively small for statistical analysis. The respondents' interpretation of data may have influenced the survey responses. Finally, the low R-squared values only accounted for about 15-28% of the variance which means other factors may have accounted for about 70% of the variance. The low

R-squared values may indicate that other factors may have influenced data-driven decision making (Luo, 2008, p. 629).

Six major themes emerged from the study as recommendations for practice.

1. Use school district policy requirements to reinforce the practice of data-driven decision making,
2. Strengthen principals' information literacy to help principals locate, collect, analyze, evaluate, integrate, and communicate information,
3. Increase data credibility and reliability,
4. Make data easily accessible,
5. Create supportive and effective teamwork, and
6. Use different strategies for different administrative dimensions. (Luo, 2008, pp. 629-630)

The findings of the study provide useful insight into the choices high school principals make regarding data-driven decision making.

Datnow, Park, and Wohlstetter (2007)

Many practitioners and researchers question the key strategies of data-driven schools. Datnow et al. (2007) carefully examined key strategies of data-driven schools by focusing on four school systems that were identified as leaders in data-driven decision making. The study was sponsored by NewSchools Venture Fund in San Francisco to help identify key strategies of data-driven schools. The study included two mid-size urban school districts and two nonprofit charter management organizations (CMOs). The sample included six elementary schools, one middle school, and one high school serving ninth graders only.

The study was conducted during the 2005-06 school year with all the schools serving large numbers of low-income students and students of color. The schools were selected because of their history of improving student achievement over time. The case study included 70 interviews, document analysis, and informal observations. The researchers did not detail the transcription or coding process used to analyze the data. The case study revealed that gathering and analyzing data is just the introduction for cultivating a culture of continuous improvement for student success (Datnow et al., 2007, pp. 13-14).

While all of the districts approached data-driven decision making differently, they all achieved success. Common practices were identified to assist other leaders in their quest for

data-driven decision making. The case study revealed six key strategies for performance-driven school systems. The first strategy for the districts was building a foundation for data-driven decision making. The districts implemented a system wide curriculum in an effort to get teachers on the same page. Additionally, the districts developed pacing guides that allowed for flexibility for re-teaching. With the common curriculum, the educators were able to gather, organize, discuss, and act on data about student achievement. Ultimately, goals were developed that linked improving learning and instruction while decisions were seen as arising from the data rather than system mandates (Datnow et al., 2007, pp. 20-24).

Next, the districts worked to establish a culture of data use and continuous improvement. The district leaders developed norms and expectations for data use that were reinforced by the principals at the school level. The norms included how to behave in meetings, materials to bring, how to compile data binders, and how to discuss students. The districts worked for mutual accountability in fostering a culture of data-driven decision making as a commitment to continuous improvement. The districts offered support to schools and provided resources for data-driven decision making that resulted in a trusting relationship. In order to foster a data-driven culture, the study revealed the importance of developing valid assessments and developing a sense of trust between the district, administrators, and teachers. One superintendent believed that once teachers can admit that children are not the problem but that instructional strategies are, then learning is going to happen for every child. Another principal shared that data can lead you to questions, but the solutions emerge by analyzing root causes (Datnow et al., 2007, pp. 24-30).

With mounds of data, all the districts had to find a way to organize the information and make it accessible to the stakeholders. The districts invested in data warehouses that were user-friendly with the capability to grow with their needs. Additionally, the districts tapped into various personnel to offer support with data management and interpretation. Oftentimes the principal or lead teacher supported the staff in accessing and using the data. The study also revealed the importance of making data timely and accessible if the data were expected to be used. Once the data became accessible and understandable, personnel could identify students who needed additional support with types of interventions that were needed. Ultimately, the data led to changes in instruction at the classroom level for improved student achievement (Datnow et al., 2007, pp. 30-35).

The fourth strategy for data-driven decision making was selecting the right data that provided the best information for teachers and administrators as they monitored student learning. All the districts emphasized the necessity to base decisions on multiple data sources. One of the key data components included districtwide interim assessments aligned with the common curriculum. The results provided information based on student mastery of specific standards and guided future instruction. With the common assessments, districts were able to use the information for a variety of purposes including instructional, curricular, resource allocation, and planning decisions. One commonality among the data-driven districts was the continuous focus on data to examine instructional practices and to determine an intervention focus for specific students (Datnow et al., 2007, pp. 35-43).

The next strategy revealed building school capacity for data-driven decision making. At the heart of school improvement was empowering the educators to use data to inform instruction at the school and classroom levels. The districts empowered their staffs by offering professional development, supporting staff by modeling data use and data discussions, providing time for teacher collaboration, and sharing data and improvement strategies across the schools. Administrators acted as instructional leaders and were instrumental in modeling the effective use of data to build capacity throughout the building. The districts commented that time and collaboration among teachers and staff are critical for effective data use (Datnow et al., 2007, pp. 44-49).

Finally, the district leaders developed tools and processes to support principals', teachers', and staff members' use of data. The final outcome of the meetings related to identifying targeted students for additional support. The school systems provided feedback on student achievement and progress toward meeting goals. The systems developed data analysis protocols and monitoring reports for school leaders, teachers, and students. Tools such as discussion templates and benchmark analysis protocols were developed to offer support, guidance, and accountability for data-driven meetings (Datnow et al., 2007, pp. 49-54).

The challenges identified in the study included managing and prioritizing data, expanding the types of data collected, and assisting staff members to use data thoughtfully. The researchers suggested further studies of how teachers use data to differentiate instruction, dealing with educators who are resistant to using data, and how school systems gain support for data-driven decision making. While the study first appeared to focus on the district level perspective, the

study also examined the actual practice at the school level. The conceptual framework developed by the researchers clearly articulates the macro and micro processes of data-driven decision making (Datnow et al., 2007, pp. 66-73).

Wohlstetter, Datnow, and Park (2008)

The research team conducted a qualitative study to investigate the system of data-driven decision making by applying the principal-agent framework (Wohlstetter et al., 2008). Within the study, the principal-agent is defined as the system-level leaders, not the leader of a particular school. The terminology was a bit confusing because the principal is typically referred to as the leader of the school. For the purposes of this research study however, the term principal-agent referred to the district level leaders. The principal-agent framework within the study refers to the implied contract between the district office and the schools. The district supports the schools with the collection and analysis of data, but the responsibility for interpreting results and developing solutions occurs at the school and teacher level (Wohlstetter et al., 2008, p. 240). The researchers viewed data-driven decision making as a contractual relationship which led to questions such as (a) if the information management system is available, why aren't our teachers using it and (b) if professional development is offered, why is it ineffective with so many teachers. The study attempted to improve the understanding of data-driven decision making strategies at the system, school, and teacher levels.

The research was conducted by examining four school systems during the 2006-07 school year to capture the details relating to data-driven decision making. The study included the same research sample as the Datnow, Park, and Wohlstetter (2007) study focusing on two mid-size urban school districts and two nonprofit charter management organizations. Within each of the four districts selected, two schools were closely examined for the study. The study included six elementary schools, one middle school, and one high school serving ninth graders only. The study was supported by a grant from NewSchools Venture Fund with the funding from the Gates Foundation and Hewlett Foundation. The schools were selected based upon their reputation for using data for instructional decision making that appeared to have led to improved student achievement.

The site interviews took place between March 2006 and May 2006 and included two to three administrators from the district office, school level leaders, and a minimum of five teachers across the grade levels. Approximately 70 interviews were completed, various informal

observations were conducted at the school level, and numerous documents were collected that pertained to the study from both the school and district levels to get a picture of data-driven decision making across the districts and schools (Wohlstetter et al., 2008).

The research team provided specific details about how the interviews were transcribed and coded using the data analysis software package HyperResearch. The interviews were coded first to examine the role of the system in supporting school level data-driven decision making in an effort to develop detailed case reports on each system in the study. Next, the data were coded using the principal-agent framework. The following research questions were investigated in the study:

1. How did the systems (meaning educators above the school level acting as "principals") align the objectives and values of schools (meaning educators at the school level who are acting as "agents") with their own?
2. How did systems deal with the problem of information asymmetry?
3. Did the systems provide incentives to their schools to encourage data use in ways valued by the principal?
4. Have the systems empowered their schools with enough decision-making authority to improve quality and performance? Do the schools have sufficient information about the consequences of alternative actions so that decisions are made in line with the system's objectives?
5. How did systems deal with the problems of adverse selection? What did systems do to build the capacity (knowledge and skill) of school-level educators to implement data-driven decision making as the principal preferred? (Wohlstetter et al., 2008, p. 245)

The study revealed five main categories with the principal-agent relationship in data-driven decision making that included limited decision rights, information asymmetry, divergent objectives, weak incentives, and adverse selection (Wohlstetter et al., 2008, p. 241). The research team examined how the principal-agent framework played out in relationship to data-driven decision making.

The research team revealed individual behavior was affected by divergent objective problems that occur when teachers pursue their own objectives and do not follow the objectives established by the system (Wohlstetter et al., 2008). One example shared by the researchers

involved system leaders valuing standardized test data when making decision while the teachers valued multiple assessment measures. Divergent objectives problems occur when the system leaders and school level personnel do not share the same ideas and rationale for data-driven decision making.

When the researchers examined how systems established foundations for data-driven decision making, they discovered the value in aligning goals, curriculum, and assessments with the schools creating a culture of data use (Wohlstetter et al., 2008, pp. 245-246). All the systems established meaningful and challenging goals for the students with the assistance of the stakeholders so everyone could understand the desired outcome for student performance. Next, the systems developed a common curriculum accompanied with districtwide pacing and common assessments. Finally, the systems established a common language and culture of data use where analyzing data to improve instructional practices was a non-negotiable (Wohlstetter et al., 2008, pp. 245-247). All of these organizational structures attempt to defuse and minimize divergent objectives.

Information asymmetry refers to the problems that arise when the district level leaders make decisions that directly impact teachers without a full understanding of the situation (Wohlstetter et al., 2008). In reference to data-driven decision making, the district may not fully understand how teachers use the data to make improvement decisions. On the other hand, the principal-agent may empower the teachers to use data, but the teacher may not have the knowledge to make data-driven decisions wisely. In an effort to combat information asymmetry problems, systems worked to develop clear communication plans between the teachers, school leaders, and district leaders. The systems within the study found the "bottom-up" information flow from the schools to the districts was the most effective data-driven decision making plan since the teachers were closest to the students (Wohlstetter et al., 2008, p. 248). One way the districts worked to facilitate the information flow was by investing in data management systems and training staff members to use the system. By having designated trainers and experts at both the school and district levels, two-way communication was enhanced especially regarding the use of data (Wohlstetter et al., 2008, pp. 248-249).

Wohlstetter et al. (2008) also examined weak incentive problems related to school personnel's misalignment of values with the system leaders. If district level leaders invest in information management systems and professional development and the teachers in the

classrooms do not have an incentive to spend time in teacher meetings to analyze the data to develop strategies for improving student achievement then the misalignment occurs (Wohlstetter et al., 2008). The systems within the study found the incentives for data-driven decision making were closely aligned with the state and federal accountability policies. All the systems required school improvement plans measuring progress toward the established goals that are measured by student performance measures such as tests. Another incentive included compensation plans for improved student performance. The systems believed teachers who used data to drive instructional decisions would be more effective resulting in improved student achievement (Wohlstetter et al., 2008, pp. 249-250).

Limited decision rights referred to the imbalance of decision making power between the system, school, and teacher. Wohlstetter et al. (2008) commented, “Those closest to the students are in the best position to judge their needs and abilities and hence to choose the most suitable methods and technologies for successful learning” (p. 241). The research revealed that school leaders and teachers need to have the authority to identify, develop, and implement intervention strategies based on data analysis because the classroom level is where everything comes together. The districts worked to establish a balance between district pacing guides and the flexibility to adjust instruction based on student data (Wohlstetter et al., 2008, pp. 252-253).

The final component of the principal-agent framework examined by the study included the adverse selection problem (Wohlstetter et al., 2008). Adverse selection occurs in schools when systems adopt mandates that should be carried out in all schools that become a reform strategy. When mandates are forced upon schools, the stakeholders are sometimes resentful of the mandate and do not implement the mandates with complete fidelity and/or enthusiasm. On the other hand, when systems selected particular schools that were eager to participate in reform strategies, the school's staff may experience more success because of their willingness to participate (Wohlstetter et al., 2008). Ways to address the problem of adverse selection in the study included hiring staff that supported data-driven decision making, targeting professional development based on needs, and establishing collaboration time for teachers to learn from one another (Wohlstetter et al., 2008, pp. 252-253). Despite their successes, all the systems struggled with helping staff members use the data appropriately and thoughtfully to truly change instruction (Wohlstetter et al., 2008, p. 253).

While the study offered valuable insights from the perspectives of the district leaders, school leaders, and teachers, the primary focus for the study was from the district level perspective shedding light on organizational structures established by the system. An in-depth look from school level leadership would also be of great benefit. The study revealed the direct impact district level support has on the success of data-driven decision making within the district, school, and classrooms. The study clearly demonstrated the importance of the district working with schools to foster the culture of continuous improvement and mutual accountability for data-driven decision making so all students can succeed.

Park & Datnow (2009)

Park and Datnow (2009) conducted a third study using the same sample of four school systems with two mid-size and urban school districts and two nonprofit charter management organization to examine distributed leadership in data-driven decision making. The purpose of the study was to examine leadership practices in school systems that are implementing data-driven decision making. The study examined how leadership practices are influencing and are influenced by the use of accountability data (Park & Datnow, 2009).

Park & Datnow (2009) reported, "Leading requires actors to actively construct interpretations of school improvement that fosters both educator and student learning as well as developing conditions that support such efforts" (p. 479). A review of the literature by the research team revealed that distributed leadership enables organizations to build on the strengths and skills of a variety of members that is necessary for data-driven decision making. The research questions for the study included:

1. did district and school leaders cultivate a culture of data-driven decision making?
2. What types of activities and processes were distributed to making data-driven decision making relevant?
3. How did leaders build capacity for data-driven decision making? (Park & Datnow, 2009, p. 480)

The research team focused on how distributed leadership took place within schools that were viewed as being successful in the use of data-driven decision making.

The case study approach allowed the researchers to examine data-driven decision making in real-life contexts in an effort to expand the knowledge base between distributed leadership and data-driven decision making (Park & Datnow, 2009, p. 481). The same data collection process

and samples were used as identified in the two previous studies. The interviews were transcribed verbatim and coded for analysis using HyperResearch qualitative data analysis software. The data were coded based on three broad domains that included the identification of leaders of data-driven decision making, the qualities attributed to leaders, and the types of activities leaders engaged in to foster data-driven decision making (Park & Datnow, 2009, p. 483). Individual case reports were developed for each school site and school system by focusing on how individuals in both formal and informal leadership roles viewed their positions. Finally, similarities and differences were identified between schools within a school system before conducting cross-site analysis. The research team provided a thorough description of the data analysis procedures for a clear understanding of how the team generated their findings.

The findings revealed four common themes that included (a) leaders and leadership practices that create and maintain a culture of continuous improvement, (b) building capacity through modeling and learning, (c) distributing decision making practices, and (d) distributing best practices through knowledge brokering (Park & Datnow, 2009, p. 483). Developing a culture of continuous improvement emerged when central office leaders and school level leaders used data-driven decision making in a way that allowed room for all stakeholders to learn from their mistakes. The data were presented in a non-evaluative manner in an effort to get buy-in from various staff members. The leaders were very careful to focus on the data and what the data revealed as opposed to placing blame on the individual teachers. The research team found that one requirement for using data effectively was developing a process where data were discussed openly without fear of repercussions (Park & Datnow, 2009, p. 484). One superintendent reported the importance of focusing on the fact that instructional strategies may not be working for a particular group of kids rather than making teachers feel like they are playing a game of "gotcha" (Park & Datnow, 2009, p. 484). The study revealed the importance of building a culture of mutual support and trust between the district leadership, school leadership, and teachers (Park & Datnow, 2009).

Professional development was a key factor in the schools to build capacity for data-driven decision making (Park & Datnow, 2009). District and school leaders led professional development sessions by modeling best practices in analyzing data and demonstrating how to have conversations around data. The conversations about data helped teams of teachers develop action plans for improved student achievement. The study revealed the importance of

establishing norms and rules for discussions about specific students. When teachers attended professional development opportunities off-site, they were expected to share the information with their colleagues. Through professional development sessions, capacity was being developed throughout the building for data-driven decision making. Eventually, data experts emerged throughout the various schools who became informal leaders in data-driven decision making for the schools. When specific teachers struggled with the use of data, individual support was offered to guide the teacher in using data. District and school leaders valued data-driven decision making by modeling expectations for data use and holding high expectations for the data use that in turn built capacity throughout the school (Park & Datnow, 2009, p. 486).

Another important finding was the power of distributed leadership when the school leadership teams were responsible for choosing and implementing instructional practices that would best serve their students (Park & Datnow, 2009, p. 487). While the district provided pacing guides and common assessments to gauge student progress, each school ultimately determined the best instructional practices for the students. Each school within the study had an established leadership team that facilitated the conversations around data and developed action plans based on data results. One principal shared that in order for data to be used to make improvements, teachers had to feel empowered about their own abilities to bring about change (Park & Datnow, 2009, p. 487).

The concept of knowledge brokering was found to be instrumental in data-driven decision making because it established time for teachers to learn from one another within and across schools (Park & Datnow, 2009, p. 488). The school leaders saw that teachers relied on each other for support and offered new instructional strategies through data talks. Collaboration time with teachers was identified as key to the success of data-driven decision making. If teachers were not given time to discuss the data, it was difficult for the teachers to find time on their own. The districts also found value in sharing data across the schools to strengthen connections and spread best practices across the schools. Teachers throughout the study expressed their desire to observe other schools and teachers to build their knowledge base and see how data conversations were conducted in other schools (Park & Datnow, 2009, p. 490).

Stumbling blocks identified through the study revealed the difficulty and struggle with nurturing and maintaining buy-in for data-driven decision making. Another concern identified was determining when to re-teach, how to re-teach, and whom to re-teach given the constraints

of the pacing guides (Park & Datnow, 2009, p. 490). Even though the schools examined were viewed as successes regarding data-driven decision making, they readily admitted that they experienced struggles and they were continually striving for better ways to use data in their schools thus embracing the philosophy of continuous improvement.

The study revealed that data-driven decision making is co-constructed by multiple members at the school and district levels (Park & Datnow, 2009, p. 491). Leaders at all levels established the vision for data-driven decision making in a positive manner of continuous improvement giving teachers the authority to develop and adjust instructional practices based on data. Both formal and informal leaders were instrumental in building human capacity by modeling and sharing knowledge among staff. This study clearly portrayed the power of distributed leadership in developing teachers' capacity for data-driven decision making.

Organizational Routines

Various researchers have discussed organizational routines throughout their work to foster data-driven cultures (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Spillane, 2012; Wohlstetter et al., 2008). The organizational routines standardize the instructional program within and across schools and classrooms making instruction more transparent and more easily monitored through the use of data (DuFour et al., 2004; Spillane, 2012). After analyzing the literature, common organizational routines emerged as best practices found in the research. Challenges for data-driven decision making were also identified from the research. Both are discussed in the sections that follow.

District level support, school leadership, curriculum alignment, common assessments, data warehouses, professional development, data analysis skills, professional learning communities, and school improvement plans emerged as the most common organizational routines across the literature. Other common organizational routines included assessment validity, procedures for instructional adjustments, data-driven culture, data accessibility, and trust. Challenges identified throughout the literature were lack of time for data analysis, lack of buy-in, limited knowledge about data use, lack of flexibility for altering instruction, and limited capacity for how to change instructional practices based upon the data. The literature base offered insight on improving data practices, but provided limited insights into the organizational routines and micro-processes of data-driven decision making at the school level. Table 2 depicts a comparison of the organizational routines identified by the studies.

Table 2

Comparison of Organizational Routines for Data-Driven Decision Making

Researchers	*Kerr, Marsh, Ikemoto, Darilek & Barney (2006)*	*Luo (2008)*	*Datnow, Park, and Wohlstetter (2007)*	*Wohlstetter, Datnow, & Park (2008)*	*Park & Datnow (2009)*	
	Organizational Routines					**Totals**
Organizational Routines Supports						
District Level Support	X	X	X	X	X	5
School Leadership	X	X	X	X	X	5
Trust			X	X	X	3
Organizational Routines						
Curriculum Alignment	X		X	X	X	4
Common Assessments	X		X	X	X	4
Data Warehouse	X	X	X	X	X	5
Data Accessibility	X	X	X			3
Professional Development	X		X	X	X	4
Data Analysis Skills	X	X		X	X	4
Professional Learning Communities		X	X	X	X	4
School Improvement Goals	X		X	X	X	4
Assessment Validity	X	X	X			3
Timeliness of Data	X		X			2
Structured Review of Student Work	X		X			2
Classroom Observation Protocol	X					1
Clear Communication				X		1
Possible Benefits of Organizational Routines						
Data-Driven Culture			X	X	X	3
Instructional Adjustments			X	X	X	3

The following sections detail the organizational routines identified three or more of the studies analyzed within the literature review. Common challenges to data-driven decision making identified in the literature review are also discussed.

Organizational Routines Supports

District Level Support

One key feature emphasized in the literature on data-driven decision making is the relationship between the school district leaders and the people within the schools (Datnow et al.,

2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). Successful schools have emerged through mutual accountability between the district and the school. It is important for the district leaders to establish a clear vision for data-driven decision making (Park & Datnow, 2009). Open dialogue between district leaders, school leaders, and teachers is critical in order to identify the root causes that lead to poor student achievement. It is important for district leaders to play a role of support, shared ownership, and problem solving to address the issues. By working together rather than in isolation, both entities can support each other in working toward the common goal of increased student achievement.

District leaders, school leaders, and teachers should work together to establish a culture of continuous improvement rather than one of blame (Park & Datnow, 2009; Wohlstetter, Datnow, & Park 2008). When the district leaders understand the challenges within a school, they can work to support and overcome the challenges. The district leaders can support struggling schools by making decisions that impact leadership and governance, culture, curriculum and instruction, policies, budgets, professional development, data, student supports, and scheduling (Kutash, Nico, Gorin, Rahmatullah, & Tallant, 2010, p. 18).

District level support was identified as a key factor in data-driven systems because the main responsibility of district leaders was to support schools and provide resources to schools while building a trusting relationship (Datnow et al., 2007, p. 29). Since data use and interpretations occur at various levels of the educational system, it is important for individuals at each level to interpret, understand, and share the information for appropriate use (Goren, 2012). Goren described data use as a "systems problem rather than just a school activity" (p. 235). The staffs from the district and schools should work together to develop a common understanding of what the data mean at the different levels and how the information translates to school improvement.

School Leadership

Another key factor in implementing organizational routines for data-driven decision making is an instructional leader at the school level. The principal should act as the instructional leader within the school to develop and nurture the culture of data-driven decision making (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). Data-driven decision making and instructional leadership go hand in hand (Creighton,

2007). Leadership training for effective data use is critical for leaders to be able to transform school cultures (Bambrick-Santoyo, 2010; Leithwood et al., 2010).

Bambrick-Santoyo (2012) wrote a book detailing the importance of leadership in data-driven decision making entitled *Leverage Leadership*. He explained leaders need to believe in the power of data-driven decision making to transform student achievement (Bambrick-Santoyo, 2012). Administrators need to model, guide, and facilitate how to use data to make instructional decisions in order for staff members to understand the practice of using data (Bambrick-Santoyo, 2012; Park & Datnow, 2009). School leaders need to be able to manipulate, analyze and interpret data so they can guide teachers through the examination of assessment results to identify the causes of both strengths and shortcomings. Kerr et al. (2006) also reported that principals who acted as initial catalysts for data inquiry but then worked to create more distributed leadership around data use were the most successful in data-driven decision making (p. 498-499). Kerr et al. (2006) found that strong school leadership was necessary for successful implementation of data-driven decision making (p. 498).

Trust

Trust emerged as the mutual accountability between districts and schools with all stakeholders working together to support student achievement (Datnow et al., 2007; Park & Datnow, 2009; Wohlstetter et al., 2008). District level support was identified as a key factor in data-driven systems because the main responsibility of district leaders was to support schools and provide resources to schools while building trusting relationships (Datnow et al., 2007, p. 29). Park and Datnow (2009) reported the importance of educators being able to openly discuss data results without the fear of consequences due to poor student achievement results. By establishing trusting relationships, teachers may be more willing to admit problems and ask for support to solve the issues the data revealed. Trust was identified as a vital component of support when leaders expect teachers to use data to drive instruction (Datnow et al., 2007; Park & Datnow, 2009; Wohlstetter et al., 2008).

Organizational Routines

Curriculum Alignment and Common Assessments

Curriculum alignment and common assessments are two organizational routines that facilitate data-driven decision making. One of the first steps in improving academic performance

within a district and/or school is the examination of curriculum alignment and common assessments (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). Instructional leaders need to understand curriculum, instruction, and assessments in order to link data analysis and student achievement (Creighton, 2007). The organizational routine of curricular standardization allows schools to use student achievement tests as measures of progress and guides in instructional decision making. By aligning the curriculum both vertically and horizontally within a district, all students will be expected to be at similar places in the curriculum at the same time facilitating the use of common assessments (Datnow et al., 2007). The common assessments establish a forum to discuss individual student performance and class performance facilitating dialogue for sharing curricular content and strategies to improve instruction.

Schmoker (2011) highlighted one school's efforts by detailing its enhancements to curriculum, instruction, and literacy as its top priority leading to impressive results on high stakes testing. He viewed the most crucial elements of a quality education as "coherent, content-rich curriculum, massive increases in reading, writing, and discussion across the curriculum" (Schmoker, 2011, p. 70). Datnow et al. (2007) explained, "Data-driven decision making was greatly facilitated when clear, grade-by-grade curricula were adopted system-wide, when high-quality materials were aligned to the curriculum, and when pacing guides clearly described the breadth and depth of content to be taught" (p. 23).

By establishing a well aligned curriculum, common assessments at both the district and school levels can be developed (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). By having common assessments, educational leaders can facilitate and organize professional conversations around data. The common assessments may include benchmark tests, weekly assessments, and norm-referenced assessments. If all teachers are using the same assessments, then a common language can emerge by sharing and comparing assessment results. Teachers can analyze test scores and look for patterns at the classroom, grade, school, and district levels (Wohlstetter et al., 2008).

Datnow et al. (2007) referred to summative assessments as "trailing data" and formative assessments as "leading data". The researchers reported, "Trailing data such as results of annual state tests, indicate effectiveness of past instructional practices, while leading data such as results from interim assessments, inform immediate instructional decisions" (Datnow et al., 2007, p.

35). They went on to suggest that system wide interim assessments aligned to standards are the most important data source for instructional decision making (Datnow et al., 2007, p. 35). Developing appropriate and well-aligned assessments has been identified as a major challenge for school divisions (Datnow et al., 2007, p. 37). Some school divisions develop the assessments within the system, while other divisions purchase assessments from vendors. Whatever decisions were made by the schools, the important factor was that data were constantly used to examine instructional practices and to determine intervention foci for students (Datnow et al., 2007, p. 39).

Data Warehouses and Data Accessibility

Data warehouses and data accessibility are organizational routines that can support teachers in fostering a data-driven culture (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). A number of private foundations have invested millions of dollars to encourage, support, and implement data systems (Coburn & Turner, 2012). Datnow et al. (2007) reported, "Investing in a user-friendly data management system is among the most important actions a school system can take in becoming more data-driven" (p. 31).

With the common assessments, teachers need a tool that expedites their time in analyzing test data rather than compiling the data. The data warehouse is a tool that gives teachers the opportunity to look at the data longitudinally and allows teachers to view multiple data sources at a glance (Creighton, 2007; Datnow et al., 2007). Furthermore, teachers can examine patterns that may explain the students' academic concern. By recognizing the problems, teachers can shift their time and energy into solving the problems at hand. Some data management tools can even identify students who need extra support, specify the areas of need, and track student progress. Coburn and Turner (2012) reported, "Districts across the country are investing in data systems to create enhanced access to data" (p. 99). As a result, teachers may gain quick and easy access to data results that is presented in a user friendly format to simplify the data disaggregation process.

Professional Development to Build Data Analysis Skills

Professional development is another organizational routine that requires district level support in data analysis (Datnow et al., 2007; Kerr et al., 2006; Park & Datnow, 2009; Wohlstetter et al., 2008). District leaders, school leaders, and teachers benefit from professional development because the result is increased capacity for data-driven decision making (Datnow et

al., 2007; Park & Datnow, 2009; Wohlstetter et al., 2008). Quality professional development is a necessity for changes to occur within schools. Berkeley (2012) viewed professional development as "the capacity of teachers to talk with one another about their craft, and the extent to which the adults in the building take collective responsibility for what happens" (p. 38).

Coburn and Turner (2012) suggested districts across the country are training teachers, principals, and district leaders about the importance of integrating data use and analysis in their common practice (p. 99). If leaders expect teachers to use data to drive their instructional decision making, they should offer training in data analysis. Teachers require professional development to support their understanding of the different data sets. Many districts support professional development in data by offering release time to guide teachers through the art of analyzing data (Park & Datnow, 2009). District and school leaders need to build data-driven decision making capacity across the system and within schools in order for educators to analyze the data (Datnow et al., 2007, p. 46). By developing data analysis skills, teachers may become more confident in using data to better adjust instructional practices.

Professional Learning Communities

Organizational routines such as instructional team meetings should be set aside for teamwork and collaboration (Wohlstetter et al., 2008). If teachers have the data warehouse to discuss the common assessments, they can discuss individual strengths and weaknesses. The teachers can share instructional lessons that support particular concepts. If the team sees patterns within a certain subject area such as mathematics, the team can brainstorm ways to overcome the problem. Coburn and Turner (2012) suggested, "Teachers and others interact with one another to interpret data, learn about their own practice, and make decisions about next steps" (p. 102). Teachers need to work together by supporting each other in their work to use data to make instructional decisions for all students (Datnow et al., 2007). Once teachers have an understanding of what the data mean, the district and school leaders should establish times for data analysis and opportunities to learn from one another (Datnow et al., 2007, p. 46).

The instructional meetings are sometimes referred to as professional learning communities because the organizational routine facilitates discussions to support the academic gains of all students through the practice of distributed leadership (Dufour, Dufour, Eaker, & Many, 2010; Maxwell, Huggins, & Scheurich, 2010; Park & Datnow, 2009). Dufour et al. (2010) defined a professional learning community as an "ongoing process in which educators work

collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the student they serve" (p. 11). The authors captured the philosophies that drive the work of professional learning communities as follows:

1. The purpose of our school is to ensure all students learn at high levels.
2. Helping all students learn requires a collaborative and collective effort.
3. To assess our effectiveness in helping all students learn we must focus on results – evidence of student learning- and use results to inform and improve our professional practice and respond to students who need intervention or enrichment. (Dufour et al. 2010, p. 14)

Professional learning communities employ the practices of distributed leadership that allow teachers to emerge as leaders that guide other team members along the data-driven journey. The Maxwell, Huggins, and Scheurich (2010) study on school turnaround described how professional learning communities gave teachers the opportunity to reflect on their practices and change their instructional techniques to improve learning for all students. The qualitative study shared the story of a successful school turnaround effort in a diverse rural high school. The study's data were collected in 13 face-to-face interviews with participants selected by snowball sampling. Field notes were kept to document their findings. The research study identified the PLC as one of the most effective pieces of the improvement puzzle. The authors concluded that the PLC made the difference in the school improvement journey because professional learning communities evolved so that everyone became a vital part of the team to increase academic excellence.

School Improvement Goals

The organizational routine of developing and implementing school improvement goals for continuous improvement was a recurring theme within the studies reviewed (Datnow et al., 2007; Kerr et al., 2006; Park & Datnow, 2009; Wohlstetter et al., 2008). Wohlstetter et al. (2008) found that establishing meaningful and challenging goals for student performance was a precondition for effective data-driven decision making (p. 246). Little's (2012) research also supported the importance of clearly defining the purpose of data analysis to guide action. Action plans for improvement provided stakeholders with vision, clarity of purpose, and a common goal for data-driven decision making (Kerr et al., 2006). The goal setting was a critical first step in the

process of continuous improvement through data-driven decision making (Wohlstetter et al., 2008, p. 246).

Federal and state accountability pressures were also identified as an incentive that prompted some districts and schools to use data (Kerr et al., 2006). Some states like the Commonwealth of Virginia incorporate the use of data as a requirement for schools in improvement. The use of data can also be found in individual school improvement plans required for local school districts as well as school improvement plans required by the states. School improvement goals were found to be a key organizational routine for data-driven decision making (Datnow et al., 2007; Kerr et al., 2006; Park & Datnow, 2009; Wohlstetter et al., 2008). The school improvement goals provided a clear direction for the use of data from the district, school, and classroom level to improve student achievement.

Assessment Validity

Another organizational routine that impacted the use of assessment data was the validity and reliability of the assessment measures (Kerr et al., 2006; Luo, 2008; Datnow et al., 2007). It is important for the teachers to trust the assessment measures if the expectation is established to analyze and use the data (Kerr et al., 2006). Luo (2008) found that principals were more likely to use data when they believed the data source was credible and reliable (p. 629). Luo (2008) encouraged school leaders to develop validation processes, procedures, and definitions to deliver reliable data teachers would trust (p. 629). The validity of the assessments impacted teacher buy-in and data use (Kerr et al., 2006). If teachers do not perceive assessments to be valid and reliable, they will look for alternative sources to inform their practice (Kerr, et al., 2006, p. 513). Therefore it is vital for districts and schools to develop organizational routines to select assessments that provide valid and reliable information to support optimal data use.

Possible Benefits of Organizational Routines

Instructional Adjustments

When organizational routines are successfully implemented, then school personnel may be able to adjust instructional practices based on data results and use the data to assist teachers in making instructional decisions to increase student achievement. When teachers can recognize the power of data in tracking progress, teachers can then use the information to guide their instruction (Leithwood et al. 2010). Data-driven decision making requires coordination and

ownership among all stakeholders including the parent, the student, the classroom teacher, and resource teachers. Goren (2012) compared the roles of a doctor and a teacher by demonstrating the importance of data-driven decision making based upon the individual's "expertise, content knowledge and craft knowledge accumulated from practice and experience" (p. 234). Data alone do not promise student growth (Goren, 2012).

Once instructional weaknesses are identified through data analysis, strategic interventions should be developed to accelerate student growth. Once the interventions are put into place, progress monitoring should be conducted to see if the intervention is working (Leithwood et al., 2010). If it is not, the team should be willing to adjust instructional delivery methods and materials as necessary. One quantitative study emphasized the fact that teachers are in the best position to identify, develop, and implement intervention strategies based on student data (Wohlstetter et al., 2008). Student data should be analyzed to measure progress toward learning goals. Teachers need to feel empowered to take the time to adjust instruction based on the results of student data for increased student achievement.

Data-Driven Culture

Once organizational structures such as district level support, school leadership, curriculum alignment, common assessments, data warehouses, professional development, data analysis skills, professional learning communities, and school improvement plans are established, a data-driven culture can flourish (Datnow et al., 2007). A data-driven culture is cultivated to create an environment in which data-driven instruction can survive and thrive (Bambrick-Santoyo, 2010). By working together, districts and schools develop a culture that supports data-driven decision making (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Maxwell, et al., 2009; Park & Datnow, 2009; Wohlstetter et al., 2008). In a data-driven culture, district leaders work with school leaders and teachers to build a commitment for continuous improvement (Datnow et al., 2007). Ultimately, district level and school level professional conversations evolve into a data-driven culture that may influence both classroom and intervention instruction.

Challenges to Data-Driven Decision Making

While the literature supports the use of data in influencing instruction, the challenges in data analysis were clearly identified as well (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008;

Maxwell et al., 2009; Park & Datnow, 2009; Wohlstetter et al., 2008). In today's educational world, schools are overwhelmed with data. As a result, educators are confused about what the data actually portrays. Data analysis takes time which is difficult to find in the already packed school day. Finding the necessary time to devote to data analysis is a common stumbling block (Kerr et al., 2006).

Many teachers demonstrate fear of what the data might reveal about their own teaching practices. Data-based decision making takes away the teachers' personal judgments by depending on scores instead. Furthermore, many teachers lack the expertise and knowledge in changing instructional practices when the data reveal problems (Datnow et al., 2007; Kerr et al., 2006; Wohlstetter et al., 2008). Many of these challenges may be overcome when districts and schools work together to create a plan for the use of data and professional development to support the practice.

Another common theme found in the research was the teachers' frustration with the amount of instructional time taken away from instruction while testing excessively (Kerr et al., 2006). Teachers also felt they lacked flexibility to alter instruction based upon results because of the strict pacing guides (Kerr et al., 2006; Wohlstetter et al., 2008). Teachers also struggled with finding the time to re-teach identified concepts, how to re-teach the material, and identifying a person to re-teach the content (Park & Datnow, 2009). Even districts that were identified as using data effectively continue to search for ways to improve data use within their systems.

Data-driven decision making is a complex and complicated process. While it is easy to identify the barriers to data-driven decision making, it is sometimes more difficult to overcome the challenges. Nevertheless, identifying the problem is the first step to solving the problem. By working together with district leaders, school leaders, teachers, and parents, many of the challenges may be addressed. Further research may support solutions to common stumbling blocks of data-driven decision making.

Summary

The literature reviewed and analyzed included both qualitative and quantitative studies that focused on data use in public schools. Despite the intense focus on data in education, empirical studies are scarce especially studies from the principals' perspective (Luo, 2008). Numerous quantitative studies have been conducted using surveys from the perspectives of teachers. However, the surveys have not been able to pinpoint the complexities of human

interactions that create changes in the use of data (Little, 2012; Spillane, 2012). Qualitative studies depending on interviews have been helpful but lack the ability to pinpoint reoccurring practices that evoke changes in data analysis. Continued research is necessary to study how leaders facilitate the use of data in school improvement to influence classroom and intervention instruction in the workplace. Goren (2012) stated, “Our understanding of how data lead to improvement in education is tremendously underdeveloped” (p. 234).

The literature suggests the need for in-depth case studies examining how school leaders establish, facilitate, and implement the organizational routines of data-driven decision making at the microlevel to assist teachers in adjusting instructional practices to transform student achievement (Little, 2012; Moss, 2012; Spillane, 2012). School leaders across the country are being told to use data to drive instruction, but little empirical research is available detailing the process at the microlevel.

The descriptive case-study of Crestwood Primary School located in rural Southwest Virginia offers insight into how organizational routines for data-driven decision making influenced classroom and intervention instruction. The staff of Crestwood Primary School has been in what may be a unique position because of their simultaneous involvement in Response to Intervention (RTI), School Improvement, and School Turnaround initiatives. The commonality among the initiatives was organizational routines for data-driven decision making to influence instruction.

CHAPTER 3
METHODOLOGY

Introduction

A descriptive case study methodology was utilized to investigate how organizational routines influenced classroom and intervention instruction in a primary school facing the macrolevel pressures of school improvement. The particular phenomenon the researcher investigated was how the organizational routines for data-driven decision making influenced classroom and intervention instruction at Crestwood Primary School. Specifically, the study attempted to

a. Identify the organizational routines that were implemented in the school,
b. Examine how and why certain organizational routines facilitated the use of data to influence instruction in the school,
c. Identify challenges to implementation of organizational routines in the school, and
d. Identify any unexpected outcomes of the implementation of organizational routines in the school.

Bassey (1999) described educational research as "critical inquiry aimed at informing educational judgments and decisions in order to improve educational action" (p. 39). A descriptive case study was utilized so the researcher could tell a story from the viewpoint of the participants in a natural setting in an effort to inform educational judgments and decisions to improve practices related to data-driven decision making (Roberts, 2010, p. 145). The following questions guided the proposed research study:

1. What organizational routines for data-driven decision making were implemented to influence classroom and intervention instruction?
2. How did the organizational routines influence classroom and intervention instruction? Why?
3. How did the organizational routines facilitate the use of data to influence instruction?
4. What were the challenges to the implementation of organizational routines within the school for data-driven decision making?

5. What were the unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction?

A research question/data source matrix was developed by the researcher to crosscheck the alignment of the specific research questions with the data sources employed in the study: survey questions, individual interview questions, focus group interview questions, and document analysis (see Appendix A). The research question/data source matrix supported the triangulation and question development for the various data sources to answer the specific research questions.

Research Design

A descriptive case study with a single case design was employed for the study. Yin (1994) explained that case studies are beneficial when "how" questions are being asked about a situation such as data-driven decision making. Yin (1994) also emphasized that case studies arise out of the desire to understand complex social phenomena (p. 3). Rossman and Rallis (2012) portrayed a case study as a report filled with rich description that "illustrates the complexities of a situation, depicts how the passage of time has shaped events, provides vivid material, and present differing perspectives or opinions" (p. 103).

Yin (1994) described the unique strength of a case study's research design as its ability to deal with a full variety of evidence that include documents, artifacts, interviews, and observations (p. 8). Yin (1994) described the case study inquiry as dealing with more variables of interest than data points relying on multiple sources of evidence with data needing to converge in a triangulating fashion (p. 13). Yin (1994) also portrayed case study research as an "all-encompassing method" that "is not either a data collection tactic or merely a design feature alone but a comprehensive research strategy" (p. 13). The case study examines how the organizational routines influenced classroom and intervention instruction within the real life context in which it occurred (Yin, 1994). By analyzing and combining the multiple data sources, common themes emerged detailing the staff's experiences (Rossman & Rallis, 2012, p. 104).

The researcher came to this study from a constructivist perspective. The researcher believes that meaning is socially constructed. Therefore, the researcher constructed meaning by listening to educators in the field who have knowledge and experience with data-driven decision making. The data for the study were gathered through the use of surveys, interviews, focus group

interviews, and document analysis. The data sources reflected the experiences of the assistant principal, school improvement coach, reading specialist, and teachers to detail how the organizational routines for data-driven decision making influenced classroom and intervention instruction. The case study produced rich illustrations and descriptions of the events, processes and perspectives detailing how the phenomenon of organizational routines influenced instruction (Bassey, 1999; McMillan & Wergin, 2010; Rossman & Rallis, 2012; Yin, 1994).

Study Approval Process

The following steps were followed to obtain permission for the study.

1. The researcher successfully completed the Virginia Tech Institutional Review Board (IRB) training. The IRB Certificate is included as Appendix B.
2. The researcher completed an IRB Research Protocol and obtained permission to conduct the study from the Virginia Tech Institutional Review Board (see Appendix C).
3. A letter was submitted to the division superintendent requesting permission to conduct the study at Crestwood Primary School. The letter described the purpose of the study and explained the data collection process (see Appendix D). A follow-up meeting was offered to discuss any questions or concerns regarding the study. Verbal permission to conduct the study was granted February 26, 2014. Subsequently, written permission was obtained (see Appendix E).

Study Site

A purposive and convenience sample was used to identify a school that met specific criteria in an effort to select individuals, sites, and documents that would be most informative to the researcher (McMillan & Wergin, 2010, p. 90). The selected school met the following criteria:

1. The school identified was in school improvement because the school did not meet the specified targets in reading to make Adequate Yearly Progress.
2. The school participated in the original Response-to-Intervention (RTI) Initiative in the state of Virginia.
3. The school participated in a school turnaround initiative.

The rationale for the criteria selection reflected a variety of the macrolevel demands from the federal and state mandates placed upon schools due to the accountability movement. The various initiatives also suggested the importance of using data to make instructional decisions. Therefore, the data gathered from the school leaders and teachers who served in a school meeting the selection criteria was insightful into the organizational routines within one school that influenced instruction through data-driven decision making.

The selected school is located in a small town of Southwest Virginia with a population of approximately 6,350. The pseudonym, Crestwood Primary School, was used to identify the school throughout the study. The enrollment at the school during the period under study ranged between 460 – 485 students. Approximately 65% of the students received free or reduced-priced meals. The school population was predominately White with only 6% of the children coming from minority groups that included African American, Asians, Hispanic, and Native American groups. Approximately 20% of the students received special education services through a continuum of services that ranged from inclusion to a self-contained model. The school provided the self-contained center based services for students with disabilities that ranged from ages 2 to 8 years old for the entire division. Of these students, 8% of the students received speech services only.

The school description that follows was obtained from the 2012 School Improvement Plan. The school served students in pre-kindergarten through Grade 2. The school's staff consisted of a principal, an assistant principal, an office manager, one office assistant, three custodians, a cafeteria manager, four cafeteria assistants, a part-time nurse, a part-time school improvement coach, a reading specialist, a librarian, a guidance counselor, a physical education teacher, a part-time music teacher, a part-time art teacher, and a part-time technology resource teacher. The school had an instructional staff of 24 classroom teachers, three special education inclusion teachers, one full-time and one part-time speech teacher, five Title I teachers, two self-contained special-education teachers, and 15 instructional assistants. All the teachers had bachelor's degrees and 45% of the teachers had master's degrees.

The school was selected as a Response to Intervention (RtI) Pilot Site for the state of Virginia in 2008. School personnel attended extensive state trainings about RtI and implemented many of the practices. The school was fully accredited but did not meet the requirements for

Adequate Yearly Progress starting in year 2008. Therefore, the school faced many macrolevel demands from the federal, state, and local levels in the form of school improvement.

Participant Selection and Informed Consent

Staff members who worked a minimum of two years at Crestwood Primary School between the years 2009-2013 were invited to participate in the study. Thirty-three staff members met the criteria for participation which included one assistant principal, 20 classroom teachers, a guidance counselor, a librarian, a physical education teacher, four special education teachers, three title teachers, one school improvement coach, and one reading specialist. Teaching assistants were excluded from the participation selection because of the various roles the assistants served throughout the building ranging from instructional tasks to student support within the self-contained classrooms.

After obtaining approval from the division superintendent, a letter was emailed to the teachers who met the criteria for participation in the study. The letter and follow-up emails detailing the study were sent to the potential respondents in an effort to build trust and encourage participation (see Appendices F, G, & H). Informed consent to participate in the online survey was included as a part of the survey itself. The identified staff members were also invited to participate in either individual or focus group interviews. Before the interviews, the study was explained and verbal consent was obtained from each interview participant. The researcher also shared a brief presentation to the entire staff explaining their potential role in the study to help them understand the benefits of their responses to the survey, interviews, and focus group interviews. During the presentation, the researcher also explained that participation in the study was strictly voluntary and study participants could withdraw anytime from the research study without penalty or fear of future repercussions.

Data Collection

Data for the study were collected from four sources. The first data source was a survey. A survey was developed for staff members to identify the organizational routines that were implemented for data-driven decision making. The second and third data sources were individual and focus group interviews. The survey responses were used to guide the development of the specific interview questions for the individual and focus group interviews. Interview protocols

were developed for potential questions, but were refined after the survey responses were completed. The individual and focus group interviews provided specific details explaining how and why specific organizational routines influenced classroom and intervention instruction. The fourth data source was the analysis of documents. The researcher asked the participants to suggest documents that supported and limited their use of data to influence their classroom and intervention instruction through the survey and interview questions. The document analysis provided evidence of how the organizational routines influenced instruction.

The researcher collected the data through the survey, individual interviews, focus group interviews and document analysis during the spring and summer of 2014. The researcher solicited the support of a trained research assistant, Dr. Kyle Rhodes, to conduct the interviews in an effort to limit researcher bias since the researcher served as some of the participants' direct supervisor. Dr. Rhodes has experience in conducting both individual and focus group interviews. The interviews were digitally recorded by the research assistant and submitted electronically to Synergy Transcription Services where they were transcribed. The transcripts were returned to the researcher for analysis and coding. The recordings were destroyed once the research study was completed. The recordings were transcribed using Microsoft Word and were stored on both a portable device as well as an electronic file for coding. The documents were stored in a locked filing cabinet for security purposes. Once the research study is complete, the recordings and transcripts will be destroyed to protect the anonymity of the participants.

Content Validity Checks and Field Tests

Field testing and content validity checks for the survey and interview protocols took place during February 2014 following IRB approval. Markus and Smith (2010) refer to content validity as a method to assess the quality of the items on a test (p. 239). Fraenkel, Wallen, and Hyun (2015) refer to content–related evidence of validity as a way to determine "if the content that the instrument contains is an adequate sample of the domain of content it is supposed to represent" as well as the clarity of the format of the instrument (p. 151). The researcher asked two experienced educational leaders who worked with schools in improvement to use the content validity instruments to assess the clarity and neutrality of the survey and interview questions for both the individual and focus group interview protocols (see Appendices I, J, & K).

The content validity instruments assisted the researcher in determining whether the questions made sense and if appropriate questions were being asked to answer the research questions. The researcher reviewed the recommendations revealed through the validity instruments and refined the interview questions for content, clarity, and neutrality. The ratings indicated clear and neutral questions for the survey. The content validity checks identified one interview question that needed to be reworded to make the question more neutral.

Following the content validity process, the survey and interview protocols were field tested during February 2014 with two educators. The educators were a non-random, purposeful sample, specifically selected because of their involvement in similar school improvement initiatives in other schools that relied heavily on data-driven decision making. The field tests provided insight into the logistics of administering the survey and tested the Qualtrics program for technical issues that may have arisen with the survey. After minor changes were made to the wording of the survey instrument, the survey was administered during the spring of 2014. A copy of the final survey appears as Appendix L.

The field-test interview experience provided insight into the logistics of conducting the interviews, information gained from the questions, and the timeframe for the interviews. The field test experience also gave the research assistant the chance to practice interview skills such as listening, asking open-ended questions, and requesting additional details. The researcher was present during the field test interviews to gather information to improve the interview experience for everyone involved. The data from the field test interviews were coded to determine if the data summary form supported data analysis (see Appendix M). The field test interviews revealed the need to simplify the wording of the questions by reducing the length and cognitive load of the questions. Once necessary changes were made to the interview protocol and data summary form, then individual and focus group interviews were conducted during spring of 2014 using the interview protocol scripts (see Appendices N & O).

Data Source - Survey

The researcher developed a web-based survey to capture the organizational routines that were implemented for data-driven decision making to influence classroom and intervention instruction. The web-based survey was developed using Qualtrics, LLC, software. The Qualtrics, LLC, software was purchased by Virginia Tech as a tool to support survey design,

administration, collection, analysis, and secure storage of survey data (see Appendix L). The web-based instrument was important because it provided anonymity to the respondents in an effort to obtain open and honest responses.

The survey was an alternative to the standard face-to-face interview to obtain information from the staff. Bassey (1999) described the survey as a successful strategy if the setting is one in which the researcher and respondent know each other (p. 82). Given the close connection between the researcher and the respondents, the survey was used as an alternative to individual interviews. The survey responses offered an added perspective to the case study design by gathering information such as frequencies, percentages, averages, and other statistical information of the data collected from the teachers' perspectives regarding the specific organizational routines implemented (McMillan & Wergin, 2010).

The development of the research survey followed Dillman's Tailored Design in an effort to obtain quality information for coding the data to pinpoint the specific organizational routines implemented for data-driven decision making to influence instruction. Dillman (2000) defined Tailored Design as "the development of survey procedures that create respondent trust and perceptions of increased rewards and reduced costs for being a respondent, which take into account features of the survey situation and have as their goal the overall reduction of error" (p. 27). According to Dillman (2000), self-administered questionnaires have grown substantially because of the information age technologies (p. 7). Dillman's Tailored Design (2000) takes into account the causes of survey error and the reasons behind the respondent's behavior (p. 9).

Dillman (2000) viewed responding to a survey as a social exchange. The social exchange relies on a theory of human behavior used to explain the development and continuum of human interaction (p. 14). According to Dillman (2000), "The likelihood of responding to the request to complete a self-administered questionnaire, and doing so accurately, is greater when the respondent trusts that the expected rewards of responding will outweigh the anticipated costs" (p. 27). Dillman (2000) reported, "People are seen as more likely to complete and return self-administered questionnaires if they trust that the rewards of doing so will, in the long run, outweigh the costs they expect to incur" (p. 26).

The researcher carefully selected the language in the survey in an effort to provide natural rewards by regarding the participants positively, thanking the participants, making the questionnaire interesting, and letting them know their knowledge and experience is a valuable

learning tool for others (Dillman, 2000). The researcher attempted to reduce social costs by avoiding subordinate language, avoiding embarrassment, minimizing requests to obtain personal information, and making the questionnaire appear to be short and easy (Dillman, 2000). The researcher also attempted to build trust with the respondents by detailing the importance of the task and the information gained from the study (Dillman, 2000).

Dillman (2000) summarized the Tailored Design by describing the design as an attempt "to identify and utilize knowledge of sponsorship, the survey population, and the nature of the survey situation in an effort to maximize quality and quantity of response" (p. 26). By utilizing the Tailored Design, the researcher attempted to develop a survey that maximized the quality and quantity of responses from the staff of the selected school to detail what organizational routines influenced classroom and intervention instruction.

The researcher developed a 10-question survey that was emailed to 33 staff members in March 2014 in an effort to gather information about what organizational routines influenced classroom and intervention instruction. A follow-up email was sent to the teachers two weeks after the initial email as a reminder for completion (see Appendix H). The survey also revealed information about common challenges and unexpected outcomes from the implementation of organizational routines. The survey requested information from the respondents about specific documents that teachers used to influence instruction that will be analyzed further through document analysis. The survey responses guided the development of the specific interview questions that were posed during the individual and focus group interviews.

Data Source – Individual and Focus Group Interviews

Both individual and focus group interviews were conducted as a part of the proposed research study. The interview questions were designed to elicit responses from the interviewees about why and how certain organizational routines influenced their classroom and intervention instruction. Both individual and focus group interviews were used to gather information from the leadership perspective and the teacher perspective.

Seidman (2013) explained the power of interviews because the responses reflect other people's stories and their "stories are a way of knowing" (p. 7). The interviews gave members of the staff an opportunity to "select details of their experience from their stream of consciousness" (Seidman, 2013, p. 7). The researcher expected the interview responses to offer descriptive

details and elaboration that may minimize the gaps of information that were not be revealed from the survey responses. Seidman (2013) explained that telling stories is a meaning making process (p. 7). The interviewees were given the opportunity to detail how organizational routines for data-driven decision making influenced classroom and intervention instruction. Rossman and Rallis (2012) described the benefits of focus group interviews as the interaction among the participants generating new understandings and explanations about a specific topic (p. 189). Seidman (2013) stated, "The goal of the process is to understand how our participants understand and make meaning of their experience" (p. 27). The researcher strived to make meaning from the stories revealed through the interviews.

The research assistant invited the assistant principal, the school improvement coach, and the reading coach to participate in individual interviews (see Appendix P). The researcher developed interview protocols for three members of the leadership team in an effort to capture information from the leadership perspective (see Appendix N). The individual interviews reflected the perspectives of a sampling of the leadership team during the implementation of organizational routines in an effort to capture the school wide perspective.

The research assistant invited three groups comprised of teachers to participate in focus group interviews to provide information from the teacher's perspectives (see Appendix Q). One focus group represented teachers who were currently working in another school who were not under the direct supervision of the researcher, but met the criteria for participation. Two focus groups included teachers who continued to work under the direct supervision of the researcher. Interview protocols were developed for the three focus groups and were refined after analyzing the survey results (see Appendix O). The focus groups gave the teachers more support in an effort to obtain a clearer picture from a variety of perspectives that provided more specific details and examples that were not revealed from the survey.

The researcher utilized the research assistant, Dr. Rhodes, to conduct the interviews in an effort to encourage open and honest dialogue from the interview participants and to minimize researcher bias. The researcher was not present during the interview process. The interviews were digitally recorded so the information could be transcribed by Synergy Transcription Services. Once the interviews were transcribed, the research assistant emailed the transcriptions to the interview participants for member checks. McMillan and Wergin (2010) define member checking as "submitting notes to informants to ensure that their perspectives have been recorded

accurately" (p. 92). The member checks revealed minor changes to the transcriptions related to dialects and inaudible words. The participants emailed the comments to the research assistant and/or submitted the comments in writing to the research assistant and/or researcher. The digital recordings were stored in a locked and secure place until the study was complete. After the research study was completed, the digital recordings were destroyed to protect the anonymity of the participants.

No participant objected to the interview protocols. If a participant had concerns about taking part in the study, the researcher would have explored ways to accommodate the participant. If a participant did not want to be digitally recorded, the research assistant would have been responsible for taking field notes to capture the interview responses. If a participant did not want to be a part of a focus group interview, but was willing to participate in an individual interview, the researcher would have attempted to make arrangements to accommodate the participants. The researcher strived for at least 20 participants to contribute to the study.

Data Source – Document Analysis

The researcher analyzed documents and artifacts that provided evidence of what and how organizational routines influenced classroom and intervention instruction. The researcher solicited information from the participants through both the survey instrument and interviews regarding important documents that identified and supported organizational routines for data-driven decision making to influence classroom and intervention instruction. The documents most often identified by the participants were the curriculum frameworks, the literacy plan, the numeracy plan, and the acceleration plans. Yin (1994) stated, "For case studies, the most important use of documents is to corroborate and augment evidence from other sources" (p. 81). The document analysis provided evidence to support which organizational routines were established, why they were important, and how the organizational routines influenced classroom and intervention instruction. The documents for the study provided other specific details to corroborate information from the survey and interviews. Pertinent documents were collected and analyzed during the summer of 2014.

Validating the Findings

The researcher depended on the triangulation of data sources to develop credibility for research findings. McMillan and Wergin (2010) define triangulation as "the use of different data sources, time periods, and data collection methods that result in similar findings" (p. 91). The researcher coded the survey results, interviews, and document analysis with the data summary matrix relating to specific organizational routines in an effort to identify emerging themes from the various data sources (see Appendix M). Next, the researcher examined the various data sources within the data summary form. The data summary form assisted the researcher in comparing the data from the individual interviews, focus group interviews, survey, and document analysis by cross-checking the specific categories that revealed the specific categories that supported the triangulation of data sources. Triangulation of the data was especially critical in the research study in an effort to minimize the researcher's personal bias within the study.

Data Analysis

The researcher developed a data summary form to analyze the survey results, individual interviews, focus group interviews, and documents (see Appendix M). The data summary form was a tool to help the researcher organize and categorize the information into the various organizational routines. The data summary form reflected both etic and emic categories for coding the data. Rossman and Rallis (2012) refer to the etic view as the researcher's view that is developed through studying related literature and research on an identified topic that results in analyst-constructed categories (p. 278). The etic categories deducted from the literature detailing the organizational routines include curriculum alignment, common assessments, data warehouses, professional development, and professional learning communities. Rossman and Rallis (2012) refer to the emic view as the indigenous categories that emerge from the words of the participants (p. 277). The researcher was open to new categories that were not initially included in the matrix. Forty-one emic categories emerged from the participants in the areas of unexpected outcomes and challenges (see Appendices M & R).

The researcher coded the data according to organizational routines. Rossman and Rallis (2012) define the coding process as the "formal representation of analytic thinking" (p. 282). After the data were coded, the matrix was analyzed to identify common themes (Bassey, 1999; Rossman & Rallis, 2012; Yin, 1994). Rossman and Rallis (2012) define themes as "linkages,

patterns, processes, and possible explanations" that begin to appear within and across categories (p. 277). The interview transcriptions were coded two times in an effort to refine the categories and to identify common themes. The coding was conducted using a word processor with identifiable codes in the margins. The specific codes are included in Appendices M and R. Next, the codes were transferred to the data summary form depicting the categories along with the data source evidence (see Appendix R). After the data were collected, the researcher organized and coded the data by research question in an effort to depict the story of data-driven decision making to influence instruction (see Appendix S).

Finally, the data sources were interpreted to detail the story of the staff's experience with organizational routines for data-driven decision making to influence classroom and intervention instruction (Rossman & Rallis, 2012). The interpretive process followed the "hermeneutic circle" by analyzing the parts in order to see the whole (Rossman & Rallis, 2012, p. 285). The goal of the researcher was to tell the story detailing how organizational routines for data-driven decision making influenced instruction while connecting the participants, events, and experiences to the larger macrolevel phenomena of school improvement (Rossman & Rallis, 2012). Due to the researcher's personal involvement in the study, the researcher needed to be "careful to suspend [her] way of describing and use the participant's language, terms, and phrases to illustrate shared meanings of consciousness" (McMillan & Wergin, 2010, p. 90).

The researcher coded the survey, interview, and document analysis data into specific organizational routines that were revealed through the literature review to include (a) curriculum alignment, (b) common assessments, (c) data warehouse, (d) professional development, (e) professional learning communities, and other categories revealed through the study. Challenges that were revealed through the literature review were coded as (a) time, (b) loss of instructional time due to testing, (c) loss of teacher's personal judgment, and other categories that were revealed through the study. The researcher was open to new categories when they emerged through the interview process.

Limitations

The major limitation within the study was the researcher's personal involvement as the school principal before and during the study that could have potentially led to personal bias. The researcher attempted to limit personal bias through efforts such as anonymous responses,

bracketing, and member checks (McMillan & Wergin, 2010, p. 91-92). The anonymous responses to the surveys were important so the respondents could feel free to share their honest viewpoint without fear of personal judgment. The researcher also trained an expert to conduct the interviews so the participants were able to speak freely about their experiences without fear of personal judgment. The researcher was not present during the actual interview process. Synergy Transcription Services transcribed the interviews so the responses would not be identifiable to the researcher. Member checks were used with the focus group and individual interviewees by sharing the transcribed interviews with the participants "to ensure their perspectives have been recorded accurately" (McMillan & Wergin, 2010, p. 92).

McMillan and Wergin (2010) describe bracketing as the way in which a researcher positions themselves (p. 91). Through bracketing, the researcher included her experience as a teacher and administrator that may influence how the data were interpreted. The researcher has experience as a classroom teacher in grades 2, 3, 5, 6, and 7. The researcher understood the demands placed upon teachers especially in testing grades. The researcher has also served as an assistant principal and principal over the past 12 years and has personally experienced the macro and microlevel demands placed upon educators within the world of accountability. While the researcher attempted to limit personal bias throughout the study, the researcher maintained a researcher's log to document personal thoughts and feelings throughout the research study. The researcher's personal perspectives will be reserved for Chapter 5.

The study sample was limited by the willingness of the respondents to participate in the study. The data were collected in the form of survey responses, interviews, and document analysis from the staff and may have been limited by the participants' honesty and willingness to share their true feelings. Another limitation of the study is the inability to generalize the findings to a larger population (Bassey, 1999; McMillan & Wergin, 2010; Rossman & Rallis, 2012; Yin, 1994). The study described how one instructional team used organizational routines for data-driven decision making to influence classroom and intervention instruction. While the study cannot be generalized, the findings may be transferable to other school settings in similar circumstances.

Chapter Summary

Chapter 3 included descriptions of the research design, population and sample, school characteristics, study approval process, data sources, data collection procedures, data analysis

procedures, the validation process, and limitations of the study. This study was designed to explore the experiences of the assistant principal, school improvement coach, reading specialist, and teachers regarding how organizational routines for data-driven decision making influenced classroom and intervention instruction. Carefully designed and tested instruments used for gathering the data regarding the perceptions of the sample provided a better understanding of the variables that influenced data-driven decision making. Examining the data from the survey responses, interviews, and document analysis resulted in a descriptive case study that detailed the phenomenon of organizational routines for data-driven decision making to influence classroom and intervention instruction.

CHAPTER 4
RESEARCH RESULTS

Introduction

A descriptive case study methodology was utilized to examine how organizational routines for data-driven decision making influenced classroom and intervention instruction while facing the macrolevel pressures of school improvement. The particular phenomenon the researcher investigated was how the organizational routines for data-driven decision making influenced classroom and intervention instruction in Crestwood Primary School. Specifically, the study was designed to:

a. Identify the organizational routines that were implemented in the school,
b. Examine how and why certain organizational routines facilitated the use of data to influence instruction in the school,
c. Identify challenges to implementation of organizational routines in the school, and
d. Identify any unexpected outcomes of the implementation of organizational routines in the school.

The research data were collected through four sources that included a Qualtrics survey, focus group interviews, individual interviews, and document analysis. A survey was developed for staff members to anonymously identify the organizational routines that were implemented for data-driven decision making. The second and third data sources were individual and focus group interviews. The survey responses were used to guide the development of the specific interview questions for the individual and focus group interviews. Interview protocols were refined after the survey responses were completed. The individual and focus group interviews were designed to provide specific details explaining how and why specific organizational routines influenced classroom and intervention instruction.

The fourth data source was the analysis of documents. The researcher asked the study participants to suggest documents that supported and limited their use of data to influence their classroom and intervention instruction through the survey and interview questions. The document analysis provided evidence of how the organizational routines influenced instruction.

After the data were collected, the researcher organized and coded the data by research question. A research question/data source matrix was developed and utilized by the researcher to

crosscheck the alignment of the research questions with the survey questions, individual interview questions, focus group interview questions, and documents identified by the participants for analysis. The descriptive data were designed to detail the participants' experiences with data-driven decision making. The researcher analyzed the coded units of data by research question. The coded information was transferred to the data summary form that confirmed the triangulation of data from the survey, focus group interviews, individual interviews, and document analysis (see Appendix R).

Data sources are referenced throughout the chapter using codes that identify the type of source. Data references are initially identified with a letter S for survey, F for transcript of a focus group interview, L for transcript of a leadership interview, and D for document analysis. The letter is followed by a number representing the specific transcript interview for the leadership and focus group interviews. Letters follow the D for document analysis to reflect the particular document: curriculum map (CM), literacy plan (LP), numeracy plan (NP), or acceleration plan (AP). Each identifier includes a hyphen followed by a number. The number indicates the specific comment referenced. For example, the code (L1-5) represents Leadership Interview 1, Comment 5 and (DCM – 1 & 2) represents document analysis curriculum map, Comments 1 and 2. The data summary forms and responses coded by question are included in the appendices for additional information as well as specific references (Appendices R & S).

Study Participants

Staff members who worked a minimum of two years between the years 2009-2013 were invited to participate in the study. Thirty-three staff members who met the criteria for participation were invited to participate including one assistant principal, 20 classroom teachers, a guidance counselor, a librarian, a physical education teacher, four special education teachers, three title teachers, one school improvement coach, and one reading specialist. Twenty-one out of the 33 eligible participants completed and submitted the Qualtrics survey demonstrating a 64% response rate. The focus groups had six participants in each of the three sessions totaling 18 participants reflecting the viewpoints of the teachers. The assistant principal, school improvement coach, and reading specialist participated in the individual interviews reflecting the leadership perspectives. The researcher was pleased with the overall participation of at least 21 participants in the research study.

Study Results

The results of the study are presented in this section. Findings are organized by research question. Within each research question, data are included from survey responses, focus group interviews, leadership interviews, and document analysis referencing each specific research question. The responses provide information about both the formal and informal uses of data in practice.

Research Question 1: What Organizational Routines for Data-Driven Decision Making were Implemented to Influence Classroom and Intervention Instruction?

The Qualtrics Survey was designed for the respondents to identify the organizational routines that were established to influence classroom and intervention instruction at Crestwood Primary School. The final survey appears as Appendix L. Twenty-one of the 33 potential participants completed the survey sharing their perspectives on the organizational routines. The survey results are displayed in Table 3.

Table 3

Organizational Routines Implemented for Data-Driven Decision Making

Organizational Routine	***Response***	***%***
Phonological Awareness Literacy Screening (PALS)	21	100%
Guided Reading Level (Fountas & Pinnell)	21	100%
Acceleration Plans	21	100%
Acceleration Team (A-team)	21	100%
Measures of Academic Progress (MAP)	21	100%
Data Days	21	100%
Curriculum Alignment	20	95%
Common Assessments	20	95%
Intervention/Enrichment Block (I/E Block)	20	95%
Professional Development	19	90%
Professional Learning Communities (Grade level instructional meetings)	19	90%
Master Schedule	18	86%
Leveled Literacy Intervention (LLI)	16	76%
Pre/Post Assessments developed by the teacher	15	71%
Data Warehouse	8	38%
Other - Please specify – Istation & Textbook Benchmark Tests	2	10%
Other - Please specify - Team Teaching	1	5%

One hundred percent of the respondents identified the following organizational routines as influencing classroom and intervention instruction: (a) guided reading levels, (b) data days, (c) the acceleration team, (d) acceleration plans, (e) Phonological Awareness Literacy Screening (PALS), and (f) Measures of Academic Progress (MAP). Ninety-five percent of the respondents identified (g) curriculum alignment, (h) common assessments, and (i) the intervention/enrichment block as organizational routines influencing their classroom and intervention instruction. Ninety percent of the respondents identified (j) professional development and (k) professional learning communities as organizational routines that influenced instruction. At least 70% of the respondents identified the (l) master schedule (m) leveled literacy intervention and (n) pre/post assessments developed by the teachers as other organizational routines that have been put into place to influence classroom and intervention instruction. Thus, the survey respondents from Crestwood Primary School identified a total of 14 organizational routines that were implemented that influenced their classroom and intervention instruction.

Research Question 2: How Did the Organizational Routines Influence Classroom and Intervention Instruction?

The survey, focus group interviews, and leadership interviews offered insight into how the organizational routines influenced classroom and intervention instruction. The implementation of the 14 organizational routines fostered a culture of data-driven decision making for Crestwood Primary School. The survey, focus group interviews, and leadership interviews referenced numerous organizational routines that were interwoven and connected to each other to support a data-driven culture. Survey and interview responses indicated the organizational routines influenced teachers' instruction by helping them be more aware of student needs that resulted in better planning and differentiated instruction.

Survey Question 2

Survey Question 2 asked the respondents for input regarding the extent to which the available structures for data-driven decision making influenced their classroom and intervention instruction using a Likert Rating Scale. The Likert Rating Scale included four categories that

included (a) all the time, (b) great deal of the time, (c) some of the time, and (d) not at all. The point values associated with each rating scale includes the following:

Likert Rating	*Point Values*
All the time	1 point
Great deal of the time	2 points
Some of the time	3 points
Not at all	4 points

The mean scores were calculated by dividing the total values from the Likert ratings by the total number of responses. Therefore, the organizational routines with the lowest mean scores were used the most according to the survey respondents. The nine organizational routines that were rated by the respondents as influencing classroom and intervention instruction with the overall mean scores for influencing classroom and intervention instruction are displayed in Table 4.

Table 4

To What Extent Do the Available Structures for Data-Driven Decision Making Influence Your Classroom and Intervention Instruction?

Organizational Routine	*Mean Score*
Data Days	1.57
Acceleration Plans	1.62
Time	1.63
Curriculum Alignment	1.71
Leveled Literacy Intervention	1.8
Acceleration Team	1.81
Professional Learning Communities	1.9
Common Assessments	1.9
Master Schedule	1.9

Survey Question 3

Survey Question 3 asked the respondents to identify the routines or resources that influenced their classroom and intervention instruction the most. The question was designed for the survey respondents to type in three responses. As a result, the question required a lot of thought and understanding to complete. In retrospect, the question design may have been better if the organizational routines were listed so the respondents could have selected the three organizational routines that influenced their instruction the most. Nevertheless, 18 out of 21 survey respondents listed three responses to the question for a total of 54 responses to the

question. However, the responses did not evoke a clear majority or consensus of the organizational routines that influenced classroom and intervention instruction the most. Some of the responses listed resources to support organizational routines as opposed to specific organizational routines. The top five responses to the question listed in order of frequency included (a) curriculum alignment, (b) common assessments, (c) guided reading levels, (d) professional learning communities, and (e) acceleration plans. The survey respondent results are displayed in Table 5.

Table 5

Please Identify the Three Routines or Resources that Influence Your Classroom and Intervention Instruction the Most

Organizational Routine	***Frequency***
Curriculum Alignment	8
Common Assessments	8
Guided Reading Levels – Fountas & Pinnell	6
Professional Learning Communities	5
Acceleration Plans	4
Leveled Literacy Intervention	3
Intervention/Enrichment Block	3
Acceleration Team	3
Phonological Awareness Literacy Screening	3
Individualized Education Plans	2
Schedule	1
Time	1
Data Days	1
VDOE Website	1
Math Vocabulary	1
Teacher observation	1
Data Warehouse	1
Kathy Nance Materials	1

Survey Question 4

Survey Question 4 asked the respondents for input regarding the data sources used to influence their classroom and intervention instruction. The survey respondents indicated their reliance on SOL data, guided reading levels, and teacher observation of learners as the data

sources that influenced their classroom and intervention instruction the most. The survey respondent results are displayed in Table 6.

Table 6

Please Check All the Data Sources You Use to Influence Your Classroom and Intervention Instruction

Data Source	***% of Responses***
Standards of Learning Tests	86
Guided Reading Levels	86
Teacher Observation of Learners	86
Phonological Awareness Literacy Screening	75
Pre/Post Assessments Developed by teachers	76
Benchmark Data	71
Measures of Academic Progress	67

Survey Question 5

Survey Question 5 asked the respondents for input regarding the extent to which the data sources influenced their classroom and intervention instruction using a Likert Rating Scale. The Likert Rating Scale included four categories that included (a) all the time, (b) great deal of the time, (c) some of the time, and (d) not at all. The point values associated with each rating scale includes the following:

Likert Rating	***Point Values***
All the time	1 point
Great deal of the time	2 points
Some of the time	3 points
Not at all	4 points

The mean scores were calculated by dividing the total values from the Likert ratings by the total number of responses. Therefore, the organizational routines with the lowest mean scores were used the most according to the survey respondents. The survey respondents indicated their reliance on guided reading levels, SOL data, and teacher observation of learners as the data sources that influenced their classroom and intervention instruction the most. The survey respondent results are displayed in Table 7.

Table 7

To What Extent Do the Data Sources Influence Your Classroom and Intervention Instruction?

Data Source	***Mean Score***
Guided Reading Levels	1.38
Standards of Learning (SOL) Data	1.47
Teacher Observation of Learners	1.65
Phonological Literacy Awareness Screening	1.9
Pre/Post Data	2.05
Benchmark Data	2.14
Measures of Academic Progress	2.48

Survey Question 6

Survey Question 6 asked the respondents for input regarding the extent to which the documents influenced their classroom and intervention instruction using a Likert Rating Scale. The Likert Rating Scale included four categories that included (a) all the time, (b) great deal of the time, (c) some of the time, and (d) not at all. The point values associated with each rating scale includes the following:

Likert Rating	***Point Values***
All the time	1 point
Great deal of the time	2 points
Some of the time	3 points
Not at all	4 points

The mean scores were calculated by dividing the total values from the Likert ratings by the total number of responses. Therefore, the organizational routines with the lowest mean scores were used the most according to the survey respondents. The survey respondents indicated their reliance on guided reading levels, curriculum pacing guides, and curriculum maps as having the most influence on their classroom and intervention instruction. The survey respondent results are displayed in Table 8.

Table 8

To What Extent Do the Documents Influence Your Classroom and Intervention Instruction?

Organizational Routine	***Mean Score***
Guided Reading Levels	1.43
Curriculum Pacing Guides	1.52
Curriculum Maps	1.67
Master Schedule	1.76
Literacy Plan	1.9
Acceleration Plan	1.9
Numeracy Plan	2
Professional Development	2.33
90 Day School Improvement Plan	2.52

Summary of Survey and Coded Data

The researcher used the information from the survey to streamline the focus group and individual interviews to concentrate on the organizational routines that influenced instruction the most according to the respondents of the survey. Additional organizational routines are discussed and embedded within the framework of curriculum alignment, common assessments, guided reading levels, professional learning communities, and acceleration plans that reflect a data-driven culture. The coded comments referencing organizational routines from the survey, focus group interviews, and leadership interviews are summarized in Table 9.

Table 9

Coded Comments Referencing Organizational Routines from Survey, Focus Group Interviews, and Leadership Interviews

Organizational Routine	***Survey***	***Focus Group Interview***	***Leadership Interview***	***Total***
Guided Reading Level (Fountas & Pinnell)	2	24	5	31
Professional Learning Communities (Grade level instructional meetings)	4	11	10	25
Curriculum Alignment	0	18	5	23
Common Assessments	2	7	6	15
Acceleration Plans	0	6	8	14
Data Days	0	1	6	7
Phonological Awareness Literacy Screening (PALS)	2	1	1	4
Acceleration Team (A-team)	0	0	4	4
Intervention/Enrichment Block (I/E Block)	0	0	2	2
Professional Development	0	0	2	2
Measures of Academic Progress (MAP)	0	0	1	1
Leveled Literacy Intervention (LLI)	0	1	0	1
Data Warehouse	0	0	1	1
Master Schedule	0	0	0	0
Pre/Post Assessments developed by the teacher	0	0	0	0

Note. There were 21 respondents to the survey, 18 focus group participants, and 3 leadership individual interview participants, which resulted in a combined total of 42 participants in the survey and interviews. The above mentioned totals refer to the comment count referencing organizational routines as opposed to the participation counts.

The specific organizational routines the respondents identified through the survey as having the most influence on their classroom and intervention instruction included (a) guided reading levels, (b) professional learning communities, (c) curriculum alignment, (d) common assessments, and (e) acceleration plans. The information displayed in Table 9 also highlights the similarities and variations in the responses by the focus group interviews and the leadership interviews. The focus group interviews mentioned eight categories while the leadership interviews discussed 12 categories. The focus group interviews concentrated on guided reading levels, professional learning communities, and curriculum alignment. Whereas, the leadership interviews appeared to have comments that were distributed over a variety of organizational routines. The organizational routines are discussed in depth below.

Guided Reading Levels

Guided reading levels were the organizational routine that was mentioned the most during the teacher focus group interviews with at least 24 references by teachers. Crestwood Elementary School adopted the Fountas and Pinnell leveling system to track student progress and instructional reading levels. The Fountas and Pinnell leveling system is based on reading levels starting at level A and progressing to level Z (Pinnell & Fountas, 2011). Each guided reading level has specific strategies for teaching prompts as well as reading behaviors to develop. Other popular leveling systems for reading include DRA levels, Lexile levels, Rigby literacy levels, and Reading Recovery levels. The guided reading levels also have grade level equivalencies that correlate with the corresponding levels. Therefore, the guided reading levels establish a common understanding for the expectations of reading within each grade level and reading level.

The focus group interviews revealed three common themes about the guided reading levels. The teachers used the information from the guided reading levels to develop (a) a common language, (b) choose appropriate teaching materials, and (c) flexibly group students. Teachers elaborated on their use of the guided reading levels and how they examine the levels to form groups and provide instruction at the specific level (F2-4). One teacher said, “It helps prove what you thought or what you didn’t think” (F1-13). The respondent continued to explain that before data-driven decision making, teachers would say, “They can’t read. They don’t know. They’re not on grade level. But now all of a sudden you know exactly what they can do and what they can’t do and you can jump right on it” (F1-13). Another teacher reported, “I do think it’s good that we have that common vocabulary across the school” (F1-22). Another teacher stated,

"The things that we have available are all organized according to guided reading level so that we're all talking the same language" (F2-7). One focus group member explained, "We love Fountas & Pinnell. It's been really helpful, more than anything we've ever done" (F2-3).

The leadership interview responses also referenced guided reading levels at least five times discussing its impact on instruction. The leveling system assists teachers in selecting appropriate reading materials for instruction and independent reading. One leader said, "I think instructional reading levels are essential for successful reading instruction. Fountas & Pinnell guided reading has been a great tool for providing teachers with instructional levels for each student" (L1-10). Another leader expressed how the guided reading levels provided a base for teachers to discuss how students are performing at certain levels and the skills they possess and need to develop and acquire before moving to the next level (L2-3). Therefore, teachers can develop a plan to work towards a common goal for student growth. One teacher commented, "It has helped me make sure that I'm pushing the students" (F1-18). The guided reading levels have provided a framework for a common language so the staff can group students according to instructional reading levels for small group instruction. The guided reading levels have also assisted teachers in organizing and selecting materials that correlate to the specific instructional levels.

Professional Learning Communities

Crestwood Primary School utilized professional learning communities as an organizational routine for instructional teams to meet, plan upcoming units of study, develop common assessments, and discuss student data. Professional Learning Communities were referenced at least 25 times during the leadership interviews, focus group interviews, and surveys.

The teacher and leadership interviewees reported that professional learning communities influenced their classroom and intervention instruction by developing common goals, sharing ideas, sharing materials, and providing support. One respondent commented, "Teams are supposed to look at their data and discuss what didn't work… and what did work. I think when there is collaboration within a grade level there is successful student achievement…. Providing the opportunity for conversation is key" (L1-22). Conversations may stem from how a teacher taught a specific unit or skill that resulted in student mastery. Activities and ideas may be shared to promote common goals across grade level teams. Another respondent discussed the

importance of examining grade level data to determine areas of weakness as an instructional team. Once a deficit area is identified, then the team can research possible solutions for the areas of concern (L2-6).

One teacher respondent commented, “It’s been very beneficial to me just to be able to discuss how the children are doing and looking at the data” (F3-20). Another respondent reported, “Well I’m thankful for it because I feel more supported with the way that we do things now” (F3-38). Another respondent summed up professional learning communities by explaining,

> That’s what drives everything, because that’s where we go back in and unpack the standards. We plot instruction. That’s where we collaborate on the student needs. So if I have a student and I’m not sure where to go with that child, then I have a colleague who is in there, and it could be not only a grade level colleague, but a special educator or a title person whose an expert on filling those gaps, and we can go back in there and talk about individual student needs, and I can get some feedback. And that could be students not only who have a gap below grade level, but those students who have a gap, because they’re above grade level. So we’re enhancing instruction. Also, that’s what we do. We plan our common assessments, and meet weekly at a minimum at a scheduled meeting, but we have teachers who are meeting at times together other times during the day or during the week, because we have tried to plot common planning per grade levels. Again, PLCs support teachers as they work to align the written, taught, and assessed curriculum. They start to think more broadly and outside of their personal box. This also helps to ensure rigor is present. (L3-9)

Curriculum Alignment

Both survey respondents and interview participants referenced curriculum alignment as an influential organizational routine for classroom and intervention instruction at least 27 times during the study (S, F1, F2, F3, L1, L2, L3). District personnel along with teacher representatives developed curriculum maps, the literacy plan, and the numeracy plan as curriculum guides to streamline reading and mathematics instruction for the students of the county (D). The respondents were asked to identify documents and resources that influenced their classroom and intervention instruction through the online survey and interviews. The survey responses, focus group interviews, and individual interviews identified the curriculum maps, the literacy plan, and

the numeracy plan developed at the district level as influencing classroom and intervention instruction.

The district curriculum maps in reading and mathematics included essential skills, SOLs, resources, technological resources, strategies, and assessments. The assessments included both formative and summative assessments. In addition, the curriculum maps included a pacing guide specifying the specific time for teaching the content as well as the number of days allotted for the specific unit of study. The curriculum maps supported whole group and small group instruction, curriculum alignment, common assessments, SOL alignment, and focus and direction. The district literacy plan and numeracy plan included belief statements, division literacy and numeracy goals, and strategies for teaching reading and math. In addition, a list of reading non-negotiables were included specifying the length of reading classes that included whole group and small group instruction for grades K-5. Spelling, writing, and grammar expectations were also detailed within the literacy plan. Both plans stressed the importance of differentiated instruction, whole group instruction, small group instruction, common assessments, lesson planning, student growth, professional development, professional learning communities, and intervention instruction.

One teacher reported, “It has given me an idea of where to start and where to begin” (FG1-1). One teacher added the pacing guide was examined almost every day (FG3-33). Another teacher reported how the curriculum map helped prepare the plan for the entire week along with the necessity for adhering to the curriculum map (FG3-34). Another interviewee commented how curriculum alignment kept teachers focused on where they needed to be and helped keep them on track instructionally (FG1-15).

Other focus group participants explained the value in teaching the same content at the same time which allowed them to share materials on particular subjects within the grade level (FG3-1, FG3-2). Another teacher elaborated on the value of having day-to-day discussions with grade level teachers about how the students responded to the lesson concepts and how they may have taught the lesson differently (FG3-3). Another teacher explained the benefits of curriculum alignment when students move within the county from school to school (FG3-15). When the entire district is teaching the same content at similar times of the school year, students may be able to have greater access to the curriculum without large gaps in instruction. One teacher explained, “We really need that curriculum alignment” (FG3-13).

The leadership responses recognized and supported the teachers' efforts in adhering to the districtwide curriculum maps. One leadership team member commented, "They do an outstanding job with the curriculum maps. They have worked as a team. They met weekly to discuss strategies and really stayed together in all curricular areas" (L1-5). Another leadership respondent commented,

> Curriculum alignment, we unpack standards, therefore we are more explicit and I believe instruction and expectations are more rigorous. We have pinpointed much more exactly what we expect of the students and therefore we do that ahead of time before we actually plan instruction for differentiating needs. We also plan more as instructional teams and less individually. That makes for stronger planning and instruction. We play on each other's strengths. (L3-6)

Common Assessments

Document analysis revealed the district's expectations for the organizational routine of common assessments explained within the curriculum map, literacy plan, and numeracy plan (D). The curriculum map specified when the common assessments should be administered and the pacing of the curriculum for adequate coverage of material. The Literacy and Numeracy Assessment plan specified the mandated reading and mathematics assessments as well as writing samples at each grade level pre-K – 5. The benchmark test administration schedule specified when the reading and mathematics benchmarks would occur as well as the procedures for administering the tests.

Survey respondents, focus group participants, and leadership participants reported the common assessments offered valuable information for flexible grouping, professional conversations, and evidence for content mastery and student growth. Leadership interviews, focus group interviews, and survey respondents referenced common assessments at least 15 times.

One leadership interview participant explained the importance of collaboration among the instructional teams about the common assessments (L3-6). Another leadership interviewee stated, "They're used as formative assessments to draw out instruction. The most important thing we can ensure is alignment of the written, taught, and assessed curriculum" (L3-6). Another leadership participant explained how the common assessments provided teachers with a common language when talking about grouping kids (L2-2). As a result, the instructional teams could

provide the students with targeted intervention while teachers had a better understanding of the goal (L2-2). One leadership interviewee commented,

> I believe it is important to have common assessments to determine student growth and to guide instruction. PALS has been a common reading assessment that has been used in K through 2 for years. I think the teachers use it because it provides them with diagnostic information that they trust. (L1-6 & 7)

One focus group participant described the common assessments as helpful because the results are discussed in day-to-day meetings (F3-4 & 5). Another teacher commented about how the common assessments help ensure the essential knowledge and essential questions are taught and assessed (FG3-6). The results help teachers know when they need to go back and review concepts for student mastery (FG3-6). Another teacher noted, "You can see the improvement" (FG3-14). The common assessments are a springboard for conversations among the teachers to determine whether or not students are making progress or if they need additional support. One leadership interviewee mentioned when she first started teaching, teachers used whatever they wanted to assess students (L3-4). Now the same participant sees common assessments as a helpful tool instructionally and professionally (L3-4).

Acceleration Plans

Acceleration Plans are an organizational routine that was developed by the teachers of Crestwood Primary School in response to the demands for documentation of intervention services for identified students through the school improvement process. The acceleration plans are typically developed during data days when data points are examined and teachers identify struggling students in reading and mathematics. A plan details the specific goal for the student as well as specific actions by the classroom teacher, resource teacher, and intervention teacher for obtaining the specified goal. A plan includes baseline data as well as progress monitoring details.

A member of the leadership interviews reported, "The format of the plans was developed to encourage team planning and collaboration not just to be more paperwork. It is essential to have a plan or goal" (L1-17). Another leader respondent commented, "I think it's [acceleration plans] helped us be more precise about if a student is having some difficulty in an area that any person that's working with that student whether it'd be the classroom teacher, the interventionist, title teacher, we all know where the student is struggling and what we need to work with that student" (L2-7).

The respondents reported the acceleration plans provided an opportunity for collaboration to work towards a common goal, specificity of skills, and a clear understanding of each teacher's role in working with the identified student. One teacher commented, "I think it's helpful that the interventionist and classroom teachers have a common plan that they're working from for that child" (F1-25). Another teacher reported, "You know what the goals are and everybody's working in the same direction" (F1-33). One teacher commented, "You can look at the acceleration plan, you know exactly what that child needs to work on" (F3-22). One leadership interviewee summarized the organizational routine of acceleration plans as follows:

> Acceleration plans are where we break it down for those students who are not meeting the grade level expectations. And because of the data that we've targeted them for intervention services, and so the idea is that we're not going to remediate, we're going to accelerate. We're going to push them forward so that they catch up with their peers, so that their progress is at an accelerated pace as opposed to an average normal pace. Those plans actually help us plot out a couple of things. First, we set goals that are very realistic to help them catch up then we talk about the program that best meets the child's needs, and we're able to track it with progress monitoring that's part of the acceleration plans, and they're more able to determine if the program is effective or ineffective….It also provides the safety net for accountability while also giving a written record in the future of what has or has not been tried with an individual student. (L3-10)

Conclusion

The information gathered from the survey, focus group interviews, and leadership interviews offered details about how the organizational routines influenced classroom and intervention instruction. After careful analysis of the survey questions, the focus group and individual interviews focused on the organizational routines the respondents identified as having the most influence on their classroom and intervention instruction that included (a) guided reading levels, (b) professional learning communities, (c) curriculum alignment, (d) common assessments, and (e) acceleration plans. The survey, focus group interviews, and leadership interviews referenced numerous organizational routines to support a data-driven culture.

Research Question 3: How Did the Organizational Routines Facilitate the Use of Data to Influence Instruction?

The research study results offered insight into how the organizational routines facilitated the use of data to influence classroom and intervention instruction. The survey respondents and interview participants explained how the organizational routines facilitated the use of data by establishing (a) focus and direction, (b) student centered instruction, (c) student growth, (d) collaboration and teamwork, (e) flexible grouping of students, and (f) teacher reflection and ownership of all students. The specific references to how the organizational routines facilitate the use of data to influence instruction are detailed in Table 10.

Table 10

How the Organizational Routines Facilitated the Use of Data to Influence Classroom and Intervention Instruction

	Leadership Interviews	***Focus Group Interviews***	***Survey***	***Total***
Focus and Direction	6	17	0	23
Student Centered	1	6	7	14
Student Growth	10	2	1	13
Collaboration and Teamwork	11	1	0	12
Flexible Grouping	6	2	2	10
Teacher Reflection and Ownership of Students	6	2	0	8

Focus and Direction

The organizational routines facilitated the use of data to influence instruction by targeting specific deficits or gaps in learning for students. One teacher interviewee explained how the data helped her pinpoint what she needed to do by focusing on target areas such as inferencing or summarizing (F3-17). Another teacher commented,

> As teachers are much more aware of where their students' strengths and weaknesses are instead of just taking a bow and arrow and shooting and hoping you land somewhere on

the target. If you have the data of what they have mastered and what they haven't mastered, you can drill straight down and work specifically on that skill. (F1-12)

Another teacher reported even though she hated to complete the reading sheets, patterns emerge about student skills and deficits in areas such as vocabulary, patterns, phonics, or comprehension (F2-11). "It keeps you focused on where you need to be….it keeps you on track" (F1-16).

Student Centered

The organizational routines for data use also help teachers become more student centered. One teacher reported, "It [data use] has made me more consciously aware and paying closer attention to what each individual child is doing" (F2-11). The comments reflect a focus on student needs and differentiated instruction. Survey respondents made the following comments:

- "While using data can be time consuming, I know my students better than before" (S-35).
- "We have become more specific when looking at where a student is reading and are able to be more specific in our instruction" (S-53).
- "Data-driven decision making helps us tailor our instruction to the needs of our students, complementing efforts to differentiate according to individual student strengths and weaknesses" (S-58).
- "Data makes me very aware of the students' needs" (S-65).
- "Using data allows me to provide the most effective individualized instruction in my classroom" (S-78).

Striving for Student Growth

The organizational routines for data use also help teachers become more focused on student growth. A leadership interviewee stated, **"**When you are looking at the data and you are using the data to determine instruction, then you see growth and you see success with your students. We see that growth because you reteach or extend based on the needs of the child**"** (L1-19). Another teacher commented, "It's not just what I think. There is actually data that is showing me exactly what level this child is on" (F3-16). Another leadership interviewee commented, "There is no identity crisis here. The goal is the same - student progress" (L3-13). The leadership interviewee continued by explaining,

> We see now that one size does not fit all. It was a cookie cutter mentality for many years in education earlier and then we went into differentiated services. However, we differentiated by what we were seeing in the classroom and more or less on teacher experience and teacher opinion. Now we've got firm evidence that data drives us to what this child can do, where the strengths are, so we can plan to those strengths and where the areas that need improvement are so that we can go in there and address strengths those. So, it makes it very specific for individual children. (L3-11)

Collaboration and Teamwork

The organizational routines for data use also established a foundation for collaboration and teamwork among the instructional team. The instructional teams worked together to plan units of study, common assessments, and acceleration plans for student growth. The teachers commented about the importance of instructional teams having time to coordinate strategies to maximize opportunities for student growth. One leadership interviewee commented, "I think it [collaboration] is providing for the instructional needs of each child whoever the instructor may be. The collaboration between all those working with the child determines the success and growth for that student" (L1-20). Another leadership interviewee summarized the importance of collaboration by saying:

> It goes back to unpacking the standards, and you have to know what those students need to know in order to build an assessment that you're going to analyze that data. So for them, analyzing the data is a futile effort if you don't know your assessment is strong, and that it actually measures what needs to be taught. So for those professional learning communities, it's like the full cycle. They see everything within that time that they collaborate together. So again, this becomes a part of the data plan, because we have data days quarterly as our goal. The last one we more or less met with the leadership team which they took the data back to their individual grade levels just because of a logistical time element. However, weekly data, we do not meet every week with that team. They meet with each other, and they disaggregate that data, and they look at those assessments, and they look at the students' results. And so then they work with those title people, who bring back information into the A-Team. So truly, it's a well-oiled machine. (L3-14)

Flexible Student Grouping

The organizational routines for data use also influenced instruction by providing tools for teachers to flexibly group students using the data. One leadership interviewee stated,

> I think the biggest influence that it's had in reading instruction that I have seen is flexible grouping. You know years ago, if you were in a red reading group, you were in the red reading group all year long. But I think our teachers have bought into looking at that data periodically and seeing if the child is falling behind or speeding up in performance and then move that student into a group where they're going to have their needs met (L2-10).

Another interviewee reported, "When we go back and disaggregate data together and we look at classrooms and grade levels, it also helps us to group children according to needs, so we can satisfy those areas of weakness, and we can address those needs in a much more efficient way than we were doing" (L3-11). A teacher commented, "It helps us rearrange our groups more often with our assessments, we regroup as needed" (F3-8).

Teacher Reflection and Ownership

The organizational routines for data-driven decision making also provide the opportunity for teachers to reflect on student progress. One interviewee commented, "If a teacher looked at his/her data and half of the class didn't do as well as anticipated then that teacher needs to look at the instruction provided" (L1-21). The interviewee suggested the importance of teachers reflecting on instructional practices by asking questions such as:

1. What do I need to do to change?
2. What do I need to do so my students will progress?
3. What can I do to make it successful for them? (L1-21)

The interviewee continued by explaining,

> It's not just one person, it's not just a classroom teacher, but everyone who has worked with those students in a group saying, "I am responsible, too." It's taking responsibility, not just the classroom teacher, but whoever is working with that student. The collaboration and commitment to student growth are vital components. (L1-21)

Conclusion

The study results revealed how the organizational routines facilitated the use of data to influence classroom and intervention instruction by establishing (a) focus and direction, (b)

student centered instruction, (c) student growth, (d) collaboration and teamwork, (e) flexible grouping of students, and (f) teacher reflection and ownership of all students. The organizational routines for data-driven decision making streamline instructional expectations and support teachers in working together for the success of all students.

Research Question 4: What Were the Challenges to the Implementation of Organizational Routines Within the School for Data-Driven Decision Making?

Research participants were given the opportunity to elaborate on the challenges to the implementation of organizational routines for data-driven decision making on the survey, focus group interviews, and individual interviews. The participants offered insight into the various challenges of organizational routines for data-driven decision making. Table 11 summarizes the challenges described by the study participants.

Table 11

Challenges to the Implementation of Organizational Routines for Data-Driven Decision Making

Challenges	***Survey N=21***	***Focus Group Interviews N=18***	***Leadership Interviews N=3***	***Total N=42***
Time	8	4	6	18
Time to access, collect, analyze, and submit reports	3	7	4	14
Time to collaborate and discuss data	5	0	6	11
Too much data, complicated and overwhelming	1	9	1	11
Pacing guide	5	4	1	10
Takes away instructional time	4	5	0	9
Data points with clashing information	2	5	1	8
Changing Teacher Attitudes and Practices	2	0	3	5
Materials & Resources	3	1	0	4
Time to teach, reteach, and apply data	1	0	2	3
Personnel	3	0	0	3
Intervention cancelled	2	0	0	2
Progress Monitoring	2	0	0	2
Time for programs to work	0	1	0	1

The challenges with the most references included (a) time, (b) too much data (c) data with conflicting information, (d) the pacing guide, and (e) changing teacher attitudes and practices.

Time

Time was referenced at least 52 times throughout the data collection process. Time was such an overwhelming barrier for the participants that the researcher divided the category of time into three subcategories that included (a) time to assess, collect, analyze, and submit data reports, (b) time to collaborate and discuss data results, and (c) time taken away from instruction. The specifics of each subcategory are detailed in the sections below.

Time to Assess, Collect, Analyze, and Submit Data Reports

The participants expressed concerns about the time involved to assess, collect, analyze, and submit data reports. Multiple interviewees explained,

- It does take a lot of classroom time to test these kids but it takes a phenomenal amount of time for us at home or here, at the evenings to filter through all these tests and put it [data] on all the different forms that we're supposed to put it on. I mean, it's phenomenal with how much time that's involved. (F2-23)
- It's the time to assess. It's the time to look at what you have assessed. And it's the time to talk about what information it provides. Was it a valid assessment? Was it something that was invalid to us? Did it not even help us at all? And I think that sometimes, we have to really look at that, too. (L1-27)

Another teacher voiced concern about the excessive documentation that is expected for reporting the data (S-31). Another barrier mentioned by a participant was the timeliness of data disaggregation (S-22). One survey respondent commented, "Testing is time consuming. PALS, MAP, Benchmark, and Fountas & Pinnell tests must replace several weeks of instruction during the school year" (S-33). Each assessment administered takes precious time during the school day and outside the school day to assess, collect, analyze, and submit data reports.

Time to Collaborate and Discuss Data Results

Another subcategory of the barrier of time was the time necessary to collaborate and discuss data results with colleagues. The instructional staff recognized the importance of examining the data, but struggled to find the necessary time to meet with colleagues to discuss

the data results (F2-10, S-10). One survey respondent explained the importance of meeting with co-teachers to discuss data across all areas that included intervention, small group, and the classroom (S-34).

Participants expanded with the following thoughts about the challenges:

- I think we can always use more time to discuss and analyze the data. That is the hardest thing, the time. How can we provide coverage? Do you have substitutes come in? Do we have the financial means to provide substitutes? How do you do it to make it so that it's most beneficial for the teachers, but it's also not going to take away from your students? If the teacher is out of the classroom, sometimes that's more detrimental than anything. But you have to have that time. You have to have the time to talk. You have to have the time to look at the data and collaborate. And if you don't do it right, then you've missed your chance, because the data changes so quickly. You've got to do it then. (L1-25)
- We need more time to use the data. A lot of times, we're really rushed in using that time to make acceleration plans for students and working with those interventionists and title teachers which is an important piece of data day. There also needs to be a part of data day that is team-driven with one of our goals as what have we covered, what we have not covered, what we are weak on, what we are not weak, and just point it out. (F1-18)
- It would be more helpful if we could meet with the interventionist more. So that's what we've always talked about acceleration plans. They're wonderful to look at so I can see what they're doing. Then I write down what I'm going to be doing in the class but it would be nice to be able to meet more with them. But again, it's time. (F2-12)

One survey respondent summarized the barrier by explaining, "Time is a challenge. We have to give up a planning period for PLC meetings, but the advantages of the meetings outweigh the loss of time" (S-8).

Time Away from Instruction

The final subcategory of time included the concern for taking time away from instruction to assess students. One survey respondent commented, "I feel that we are testing too much and need to instruct more. We are being taken out of our classroom for these tests and this takes

away from our teaching time" (S-73). One teacher interviewee responded, "You just feel like you don't have any time to teach because you're testing so much" (F2-22). Another survey respondent commented, "I feel that we spend too much time assessing our students in order to obtain data at the expense of instructional time" (S-36). Another comment included, "We have plenty of data, we just need the time in our rooms to teach" (S-79). Another teacher commented, "I think we could better use our time teaching instead of testing so much" (F2-18). The responses and comments clearly demonstrate the teacher's frustration with the amount of time taken by testing.

Too Much Data

Another barrier revealed through the survey responses, focus group, and individual interviews indicated too many data sources. One survey respondent shared there were many data components to view and take into consideration when planning for instruction (S-12). A teacher interviewee said, "I don't know how to prioritize all the data to see which one I really need to look up and focus on the most" (F1-40). Another teacher reported, "You have to prioritize the data" (F1-36).

Teachers also shared concerns about the various assessments impacted students. One teacher explained, "They give me this look like, 'How many more times do I need to show you what I know?' It's frustrating and you could see the frustration on their little faces" (F1-49). Another teacher stated,

> You can't take these kids and expect them to be tested from May 1st until June 5th and take five different assessments not to mention what it does to the teachers in order to prepare them, and expect excellence on any of it. We're all striving for excellence. I mean, every child, every teacher, every person in this school is contributing to try to get these children to perform at their best level. (F1-46)

One teacher commented, "We need to look at which one of these that we're doing gives us the most information" (F2-31). Another survey respondent suggested, "We just need to stop and think about how much data we really need" (S-76).

Data with Conflicting Information

Teachers also voiced frustration because there were times when the various data points contradicted each other (F1-38). One survey respondent shared, "Test scores often do not agree.

A child may score very well on one assessment but not on another. It is often difficult to know which assessment is a true measure of the child's ability" (S-26). With the various data sources, students might perform really well on one test and perform poorly on others (F1-38). One survey respondent said, "I have had students who are great at math or reading and working above grade level not do well" (S-52). With the various data sources, teachers are left asking the question, "Which data is the best data?" (F1-39)

A leadership interviewee commented that one of the biggest challenges was getting various data sources to correlate to show where instruction needed to improve or depict a picture of a child's true ability (L2-9). The leadership interviewee reported,

> I would say earlier on in the process that [correlating data] would have been the biggest challenge. But I do feel like now, we have several sources of data coming in and we're noticing more correlations between all those since we're feeling a lot more comfortable about what the data is showing us. You know the proof is there. (L2-9)

Teachers indicate the desire to use data to influence instruction, but they value data sources that correlate to pinpoint instruction.

Pacing Guide

While many of the research participants support and use the organizational routine of curriculum alignment, they also reported frustration with the rigidity of the district pacing guide. Survey respondents made comments about the pacing guide as a barrier for data use with comments such as:

- "Following the pacing guide prevents further study on particular areas student(s) struggle in" (S-6).
- "Keeping up with pacing guides" (S-13).
- "We are locked into the pacing guide that we tend to move on without total student success" (S-49).
- "The pacing guides are not flexible and really do not allow for teachers to take the needed time to work on areas of weakness with the students" (S-71).
- "I think that data-driven instruction really works if we are able to implement it in the way we need to. Many times, following a strict pacing guide prevents this from happening" (S-59).

Leadership and teacher interviewees also voiced concerns about the pacing guide as well. One teacher responded, “You can’t really slow down because you get far behind” (F3-27). Another teacher commented,

> It hurts a lot of students when you’re given a day to do long division and that’s it and they either got it that day, that night and we have to move on. I mean, that’s what it says and I understand that it’s for us to keep on track and to make sure that we cover every SOL and every objective. I get it, but it’s not real. It’s unfair. I think it’s unfair to me and I hate teaching something and see 75% of the class struggle and get upset because they don’t get it but we still have to move on because of our pacing. (F1-21)

Teachers struggle with finding the balance between keeping the pace with curricular expectations while meeting the needs of individual students.

Changing Teacher Attitudes and Practices

Another barrier to the organizational routines for data-driven decision making includes changing teacher attitudes and practices. One survey respondent reported the difficulty in removing the “I think” statements from decisions (S-7). Another survey respondent commented on how difficult it was to get the whole faculty to buy into the intervention models (S-23). Another survey respondent reported the difficulty in getting teachers to buy into guided reading levels for small group reading instruction (S-27). One teacher interviewee suggested,

> It forces you to not get in the habit of doing the same thing year after year because your groups are different. You have to look at the data in order to change what you’re doing or what you need to do. (F2-13)

A leadership team member commented,

> I wanted them to buy into it immediately and say, “I want to change what I'm doing.” I wanted everybody that worked with data to automatically think, “I'm going to buy into this. I'm going to use the data to guide my instruction.” Professional development has been provided to all faculty and staff, but some teachers continue to teach as they always have. (L1-30)

Another part of changing attitudes for data-driven decision making is the willingness to reflect on teacher practices and make changes to instruction based on data results. One individual interviewee suggested,

> I think we want to look at the child and say it's the child's fault that they're not doing well, or it's the parent's fault they're not doing their job. Well, when you look at the data, it puts it back on us. They might be contributing factors, but we also have to look at ourselves and the instruction. What can we do different? We can't change the parents. We can't change many things, but we can change what we do. So if the students are not successful, what can we do to change to make things better for that student? I think that's why it is so difficult; because it's personal. (L1-24)

Other

Other challenges mentioned through the research project included lack of materials, need for additional personnel, providing enough time for programs to work, and scheduling. One survey respondent discussed the lack of personnel to help with all the student needs (S-28). Another survey respondent mentioned that having enough materials to support students' needs was a challenge (S-29). One teacher commented that the staff has evolved through many different systems in the name of school improvement and we are not sticking with one program long enough to give it a chance to work effectively (F2-33). The same teacher said, "We jump. We do one thing a year or two and then we're doing something else" (F2-33). A leadership interviewee suggested a similar viewpoint by saying, "I think we changed programs too quickly" (L1-23). Another participant shared scheduling frustrations for offering intervention services to students who needed both reading and math interventions. The survey respondent stated, "I have children who could benefit from math and reading intervention, but scheduling will not allow for both" (S-23). While the schedule has been adjusted numerous times to maximize instructional time, finding the time necessary to teach, remediate, and accelerate continues to be challenge.

Conclusion

The research participants readily shared common challenges to the organizational routines for data-driven decision making. The most frequent challenges mentioned included (a) time, (b) too much data (c) data with conflicting information, (d) the pacing guide, and (e) changing teacher attitudes and practices. The teachers and leadership team identified many of the same challenges faced on a daily basis in an effort to provide the best education for all students. The identification of common barriers provides a starting point for identifying solutions to the challenges at hand.

Research Question 5: What Were the Unexpected Outcomes From the Implementation of Organizational Routines?

The interview protocols for both the focus group interviews and leadership interviews asked respondents to comment on unexpected outcomes from the implementation of organizational routines for data-driven decision making. Many of the unexpected outcomes reported by the participants were the anticipated outcomes by the administration. While many of the responses that were received did not reflect unexpected outcomes, the responses are reported as given. The most frequent responses centered around the following concepts: (a) understanding students better, (b) student growth, (c) planning, (d) teacher knowledge, (e) professional learning communities, (f) taking the fun out of learning, and (g) success. While many of the concepts have already been addressed, the respondents offered additional insights into what they perceived as unexpected outcomes.

Understanding Students Better

Despite the challenges of using data to guide instruction, many of the respondents reported a better understanding of their students. One survey respondent said, "While using data can be time consuming, the benefits outweigh the challenges because I know my students better than before" (S-35). Other comments reported on the survey included:

- "Data-driven decision making helps us tailor our instruction to the needs of our students, complementing efforts to differentiate according to individual student strengths and weaknesses" (S-58).
- "I feel some (not all) teachers have become more aware of reading behaviors for each guided reading level and are adjusting instruction to better meet the needs of our students in the area of reading. We have become more specific when looking at where a student is reading and are able to be more specific in our instruction" (S-53).
- "Data makes me very aware of the student's needs and I am able to prepare better for lessons and units" (S-65).
- "Using data allows me to provide the most effective individualized instruction in my classroom" (S-78).

One leadership interviewee elaborated that teachers can oftentimes see the bigger picture of classroom performance and instruction when they see a number representing student performance (L2-14). As a result, discussions about particular students can be very different

when data are involved. Teachers are more willing to reflect on instructional practices and the necessity to do something differently when student scores are low (L2-14). The data provide information that can assist teachers in their instructional decision making.

Student Growth

Another unexpected outcome reported by the participants included student growth. One survey respondent reported, "We do everything in our power to remediate and help students close the gap in learning" (S-50). Another survey respondent explained,

> When data is used to guide instruction, our students are successful and growth is evident. It takes all of us working together to meet the needs of our students. Collaboration and planning are essential! Classroom teachers, title teachers, and interventionists have to be striving toward the same goals. We can no longer work in an isolated environment, but support and share with each other. (S-57)

Leadership interviews also revealed a focus on student growth embedded within other interview questions. One leadership interviewee commented, "When you're looking at the data and you use the data to determine instruction, then you see growth and success with your students. We see that growth because you reteach or extend based on the needs of the child" (L1-19). The responses from the participants discussed the importance of student growth and closing the achievement gap for struggling students. When the instructional staff strives for the common goal of student progress, then efforts can be made to optimize student growth.

Planning

Staff members also shared how the organizational routines of data-driven decision making assisted them in planning for the students. A leadership interviewee commented about the importance of using collaboration time to plan for specific groups and specific students (L3-13). Survey respondents made the following comments about how the organizational routines influence planning:

- "I am more aware of my instructional choices when I plan. I plan strategically and try to make the most of my time" (S-48).
- "Data makes me very aware of the students' needs and I am able to prepare better lessons and units" (S-66).

- "Data-driven instruction is very important in planning how to really work on areas of difficulty the students' experience" (S-71).

One teacher commented, "I'm glad we're all testing the same thing at the same time because we compare notes better" (F2-13). Another teacher stated, "I think it [common plan] is helpful that the interventionist and classroom teachers have a common plan that they are working from for that child" (F1-25). When teachers have a common reading level or have data that demonstrate strengths and weaknesses, then teachers have a better understanding of how to address the specific needs of the students.

Teacher Knowledge/Observation

Two staff members reported the importance of data but felt it did not take the place of teachers' professional knowledge. A survey respondent reported, "I use the data to drive my instruction, but I still feel that teacher observation and daily classwork is the best indicator of the intervention individual children need" (S-38). Another teacher interviewee commented,

> I would just like to say that data is great and it's certainly something that has to be looked at but you still can't take away totally what a teacher knows about the student. I mean there has to be some validity given to a teacher's opinion. (F2-28)

Two survey respondents felt like teachers lost confidence with the use of data. One survey respondent said, "Teachers are often not as confident in their decision making as they were before the focus on data. Some feel that their instinct should override any data that is in direct conflict" (S-40). Another survey respondent commented, "They almost resent the focus on evidence that comes with data-driven decision making" (S-41).

Taking the Fun out of Learning

Another perspective shared by some of the participants of the survey and focus groups was the feeling that testing has taken the fun out of learning for the students. One survey respondent commented, "I feel we are so test driven that it has taken all the fun out of learning for the children" (S-36). A focus group interviewee stated, "I think we are collecting way more data than we need. We just test these kids today" (F2-28). Another teacher explained, "It's turning kids off to school. I mean, having this we can't do anything fun because we have to get them ready for this test. It's really kind of sad" (F2-29). With the pressures of testing and

accountability, instructional personnel feel pressured to be ready for the test. As a result, some teachers feel like they do not have the time to include learning for fun.

Professional Learning Communities

Several research participants expressed the positive outcome of professional learning communities as a part of the organizational routines for data-driven decision making. Survey respondents elaborated on the benefits of professional learning communities with the following statements:

- A very positive unexpected outcome of data-driven decision making is professional learning communities. I am fortunate enough to work with a very close team and we all work together in planning our instruction. We also work together to problem solve as well as brainstorming ideas to help individual students. (S-51)
- The use of data is a very important tool for teachers and schools when making decisions that will affect the learning of students. Professional Learning Community meetings give teachers support in the classroom and help teachers to work together as a team. I truly feel I am a more effective teacher since our school has made the switch to data-driven decision making. (S-62)

Teachers indicated the positive impact of professional learning communities for both teachers and students (F3-29).

Special Area Teachers

One focus group included teachers who did not serve as classroom or resource teachers. The participants may have included guidance, library, or physical education teachers. The special area teachers offered a valuable perspective about their role in data-driven decision making. One interviewee commented, “As special area teachers, I think we’re not involved in it as much, and so I feel like if we were a little more involved in it, there are things that we could do to help” (F1-52). Another interviewee responded, “We could make a difference too, but we’re not as involved in all of that, in the data-driven decision making but if it was shared more, with guidance, art, and various special areas, I think it could be of benefit” (F1-53). Therefore, school personnel could examine and expand how to include the special area teachers more to have a greater impact on data-driven decision making and possibly student performance.

Success

Another outcome that was addressed by a leadership interviewee was the success the staff experienced for student success. The leadership interviewee explained,

> I think one of the things that we need to say is that our SOL scores were excellent…. Again, looking at the data there was no one area that stands out as being extremely weak, leading us to reexamine planning and instruction. That may change as we delve further into the data, but areas that were traditionally weak—especially the topics taught later in the school year in math, tended to be the areas where our performance fell way below the mark in the past. I think this shows that our teachers are wisely using their time to spiral back throughout the year so that students are continually exposed to content from earlier in the year. (L3-17)

The development and implementation of the organizational routines has taken years to develop, but teachers and leaders continue to refine the process for increased student success.

Conclusion

The research participants offered valuable insights into the various research questions through the survey, focus group interviews, and individual interviews. The study participants identified 14 organizational routines as influencing classroom and intervention instruction: (a) guided reading levels, (b) data days, (c) the acceleration team, (d) acceleration plans, (e) Phonological Awareness Literacy Screening (PALS), (f) Measures of Academic Progress (MAP), (g) curriculum alignment, (h) common assessments, (i) the intervention/enrichment block (j) professional development, (k) professional learning communities, (l) master schedule, (m) leveled literacy intervention, and (n) pre/post assessments developed by the teachers. The interview questions for both the teacher and leadership interviews primarily focused on the common organizational routines of (a) curriculum alignment, (b) common assessments, (c) guided reading levels, (d) professional learning communities, and (e) acceleration plans. Challenges and unexpected outcomes of the organizational routines for data-driven decision making were also discussed.

One survey respondent commented, “The benefits of a data-driven school far outweigh the challenges” (S-46). While the respondents shared definite challenges to organizational routines for data-driven decision making, staff members continue to work through the challenges that arise in an effort to optimize student growth. The staff has learned valuable lessons and has

evolved through the process of data-driven decision making. One leadership interviewee stated, "We just learned it's a process and it's like school improvement. It's a never-ending process and every year we feel better about what we're doing" (L3-20).

In Chapter 5, the research findings are discussed and interpreted. Emerging themes of the study are also presented. Recommendations for practice and further research are also suggested. The researcher also shares personal reflections on data-driven decision making and the research study.

CHAPTER 5
CONCLUSION

Summary of the Study

A descriptive case study methodology was utilized to examine how organizational routines for data-driven decision making influenced classroom and intervention instruction while facing the macrolevel pressures of school improvement. The particular phenomenon the researcher investigated was how the organizational routines for data-driven decision making influenced classroom and intervention instruction at Crestwood Primary School. Specifically, the study was designed to:

a. Identify the organizational routines that were implemented in the school,
b. Examine how and why certain organizational routines facilitated the use of data to influence instruction in the school,
c. Identify challenges to implementation of organizational routines in the school, and
d. Identify any unexpected outcomes of the implementation of organizational routines in the school.

The research data were collected through four sources that included a Qualtrics survey, focus group interviews, individual interviews, and document analysis. A survey was developed for staff members to anonymously identify the organizational routines that were implemented for data-driven decision making. Twenty-one out of 33 eligible participants completed the survey. The second and third data sources were individual and focus group interviews. The survey responses were used to guide the development of the specific interview questions for the individual and focus group interviews. A total of 21 staff members participated in either focus group or individual interviews. The individual and focus group interviews were designed to provide specific details explaining how and why specific organizational routines influenced classroom and intervention instruction.

Due to the close relationship between the researcher and the respondents, a research assistant conducted the focus group and individual interviews in an effort to give the interviewees the opportunity to speak openly and freely without the fear of personal judgment. The research assistant was also used to reduce possible research bias in the study. The interviews were audio recorded and sent to Synergy Transcription Company in an effort to maintain the confidentiality of the participants. The fourth data source was documents that were reviewed and

analyzed. The researcher asked the participants to suggest documents that supported and limited their use of data to influence their classroom and intervention instruction through the survey and interview questions. The document analysis provided evidence to support how the organizational routines influenced instruction.

After the data were collected the researcher organized and coded the data by research question. A question/data source matrix was developed and utilized by the researcher to crosscheck the alignment of the specific research questions with the survey, individual interviews, focus group interviews, and document analysis. The descriptive data were designed to detail the participants' experiences with data-driven decision making. The researcher analyzed the coded units of data by research question that confirmed the triangulation of data from the survey, focus group interviews, individual interviews, and document analysis. The participants provided insight into the specific organizational routines implemented for data-driven decision making and challenges to data-driven decision making.

Summary of the Findings

The study participants identified 14 organizational routines as influencing classroom and intervention instruction: (a) guided reading levels, (b) data days, (c) the acceleration team, (d) acceleration plans, (e) Phonological Awareness Literacy Screening (PALS), (f) Measures of Academic Progress (MAP), (g) curriculum alignment, (h) common assessments, (i) the intervention/enrichment block (j) professional development, (k) professional learning communities, (l) master schedule, (m) leveled literacy intervention, and (n) pre/post assessments developed by the teachers. The interview questions for both the teacher and leadership interviews primarily focused on the common themes of (a) curriculum alignment, (b) common assessments, (c) guided reading levels, (d) professional learning communities, and (e) acceleration plans.

The survey respondents and interview participants explained how the organizational routines facilitated the use of data by providing (a) focus and direction, (b) student centered instruction, (c) focus on student growth, (d) collaboration and teamwork, (e), flexible grouping of students, and (f) teacher reflection and ownership of all students. Challenges and unexpected outcomes of the organizational routines for data-driven decision making were also discussed. The challenges with the most references included (a) time, (b) too much data (c) data with conflicting information, (d) the pacing guide, and (e) changing teacher attitudes and practices.

Discussion and Interpretation of Findings

The research study captured a glimpse of one school's experiences navigating between the macrolevel pressures of the federal, state, and local policies for school improvement while putting a plan into place for data-driven decision making at the microlevel. The macrolevel demands of school improvement at the federal, state, and local levels mandated the use of data in an effort to improve student achievement. The staff of Crestwood Primary School identified and incorporated the mandated indicators into the school improvement plan to strive to meet both accreditation and AMO targets. The required indicators from the federal and state level included the following:

- The school uses an identification process (including ongoing conversations with instructional leadership teams and data points to be used) for all students at risk of failing or in need of targeted interventions.
- The school uses a tiered, differentiated intervention process to assign research-based interventions aligned with the individual needs of identified students (the process includes a description of how interventions are selected and assigned to students as well as the frequency and duration of interventions for Tier 2 and Tier 3 students).
- The school uses a monitoring process (including a multi-disciplinary team that meets regularly to review student intervention outcome data and identifies "triggers" and next steps for unsuccessful interventions) for targeted intervention students to ensure fidelity and effectiveness. (Crestwood Primary School's 2012-13 School Improvement/Indistar Plan)

Embedded within the improvement plan, the school staff developed tasks that were aligned with the above mentioned indicators. The staff was also responsible for updating the school improvement plan on a regular basis detailing action steps towards meeting the specified goals. Quarterly reports were also mandated to monitor progress towards the goals to meet federal and state mandates. The local district also required a 90 Day School Improvement Plan that included specific goals, action steps, and target dates for improvements in reading (see Appendix T).

The use of data was an integral part of all the macrolevel improvement plans. While the 14 organizational routines identified by the staff are not explicitly stated within the required

indicators, the infrastructure to support the indicators included the identified organizational routines. The identification process for at-risk students is determined primarily by the common assessments of PALS, MAP, guided reading levels, and pre/post assessments. The common assessments stem from curriculum alignment.

The school used a tiered, differentiated intervention process to assign research-based interventions aligned with the individual needs of identified students by examining student data during data days and PLC meetings. During data days, acceleration plans were developed for Tier 2 and Tier 3 students specifying a targeted intervention goal based upon the guided reading levels. The students were served within the regular classroom by the classroom teacher and resource teacher. In addition, the master schedule allotted an additional 30 minutes daily for targeted interventions using the leveled literacy intervention program for reading. All of these organizational routines were implemented and developed through extensive professional development and professional learning communities.

The school developed a monitoring process including a multi-disciplinary team that was referred to as the acceleration team. The acceleration team met weekly to review student intervention outcome data and next steps for unsuccessful interventions for targeted intervention students. The reading specialist led the weekly meetings to facilitate discussions about adjusting groups to meet the needs of the individual students.

In an effort to meet the macrolevel demands, the staff worked hard at the microlevel to use data as a tool for improvement. The macrolevel demands forced the staff to find ways to use data to influence instruction to improve student performance. While the staff did not directly identify the school improvement plan as a document that influenced instruction, it definitely influenced the way in which the school operated. The process of data-driven decision making did not happen overnight. The process of school improvement took approximately five years for the staff of Crestwood Primary School to see substantial results. The research study was designed to examine how the organizational routines for data-driven decision making influenced classroom and intervention instruction.

The study revealed 14 organizational routines for data-driven decision making to influence classroom and intervention instruction. Table 12 summarizes the research findings by utilizing the conceptual framework for ostensive and performative aspects of organizational routines.

Table 12

Data-Driven Decision Making to Influence Instruction: Post-Study

Macrolevel – The federal, state, and local policies that shape education
No Child Left Behind Requirements
State requirements
District requirements
School Improvement requirements at the federal, state, and local levels

Microlevel – The specific actions the school leaders and teachers complete to meet the macrolevel mandates

Organizational Routines

Ostensive Aspect	**Performative Aspect**
Curriculum Alignment	Literacy Plan, Numeracy Plan, Curriculum Maps, Lesson Plans, Unpack the standards of learning
Common Assessments	PALS, MAP, Guided Reading Levels, Benchmark Assessments, Pre/Post Tests developed by teachers
Guided Reading Levels	Fountas & Pinnell Leveling System, Common language, flexibly group students, targeted instructional materials, focus and direction
Professional Learning Community	Weekly Team Meetings, sharing data, sharing strategies for units of study, sharing strategies for struggling students, brainstorming solutions to problems, teamwork, and support
Acceleration Plans	Goal setting for struggling students, plan for delivery of services, allows students to be instructed at instructional level, focus and direction for struggling students, collaboration
Acceleration Team	Progress monitor student growth for struggling students, students are flexibly grouped according to instructional levels, ideas are shared for struggling students, support teachers, teamwork
Data Days	Examine strengths and weaknesses of students and classrooms, develop plans for re-teaching and closing gaps in instruction
Data Warehouse	Not yet fully implemented at Crestwood Elementary School as measured by the survey

(table continued)

Table 12 (continued)

Macrolevel – The federal, state, and local policies that shape education	
No Child Left Behind Requirements	
State requirements	
District requirements	
School Improvement requirements at the federal, state, and local levels	
Microlevel – The specific actions the school leaders and teachers complete to meet the macrolevel mandates	
Organizational Routines	
Challenges to Data-Driven Decision Making	Time Time to assess, collect, analyze, and submit data reports Time to collaborate and discuss data results Time taken away from instruction Loss of instructional time due to testing Too much data Adhering to the pacing guide when students may not master the content Changing teacher attitudes and practices. Lack of materials Need for additional personnel Not providing enough time for programs to work Scheduling Loss of the teacher's personal judgment
Unexpected Outcomes Identified by the Teachers	Understanding students better Student Growth Planning more strategically Increased teacher knowledge and confidence Professional Learning Communities Takes the fun out of learning Success for students and teachers Need to involve special area teachers more

The ostensive aspects focused on the formal organizational routines while the performative aspects reveal data use in practice within the school and classrooms. The ostensive aspects revealed how the leadership team established the formalized structures for data-driven decision making while the performative structures revealed how the teachers put the data into practice to influence classroom and intervention instruction.

While the study focused on one school, district level support was evident through the organizational routines of curriculum alignment and common assessments. Through careful analysis of the curriculum maps, literacy plan, and numeracy plan, it became clear that the

documents represent the district requirements and expectations at the macrolevel in an effort to shape education for the students of the district. The districtwide documents represent the ostensive aspects, or the formal plans, for serving students educationally.

The documents support the formal organizational routines of curriculum alignment, common assessments, professional development, lesson planning, differentiated instruction, and student growth. Additionally the documents suggest other ostensive aspects of organizational routines such as guided reading levels, professional learning communities, acceleration plans, and data days. The research study participants indicated how the curriculum maps, literacy plan, and numeracy plan influenced both their classroom and intervention instruction. The participants revealed how they used the ostensive aspects to shape the performative aspects of organization routines by putting data use into practice. One interviewee commented, "The literacy goals, math goals, and curriculum maps have made an impact on instruction. Everyone is using the same information" (L1-31).

The performative aspects of the organizational routines for data-driven decision making took time to develop, implement, and improve. The school started with a focus on curriculum alignment and common assessments. Next, data days were introduced to examine the common assessments and discuss strengths and weaknesses for the school, teachers, and individual students. After the establishment of data days, the staff recognized the need for acceleration plans for struggling students. The acceleration plans provided a framework for professional conversations to emerge about goal setting and student growth. The staff quickly recognized the difficulty in goal setting because different teachers had different expectations for reading development. Therefore, it became necessary for the staff to adopt guided reading levels so everyone could speak a common language regarding reading development. Finally, the Acceleration Team was established to monitor student progress, adjust student grouping, and support teachers and struggling students. Many of the performative aspects of the organizational routines emerged from honest and sometimes difficult conversations within professional learning communities. The macrolevel pressures of school improvement pushed the staff of Crestwood Primary School to change microlevel practices for data-driven decision making.

The research participants provided elaboration and detail about the performative aspects of the organizational routines through their survey responses, focus group interviews, and individual interviews. The responses provided insight into how the participants utilized the

specific organizational routines for data use highlighting the benefits and challenges to data-driven decision making. Finally, the participants discussed unexpected outcomes of data-driven decision making. The conclusions from the research study are highlighted below.

Emerging Themes

- Organizational routines work together to provide structure and to support a data-driven culture.
- Teacher observation of learners is an integral component of a data-driven culture.
- Instructional staff needs time to administer, analyze, and discuss assessment data in order to use the information to plan for upcoming instruction. Instructional staff needs to be willing to adjust instruction if students are not making progress.
- Instructional staff must collaborate and work as a team towards a common goal for student growth.

Connections to the Literature

The case study results revealed both similarities and differences with the literature reviewed in Chapter 2. Table 13 displays the comparison of findings between previous research studies and the current study.

All the studies revealed the importance of district level support along with school leadership to support data-driven decision making (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). District level and school leadership were evident through the establishment of the various organizational routines. The organizational routines of curriculum alignment, common assessments, professional learning communities, school improvement goals, and professional development were common among the studies (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008). This research study revealed the importance of guided reading levels and acceleration plans in supporting data-driven decision making. The acceleration plans reflected similarities to another study that resulted in determining an intervention focus for specific students (Datnow et al., 2007). In the end, the organizational routines resulted in a data-driven culture that supported instructional adjustments for student success.

Table 13

Comparison of Organizational Routines for Data-Driven Decision Making

Researchers	Kerr, Marsh, Ikemoto, Darilek & Barney (2006)	Luo (2008)	Datnow, Park, and Wohlstetter (2007)	Wohlstetter, Datnow, & Park (2008)	Park & Datnow (2009)	Williams (2014)
	Organizational Routines					
Organizational Routines Supports						
District Level Support	X	X	X	X	X	**X**
School Leadership	X	X	X	X	X	**X**
Trust			X	X	X	
Organizational Routines						
Curriculum Alignment	X		X	X	X	**X**
Common Assessments	X		X	X	X	**X**
Data Warehouse	X	X	X	X	X	
Data Accessibility	X	X	X			
Professional Development	X		X	X	X	**X**
Data Analysis Skills	X	X		X	X	
Professional Learning Communities		X	X	X	X	**X**
School Improvement Goals	X		X	X	X	**X**
Assessment Validity	X	X	X			
Timeliness of Data	X		X			
Structured Review of Student Work	X		X			
Classroom Observation Protocol	X					
Clear Communication				X		
Guided Reading Levels						**X**
Acceleration Plans						**X**
Possible Benefits of Organizational Routines						
Data-Driven Culture			X	X	X	**X**
Instructional Adjustments			X	X	X	**X**

The literature reviewed in Chapter 2 also revealed similar challenges to data-driven decision making that included excessive amount of testing, time taken away from instruction, concerns with the pacing guide, and the lack of time to analyze the data (Kerr et al., 2006, Park

& Datnow, 2009). Just like in other studies, the teachers oftentimes felt pushed by the curriculum guides and did not feel they could veer form the districts' curricular expectations (Kerr et al, 2006; Park & Datnow, 2009). As a result, they had difficulty finding the balance between using data to guide instruction while following the strict pacing guides. The lack of time was a consistent challenge across many of the studies because data-driven decision making takes time to assess, plan, and instruct (Kerr et al, 2006; Park & Datnow, 2009).

Implications for Practice at the Macrolevel

Policymakers and legislators have an important job of ensuring quality education for all students. It is imperative for policymakers to thoroughly understand the implications and impact of laws on public schools before decisions are final. It is also important for best practices and research-based strategies to be shared with school leaders so that valuable instructional time is not lost searching for answers to improve student achievement. Oftentimes, the policies are so complicated it is difficult for educators and the general public to understand.

It is also important for education to become a priority when it comes to funding to new mandates and expectations. School leaders are told they must comply with certain mandates without the resources to fully comply with the given expectation. School improvement is one example that was mandated by policymakers yet there was not a clear model that worked (Hansen, 2012). While policies are written with the students' best interests in mind, the outcomes oftentimes jeopardize the best interest of students. For example, the accountability movement has forced school personnel to focus on test results; however some teachers have turned to teaching to the test rather than teaching the content for mastery. Has the accountability movement really improved education or have our educators learned to teach to the test without improving education at all?

Implications for Practice at the Microlevel

District level leaders and school leaders need to find ways to support and nurture a data-driven culture. Curriculum alignment, common assessments, and professional learning communities are key to developing a data-driven culture. Professional development is key in guiding instructional staff through the process of data-driven decision making. The process of data-driven decision making takes time to develop, refine, and perfect. Instructional leaders also need to understand the delicate balance between assessments and instruction. Finally, through

teacher observation of learners and assessments, teachers can make instructional adjustments in an effort to maximize academic gains for student success. The sections below offer suggestions for practice at the school and district level to directly influence classroom and intervention instruction.

Curriculum Alignment, Common Assessments, and Professional Learning Communities

It is crucial for educational leaders to establish and facilitate the organizational routines for curriculum alignment, common assessments, and professional learning communities to open the doors for a data-driven culture to flourish. Other researchers agree that one of the first steps in improving academic performance within a district and/or school is the examination of curriculum alignment and common assessments (Datnow et al., 2007; Kerr et al., 2006; Luo, 2008; Park & Datnow, 2009; Wohlstetter et al., 2008).

The three organizational routines are vital in providing the infrastructure for professional conversations and instructional changes to occur. Curriculum alignment provides direction and a common language for the instructional staff (Wohlstetter et al., 2008). Common assessments provide a common measure for student performance. Professional learning communities provide a structure for academic conversations. The three organizational routines do not just happen by chance. The establishment of the three organizational routines takes time, effort, and healthy conversations to develop and implement. The research study also concurred with other studies that found the organizational routines standardize the instructional program within and across schools and classrooms making instruction more transparent and more easily monitored through the use of data (DuFour et al., 2004; Spillane, 2012).

Time

Educational leaders need to find ways to give instructional staff time to administer, analyze, and discuss data results to guide instruction. If data use is a priority for the school, then school leaders need to designate time for data collection, analysis, and collaboration. Careful analysis and creative uses of the master schedule may open doors for time designated for data use. Release time is another option for creating time devoted to data use. Teachers have many demands during each day and oftentimes need support to find the necessary time to use data for instructional decision making.

Professional Development

Professional development is a key component to help teachers understand how to use data to guide classroom and intervention instruction (Datnow et al, 2007; Datnow & Park, 2009; Wohlstetter et al., 2008). It is important for the instructional staff to understand the data sources and what the information means. When teachers clearly understand the data, then they are more likely to use the information to make instructional decisions. Instructional leaders cannot assume teachers understand how to use data. The process of using data to influence instruction needs to be modeled for teachers. Instructional leaders need to guide teachers through the process of using data to influence instruction. Finally, instructional leaders need to have follow-up conversations with teachers to determine where additional support is needed. Teachers need to be able to see data sources as a support rather than something to fear.

Balance between Assessments and Instruction

There is a fine line between assessing enough and assessing too much. Finding the balance between quality instruction and the proper number of assessments to guide instruction can be difficult. While assessments are important in instructional decision making, it is critical for teachers have enough time to teach the content. Instructional leaders need to listen to teachers' concerns about testing taking away from instructional time. Administrators and instructional staff need to work together to select the assessments that provide the most valuable information for influencing instruction without jeopardizing valuable instructional time. Datnow et al. (2007) stressed the importance of selecting the right data that provided the best information for teachers to guide instruction. In this study, the teachers overwhelmingly valued the information gained from guided reading levels to influence instruction. By working together, a balance of instruction can be established.

Data-Driven Culture

In the end, many of the organizational routines naturally build upon one another creating a data-driven culture. Without curriculum alignment and common assessments, it is difficult to have professional learning communities with meaningful conversations. It is important to develop professional learning communities to be able to have productive data days. The acceleration plans became more targeted with guided reading levels. Monitoring student progress with guided reading levels allow for better flexible grouping of students based on specific needs.

With a data-driven culture, it is difficult to determine which component has had the biggest impact because all the components are intertwined together to impact student achievement. Data has become such an integral part of the day to day operations of Crestwood Primary School that it is difficult to imagine life before data.

Instructional Adjustments

Ultimately, the goal of a data-driven culture is to constantly monitor students' progress to adjust and change instruction based upon the results. If data are collected, but are never applied, then what is the purpose of data collection? Teachers need to be willing to reflect on their teaching practices to see if adjustments need to be made for student success. Data-driven decision making is adjusting instruction based on the results of the data for student success. In the past teachers were content with covering the content. With data-driven decision making, teachers tend to be more student-centered to determine whether or not the child understood the content resulting in student learning. It is important to constantly examine the data to adjust instructional practices and to determine an intervention focus for students (Datnow et al, 2007, p. 39). As a part of a data-driven culture, it is also important to develop a culture of continuous improvement (Datnow et al., 2007; Datnow & Park, 2009; Wohlstetter et al., 2008). Educators should always strive to improve regardless of macrolevel mandates.

Teacher Observation of Learners

While teacher observations of learners may not be categorized as an organizational routine, teacher observation is an integral part of developing a data-driven culture. A key characteristic of a data-driven teacher is the professional skill to quickly recognize the needs of students based on both formal and informal observations. One teacher commented, "Data is great and it's certainly something that has to be looked at but you still can't take away totally what a teacher knows about the student" (F2-37). Teachers need to feel empowered to take the time to adjust instruction based on the results of student data for increased student achievement. Wohlstetter et al. (2008) commented, "Those closest to the students are in the best position to judge their needs and abilities and hence to choose the most suitable methods and technologies for successful learning" (p. 241). While instructional leaders are establishing the organizational routines for a data-driven culture, they must also recognize and value the expertise of teacher's

observations of learners. Teachers are in the best position to identify, develop, and implement intervention strategies based on student data (Wohlstetter et al., 2008).

Data are powerful when instructional personnel change or modify instructional practices in an effort to improve student learning. When organizational routine are successfully implemented, then school personnel may be able to adjust instructional practices based on data results and use the data to assist teachers in making instructional decisions to increase student achievement. Data-driven decision making requires coordination and ownership among all stakeholders including the parent, the student, the classroom teacher, and resource teachers.

Recommendations for Further Research

Continued studies are needed to examine the use of data in public schools. With the accountability movement, educators are bombarded with data. Since this research study focused on an elementary school, it would be of value to conduct a similar study at the middle and high school levels to see if the results yielded similar findings. It would also be of value to conduct a similar case study within a school that was not under the sanctions of school improvement to compare the research findings. Continued research is needed to pinpoint how teachers and leaders use data to influence instruction. Other possible research studies could include the following:

- A study focusing on how the leaders facilitate the use of data in schools in improvement to influence instruction.
- A study focusing on the use of formative assessments to guide instruction.
- A quantitative study exploring the impact of the identified organizational routines for data-driven decision making on student achievement.
- A study examining how teachers' perceptions of data have changed since the new teacher evaluation model has shifted to a student growth model.

The topics surrounding data-driven decision making have many facets to explore. Additional research in the form of both quantitative and qualitative research studies could enhance educator's understanding and best practices for data-driven decision making.

Personal Reflections and Epilogue

The next step in the improvement process for the school is to focus on the teaching of mathematics. Additional professional development needs to be conducted in the area of

mathematics. One survey respondent commented the school needed a measurable progress monitoring system for math interventions (S-32). Another survey respondent commented that students who needed math interventions were already receiving reading intervention. Since the interventions were offered at the same time, not all students who needed the math intervention received it (S-42). One leadership interviewee commented, "We will continue to focus on reading so that we will not regress there but, at the same time, focus on building students' (and teachers') capacity in math" (L3-20). Based upon personal observations and the research data, additional attention is needed in the area of mathematics in an effort to build the teachers' confidence in the subject area. As both the school principal and the researcher, I believe it is a testament to the power of data in reading for the teachers to be asking for the same in mathematics.

Trust

While trust was only mentioned once during the interviews, trust is a major component of data-driven decision making (Datnow et al., 2007; Datnow & Park, 2009; Wohlstetter et al, 2008). When a teacher puts one of his/her students in another teacher's hands for instruction, the teacher needs to be able to trust that quality instruction is being delivered for optimal growth. In addition, teachers need to be able to trust the administrative team. The administrative team needs to take ownership of the data to support teachers in developing teaching techniques to optimize student growth. When administrative teams use data as a way to reprimand teachers and cast blame, then teachers begin to see data as an enemy rather than teaching tool. Finally, a data-driven culture is dependent on mutual trust to establish teamwork and collaboration for optimum student growth. The staff worked through the process of taking collective ownership of all the students as opposed to only my students. While the concept seems simplistic, everyone working towards the common good for all students became imperative.

The next component of trust is being able to trust the data sources. Teachers need to understand why a certain data source was chosen and be able to trust the reliability of the data source. When teachers understand the information that is provided through a specific data source, then they are more likely to use the information to adjust their instruction. One survey respondent commented, "While data does drive my instruction, it has to be good data. It is not just enough to have data, but you must know how to read it and to use it correctly when giving

instruction" (S-61). Instructional personnel need to ensure the data collected are valuable data that will help teachers influence instruction.

Instructional Issues

Another factor that was not directly addressed in this study is how to correct instructional problems that are revealed through data. I have observed teachers' frustration in recognizing an instructional problem but struggling with how to correct the instructional issue. Sometimes the problems relate to lack of teacher confidence and knowledge while other times the problems are beyond all the teachers' expertise. A data-driven culture should promote instructional conversations where teachers are encouraged to ask questions when they do not have the answers. Teachers need to feel comfortable in voicing the fact they need support without the fear of being judged. School leaders and professional learning communities grow together in the quest for knowledge because school should be a place where everyone is continuously learning and supporting one another.

Student Growth

Before the focus on data-driven decision making, teachers seemed to be content with student growth whether it was great or small. Now teachers have developed a better understanding of expected growth and accelerated growth. For students who are below grade level, expected growth is not enough to close the achievement gap. Instead accelerated growth is needed to help the student overcome reading and math deficits. With the guided reading levels, teachers have a better understanding of how to close the achievement gap by accelerating student growth. Teachers do a better job of pushing students to success rather than waiting for them to master every skill before moving on. In the past, teachers slowed down instruction for struggling students. Now, teachers understand the importance of additional teaching time and more intensive support in effort to diminish the achievement gap. Data-driven decision making helps teachers maintain their focus on student growth.

With teacher evaluation models shifting to data sources to document student growth, I am fearful that teachers may start to see data as an enemy instead of a tool for teaching. Instructional leaders need to take precautions to support teachers in data use. Instructional leaders need to take ownership in what the data reveals about the school, specific classrooms, and specific students. If a particular classroom has data that create alarm, then the instructional leader needs to find ways

to support the classroom teacher in trying to correct the problem. If the problem persists after support is provided, then the instructional leader may need to take further action. Nevertheless, instructional leaders need to help promote data as a tool for teaching rather than a trap.

School Improvement Journey

Finally, developing a culture of data-driven decision making has taken time to evolve. Ten years ago, data sources were limited at the primary level. Teachers and administrators put all their faith in one data source. The staff was satisfied with even minimal student growth. When the school did not meet the federal requirements for Annual Yearly Progress, the staff began looking for other data sources to help pinpoint weaknesses. Administrator and teacher confidence was at an all-time low. The school improvement journey forced administrators, teachers, support staff, and district level staff to examine and question every instructional decision we were making. When our school did not meet the expected standards, personnel were more open to search and implement new ways of operating in an effort to demonstrate improvement.

Despite the challenges of the school improvement journey, the staff remained determined and committed to excellence. The staff was receptive to new ideas and was willing to try anything to meet both the state and federal standards. Numerous staff members participated in the Response to Intervention Training. The school was selected as a pilot site for the Commonwealth of Virginia. Other staff members participated in the Instructional Consultation Team training offered by the Virginia Department of Education's Training/Technical Assistance Centers (T/TAC). The administrative team participated in training for the School Turnaround Model offered by the University of Virginia. Additionally, the staff participated in all the required state trainings and webinars for school improvement. The staff also participated in other professional development sessions focusing on explicit instruction, quality reading instruction, and quality mathematics instruction. One of the common threads between all the initiatives and professional development was the focus on data-driven decision making.

The staff experimented with a variety of data sources before finding the data source that was most beneficial to the students and teachers. The staff used AimsWeb, iStation, and other programs to obtain data in addition to PALS. By utilizing AimsWeb, the staff began to understand the difference between growth, expected growth, and accelerated growth. The staff then shifted to Measures of Academic Progress as an adaptive test in both reading and math to

measure student growth. One teacher interviewee commented, “It’s been an evolution of what we’ve added or taken away along the way with our data. We’ve gone through several different forms of assessments” (F2-32).

Next, the staff implemented the guided reading levels across the school. A turning point for success was discovered. Teachers and staff began celebrating little successes that snowballed into huge success stories. The guided reading levels gave the entire staff a common language with clear targets for student mastery. Teachers began asking for more books and resources that were aligned with guided reading levels. School improvement money was funneled into the teacher book room to provide teachers with the necessary materials to support small group reading instruction. I believe teachers value data like the guided reading levels that provide direction and guidance in helping students succeed. With the information gained from guided reading level data, teachers finally had resources and strategies to begin to help students overcome reading challenges. Teacher confidence was beginning to return little by little.

During the 2013-14 school year, the school transitioned from a preK-2 school to a preK – 5 school. The staff worked very hard to increase rigor across the content areas from grades preK – 5 and to continuously use data to influence instruction. The staff worked together learning new content, new subjects, and new grade level expectations. All the hard work finally paid off for the school because the test results yielded both state accreditation and federal requirements for the Annual Measurable Objectives (Table 14). When I reflect back on the school improvement journey, I am amazed at the commitment, dedication, and positive attitudes the staff had while overcoming the challenges to ensure the best education was made available to the students of the community. The staff never gave up. They simply asked, “What do we need to do next for our students?”

Table 14

Standards of Learning Test Results - Three Year Comparison

Three Year English SOL Comparison	2011-12	2012-13	2013-14
All Students	78.3%	71.8%	83.5%
Students with Disabilities	48.5%	66.2%	78.9%
Disadvantaged Students	65.1%	64.5%	82.4%
Three Year Mathematics SOL Comparison	2011-12	2012-13	2013-14
All Students	55.3%	64.4%	76.1%
Students with Disabilities	28.7%	47.9%	50.0%
Disadvantaged Students	44.3%	56.3%	70.5%

While it is impossible to credit data-driven decision making for all of the success, data-driven decision making was certainly a key factor in the success. Data-driven decision making has become a part of the culture. One leadership interviewee commented,

> I just feel like it [data use] is such an essential piece. I do believe in it! It has to be something that you think about, you do, and you make it a priority, and it's not something you can do quickly. You have to really look at it, think about it, discuss it, and work together as a team to make it work. Teamwork and collaboration are also essential. It's working as a professional learning community to help and support each other. (L1-33)

The journey is not over for the school; it is just beginning with a new tradition of excellence. While the school will celebrate the success of the year, the staff will not forget the struggles of the past and will constantly strive for continuous improvement while using data to influence classroom and intervention instruction. Data is only one piece of the instructional puzzle. School leaders can establish fourteen or more organizational routines to no avail if quality instruction is not being delivered in the classroom. Quality instruction is paramount in every aspect of educational success. Teachers deserve quality professional development and students deserve quality instruction. In the end, the teachers make the difference for students. Data is powerless without the power of a teacher. But, data can be powerful tool for learning with the superpowers of an outstanding teacher.

REFERENCES

Bambrick-Santoyo, P. (2010). *Driven by data: a practical guide to improve instruction.* San Francisco, CA: John Wiley & Sons.

Bambrick-Santoyo, P. (2012). *Leverage leadership: A practical guide to building exceptional schools.* San Francisco, CA: John Wiley & Sons.

Bassey, M. (1999). *Case study research in educational settings*. Philadelphia, PA: Open University Press.

Berkeley, M. (2012). A practitioner's view on the policy of turning schools around. *Journal of Education for Students Placed at Risk.* 17, 34-39. Doi:10.1080/10824669.2012.636700

Coburn, C., & Turner, E. (2012). The practice of data use: an introduction. *American Journal of Education*, *118*(2), 99-111.

Creighton, T. (2007). *Schools and data: The educators guide for using data to improve decision making* (2 ed. Vol. 2). Thousand Oaks, CA: Corwin Press.

Datnow, A., Park, V., & Wohlstetter, P. (2007). *Achieving with data: How high-performing school systems use data to improve instruction for elementary students.* Los Angeles: University of Southern California, Center on Educational Governance.

Dillman, D. (2000). *Mail and internet surveys: The tailored design method (2nd edition)*. New York, NY: John Wiley & Sons Inc.

DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn.* Bloomington, IN: Solution Tree.

DuFour, R., DuFour, R., Eaker, R, & Many, T. (2010). *Learning by doing: A handbook for professional learning communities at work.* Bloomington, IN: Solution Tree.

Duke, D. (2012). Tinkering and turnarounds: Understanding the contemporary campaign to improve low-performing schools. *Journal of Education for Students Placed At Risk, 17*, 9-24. Doi:10.1080/10824669.2012.636696

Edmonds, R. (1982). Programs of school improvement: An Overview. *Educational Leadership*, December, p. 4-11.

Fraenkel, J., Wallen, N., & Hyun, H. (2015). *How to design and evaluate research in education* (9th ed.). New York, NY: McGraw Hill Education.

Glatthorn, A., & Joyner, R. (2005). *Writing the winning thesis or dissertation: A step-by-step guide (2nd ed.).* Thousand Oaks, CA: Corwin Press.

Goren, P. (2012). Data, data, and more data – what's an educator to do? *American Journal of Education*, *118*(2), 233-237.

Hansen, M. (2012). Key issues in empirically identifying chronically low-performing and turnaround schools. *Journal of Education for Students Placed At Risk, 17,* 55-69. Doi:10.1080/10824669.2012.637165

Herman, R. (2012). Scaling school turnaround. *Journal of Education for Students Placed At Risk, 17*, 25-33. Doi:10.1080/10824669.2012.637166

Hunt, S., & Staton, A. (1996). "The communication of educational reform: A nation at risk". *Communication Education, 45,* 271-292.

Kerr, K., Marsh, J., Ikemoto, G., Darilek, H., & Barney, H. (2006). Strategies to promote data use for instructional improvement: Actions, outcomes, and lessons from three urban districts. *American Journal of Education*, *112*(8), 496-520.

Kutash, J., Nico, E., Gorin, E., Rahmatullah, S., & Tallant, K. (2010). The school turnaround field guide. FSG Social Impact Advisors. Retrieved April 2013 from http//www.wallacefoundation.org

Leithwood, K., Harris, A., & Strauss, T. (2010). *Leading school turnaround: How successful leaders transform low-performing schools.* San Francisco, CA: John Wiley & Sons Inc.

Lezotte, L. (2001). Revolutionary and evolutionary: The effective schools movement. Okemos, MI: Effective Schools Products, Ltd.

Little, J. (2012). Understanding data use practice among teachers: the contribution of micro-process studies. *American Journal of Education*, *118*(2), 143-166.

Luo, M. (2008). Structural equation modeling for high school principals' data-driven decision making: An analysis of information use environments. *Educational Administration Quarterly*, *44*(5), 603-634. Doi:10.1177/0013161X08321506

Manwaring, R. (2011). School turnaround success: Focus on implementation. *Principal*, *90*(4), 10-13.

Markus, K., & Smith, L. (2010). Content validity. *Encyclopedia of Research Design*, 239-244. Thousand Oaks, CA: SAGE Publications, Inc. doi:10.4135/9781412961288.n74

Maxwell, G.M., Huggins, K.S., & Scheurich, J. J. (2010). How one historically underperforming diverse rural high school achieved a successful turnaround. *Planning and Changing, 41* (3/4), 161-186.

McMillan, J., & Wergin, J. (2010). *Understanding and Evaluating Educational Research (4th ed.).* Upper Saddle River, NJ: Pearson Education, Inc.

Moss, P. (2012). Exploring the macro-micro dynamic in data use practice. *American Journal of Education*, *118*(2), 223-232.

National Center for Education Evaluation and Regional Assistance (2009). Using student achievement data to support instructional decision making. U.S. Department of Education. Retrieved October 28, 2011 from http//*ies.ed.gov/ncee*

National Commission of Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Washington, DC: U.S. Government Printing Office.

No Child left Behind Act. (2001). Public Law 107-110, 2002.

Park, V. & Datnow, A. (2009). Co-constructing distributed leadership: District and school connections in data-driven decision-making. *School Leadership and Management*, *29*(5), 477-494. doi:10.1080/13632430903162541

Pinnell, G. & Fountas, I. (2011). *The continuum of literacy learning: A guide to teaching*. Portsmouth, NH: Heinemann.

Ravitch, D. (2010). *The death and life of the great American school system: How testing and choice are undermining education*. New York, NY: Basic Books.

Roberts, C. (2010). *The dissertation journey*. Thousand Oaks, CA: Corwin.

Rossman, G. & Rallis, S. (2012). *Learning in the field: An introduction to qualitative research (3rd ed.).* Thousand Oaks, CA: Sage Publications, Inc.

Schmoker, M. (2011). Turnaround: A tale of two schools. *Kappan*, *93*(2), 70-71.

Schwartz, R. & Robinson, M. (2000). *Goals 2000* and the standards movement. *Brookings Papers on Educational Policy*, 173-206. Doi:10.1353/pep.2000.0016

Seidman, I. (2013*). Interviewing as qualitative research: A guide for researchers in education & the social sciences (4th ed.).* New York, NY: Teachers College Press.

Smarick, A. (2010). The turnaround fallacy. *Education Next*, *10*(1), 20-26.

Spillane, J. (2012). Data in practice: Conceptualizing the data-based decision-making phenomena. *American Journal of Education*, *118*(2), 113-141.

Superfine, B. (2005). The politics of accountability: The rise and fall of *Goals 2000*. *American Journal of Education*, *112*(11), 10-43.

United States General Accounting Office (1998). *Goals 2000: Flexible funding supports state and local education reform.* Washington, D.C.: Health, Education, and Human Services Division.

Wohlstetter, P., Datnow, A., Park, V. (2008). Creating a system for data-driven decision-making: Applying the principal-agent framework. *School Effectiveness and School Improvement, 19*(3), 239-259. doi:10.1080/09243450802246376

Yin, R. (1994) *Case study research design and methods (2nd ed.).* Thousand Oaks, CA: Sage Publications.

APPENDIX A

RESEARCH QUESTION/DATA SOURCE MATRIX

Research Question	*Data Sources*	*Survey Questions*	*Interview Question*	*Focus Group Interview Questions*	*Document Analysis*
What organizational routines for data-driven decision making were implemented to influence classroom and intervention instruction?	Survey, Document Analysis	Please check all the structures that have been put into place to influence your classroom and intervention instruction.			To what extent do the documents influence your classroom and intervention instruction? (Survey Question) Curriculum Maps, Literacy Plan, Numeracy Plan, Acceleration Plan
How did the organizational routines influence classroom and intervention instruction? Why?	Survey, individual interviews, focus group interviews, and document analysis	To what extent do the available structures for data-driven decision making influence your classroom and intervention instruction? Please identify the three organizational routines that influence your classroom and intervention instruction the most. Please check all the data sources you use to influence your classroom and intervention instruction. To what extent do the data sources influence your classroom and intervention instruction?	Please describe the changes you observed regarding the use of data to influence classroom and intervention instruction throughout the school?	How have the practices of data-driven decision making influenced your classroom and intervention instruction? Why do you think the practices of data-driven decision making have influenced instruction?	Were there any specific countywide or school wide documents that influenced your classroom and intervention instruction? (Individual and Focus Group Interviews)

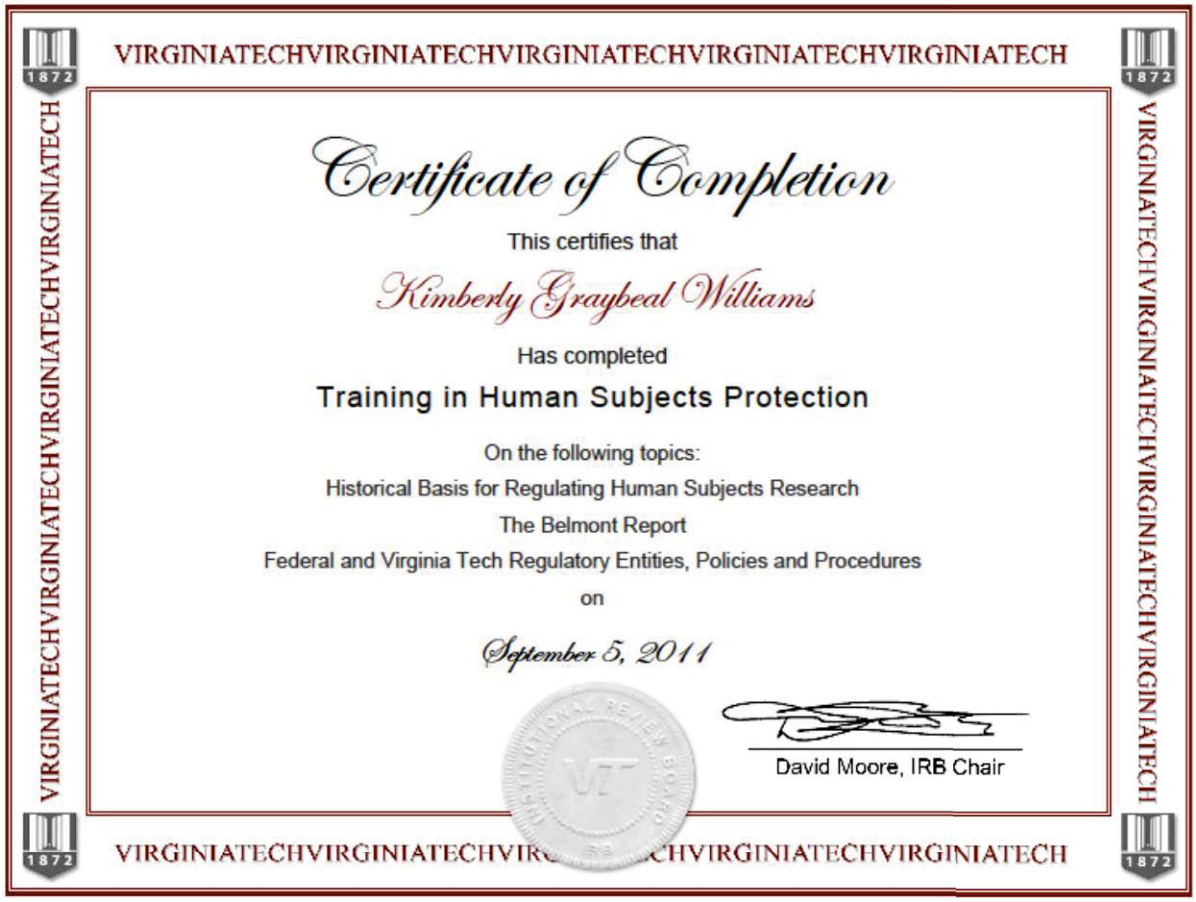
(continued)

Appendix A *(continued)*

Research Question	***Data Sources***	***Survey Questions***	***Interview Question***	***Focus Group Interview Questions***	***Document Analysis***
How did the organizational routines facilitate the use of data to influence instruction?	Survey, individual interviews, focus group interviews, and document analysis	To what extent do the available structures for data-driven decision making influence your instruction? Please identify the three organizational routines that influence your instruction the most.	Why do you think the practices of data-driven decision making have influenced instruction school wide?	How did curriculum alignment, common assessments, guided reading levels, professional learning communities, and acceleration plans improve the use of data to influence instruction?	
What were the challenges to the implementation of organizational routines within the school for data-driven decision making?	Survey, individual interviews, focus group interviews, and document analysis	Were there any challenges to the implementation of routines for data-driven decision making to influence instruction? If so, please list below.	What do you see as the biggest challenges in using data to influence instruction from a school wide perspective?	What do you see as the biggest challenges to using data to influence your instruction? Why?	
What were the unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction?	Survey, individual interviews, focus group interviews, and document analysis	Please describe any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence instruction. What other thoughts or comments do you have regarding the use of data to influence your instruction for consideration?	Were there any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction? Is there anything else you would like to share about your experience in guiding teachers to use data to influence your classroom and intervention instruction?	Were there any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction? If so, explain. Is there anything else you would like to share about your experience with using data to influence your classroom and intervention instruction?	

APPENDIX B

VIRGINIA TECH INSTITUTIONAL REVIEW BOARD CERTIFICATE



APPENDIX C

VIRGINIA TECH IRB APPROVAL

VirginiaTech

Office of Research Compliance
Institutational Review Board
North End Center, Suite 4120, Virginia Tech
300 Turner Street NW
Blacksburg, Virginia 24061
540/231-4606 Fax 540/231-0959
email irb@vt.edu
website http://www.irb.vt.edu

MEMORANDUM

DATE:	February 20, 2014
TO:	Wayne Tripp, Kimberly Graybeal Williams
FROM:	Virginia Tech Institutional Review Board (FWA00000572, expires April 25, 2018)
PROTOCOL TITLE:	A Case Study of Crestwood Primary School: Organizational Routines Implemented for Data-Driven Decision Making
IRB NUMBER:	**14-068**

Effective February 19, 2014, the Virginia Tech Institution Review Board (IRB) Chair, David M Moore, approved the New Application request for the above-mentioned research protocol.

This approval provides permission to begin the human subject activities outlined in the IRB-approved protocol and supporting documents.

Plans to deviate from the approved protocol and/or supporting documents must be submitted to the IRB as an amendment request and approved by the IRB prior to the implementation of any changes, regardless of how minor, except where necessary to eliminate apparent immediate hazards to the subjects. Report within 5 business days to the IRB any injuries or other unanticipated or adverse events involving risks or harms to human research subjects or others.

All investigators (listed above) are required to comply with the researcher requirements outlined at:

http://www.irb.vt.edu/pages/responsibilities.htm

(Please review responsibilities before the commencement of your research.)

PROTOCOL INFORMATION:

Approved As:	**Expedited, under 45 CFR 46.110 category(ies) 5,6,7**
Protocol Approval Date:	**February 19, 2014**
Protocol Expiration Date:	**February 18, 2015**
Continuing Review Due Date*:	**February 4, 2015**

*Date a Continuing Review application is due to the IRB office if human subject activities covered under this protocol, including data analysis, are to continue beyond the Protocol Expiration Date.

FEDERALLY FUNDED RESEARCH REQUIREMENTS:

Per federal regulations, 45 CFR 46.103(f), the IRB is required to compare all federally funded grant proposals/work statements to the IRB protocol(s) which cover the human research activities included in the proposal / work statement before funds are released. Note that this requirement does not apply to Exempt and Interim IRB protocols, or grants for which VT is not the primary awardee.

The table on the following page indicates whether grant proposals are related to this IRB protocol, and which of the listed proposals, if any, have been compared to this IRB protocol, if required.

APPENDIX D

LETTER TO SUPERINTENDENT REQUESTING PERMISSION TO CONDUCT THE STUDY

Dear Superintendent:

As you know, I am doctoral candidate in the Educational Leadership and Policy Studies program at Virginia Polytechnic Institute and State University working under the direction of Dr. Wayne Tripp. I have proposed a research study that, once completed, will be reported as my doctoral dissertation. This letter is to inform you of the purpose of my study and to request your permission to conduct the research study in Crestwood Primary School. I am interested in Crestwood Primary School because of the Crest County's involvement in School Improvement, Response to Intervention, and the School Turnaround Model.

The topic of my dissertation study focuses on the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction. Information collected in this study may be useful to other educators who are using data to influence instruction. The study will include information from the perspectives of the administrator, school improvement coach, reading specialist, and teachers. The study will be descriptive in nature and will include survey responses, interviews, and document analysis. Thirty-three participants will be invited to participate but their involvement will not disrupt their responsibilities. The research study will conform to the requirements set forth by Virginia Tech IRB. I will be happy to share the results of the study with you upon completion.

Thank you for your consideration of the proposed study. I will contact you to set up a meeting to respond to any specific questions you may have about the study. If you have any questions or need additional information about the study in the interim, please do not hesitate to contact. I look forward to speaking with you further about the study.

Sincerely,

Kimberly G. Williams
Principal
Doctoral Candidate
Virginia Tech

APPENDIX E

PERMISSION LETTER FROM SUPERINTENDENT TO PROCEED WITH THE STUDY

COUNTY SCHOOL BOARD

DR. , DIVISION SUPERINTENDENT
121 , SUITE
VIRGINIA
PHONE:
FAX:

CHAIRMAN
, VICE-CHAIRPERSON
, JR.

August 24, 2014

Kimberly Williams
Principal
School

Mrs. Williams,

In February 2014, I received your request to conduct your dissertation study in our school division. I reviewed the details of your study and approved that you could conduct the study in County Public Schools. If you need any additional information please let me know.

Sincerely,

, Ph.D.
Division Superintendent

APPENDIX F

LETTER TO TEACHERS REQUESTING PARTICIPATION IN THE RESEARCH STUDY

Dear Educators:

As you know, I am doctoral candidate in the Educational Leadership and Policy Studies program at Virginia Polytechnic Institute and State University working under the direction of Dr. Wayne Tripp. This letter is to inform you of the purpose of my study and to request your participation.

The topic of my dissertation study focuses how routines for data-driven decision making influenced classroom and intervention instruction. Information collected in this study may be useful to other educators who are using data to influence instruction. The study will be descriptive in nature and will include survey responses, interviews, and document analysis. I am interested in your perspective because of your personal involvement in School Improvement, Response to Intervention, and the School Turnaround Model. Participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. I will not know who elected to participate or not to participate in the research study.

I will email you a survey that will include questions about identifying the routines and resources implemented for data-driven decision making to influence instruction. Please complete the information to the best of your ability so accurate information can be obtained. The responses from the survey will be anonymous and will not be traceable to specific individuals. The responses will not be used to evaluate the school in any way so please be thoughtful in your responses. Once the study is complete, the results will be made available for review.

You will also be invited to participate in either an individual or focus group interview to elaborate on specific aspects of the study. Dr. Rhodes will coordinate the logistics of the interviews and conduct the interviews. Synergy Transcription Services will transcribe the interviews so your responses will be anonymous in nature. After the study is complete, the audio recording will be destroyed to ensure your anonymity. I will be happy to share the results of the study with you when it is complete. If you have any questions or need additional information about the study, please do not hesitate to contact me.

Sincerely,

Kimberly G. Williams
Doctoral Candidate, Virginia Tech

APPENDIX G

EMAIL TO STAFF WITH THE SURVEY LINK

Thank you for taking the time to participate in the survey for the research study focusing on organizational routines for data-driven decision making to influence classroom and intervention instruction. Participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. I will not know who elected to participate or not to participate in the research study.

The survey should take between 10-15 minutes for completion. The survey results will provide valuable information for my dissertation study and will guide the development of follow-up interview questions. Your survey responses are completely anonymous so please answer the questions to the best of your ability. The survey questions do not have correct or incorrect answers so please answer the questions in a manner that reflects how data influenced your classroom and/or intervention instruction. By the completing the survey, you are agreeing to be a participant in the research study. Thanks again for taking the time to share your perspective on the use of data to influence instruction. Please click on the link below to begin the survey.

APPENDIX H

EMAIL REMINDING STAFF TO COMPLETE THE SURVEY

Thanks to all staff members who have completed the survey regarding the use of data to influence classroom and/or intervention instruction. If you have not had a chance to complete the survey, please take ten minutes to complete the brief survey as soon as you can. Your responses are essential to develop an accurate and comprehensive report of the experiences within the school regarding the use of data. The results may also offer insights into ways to improve our use of data within the school. Thanks again for taking the time to share your perspective on the use of data to influence instruction.

Please remember participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. I will not know who elected to participate or not to participate in the research study.

APPENDIX I

CONTENT VALIDITY INSTRUMENT FOR SURVEY

This is a content validation instrument. The purpose of this instrument is to improve questions that will be used on the survey protocol for the assistant principal, school improvement coach, reading specialist, and teachers.

Directions:

A. Rate each item for its clarity by placing a 1, 2, or 3 in the second column to the right of the question indicating your opinion of the clarity of the item.

1. Unclear, delete the item
2. Somewhat clear, but reword as suggested
3. Clear, leave as is

If you believe that an item requires rewording, place your recommendation in the column labeled "Recommended rewording."

B. Please specify yes or no for each question regarding neutrality. Questions are neutral if they do not lead the respondent to answer in a specific way.

Question	***Clarity Rating 1, 2, or 3***	***Recommended rewording***	***Is the question neutral? Yes or No***
Please check all the structures that have been put into place to influence your classroom and intervention instruction. Please check all that apply.			
To what extent do the available structures for data-driven decision making influence your classroom and intervention instruction?			
Please identify the three routines and resources that influenced your classroom and intervention instruction the most.			
Please check all the data sources you use to influence your classroom and intervention instruction. Please check all that apply.			
To what extent do the data sources influence your classroom and intervention instruction?			
To what extent do the documents influence your classroom and intervention instruction?			
Please list three challenges to the implementation of organizational routines within the school for data-driven decision making to influence instruction?			

Question	*Clarity Rating 1, 2, or 3*	*Recommended rewording*	*Is the question neutral? Yes or No*
Please describe any unexpected outcomes from the implementation of routines for data-driven decision making to influence instruction.			
What other thoughts or comments do you have regarding the use of data to influence your instruction for consideration?			

Did you encounter any problems taking the survey online? If so, please explain.

_____

_____

Please detail any suggestions you may have for improving the survey?

_____

_____

APPENDIX J

CONTENT VALIDITY INSTRUMENT FOR ASSISTANT PRINCIPAL, SCHOOL IMPROVEMENT COACH, AND READING SPECIALIST INDIVIDUAL INTERVIEWS

This is a content validation instrument. The purpose of this instrument is to improve questions that will be used on the survey protocol for the assistant principal, school improvement coach, reading specialist, and teachers.

Directions:

A. Rate each item for its clarity by placing a 1, 2, or 3 in the second column to the right of the question indicating your opinion of the clarity of the item.

1. Unclear, delete the item
2. Somewhat clear, but reword as suggested
3. Clear, leave as is

If you believe that an item requires rewording, place your recommendation in the column labeled "Recommended rewording."

B. Please specify yes or no for each question regarding neutrality. Questions are neutral if they do not lead the respondent to answer in a specific way.

Question	***Clarity Rating 1, 2, or 3***	***Recommended rewording***	***Is the question neutral? Yes or No***
What were the changes you observed regarding the use of data over the past several years?			
How have curriculum alignment, common assessments, data warehouses, professional learning communities, and professional development influenced instruction throughout the school? Why?			
Were there any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction? If so, please explain.			
How did the routines and resources improve the use of data to influence instruction?			
What do you see as the biggest barrier to using data to influence instruction school wide? Why?			
Were there any specific countywide or school wide documents that influenced your classroom and intervention instruction?			
Were there any other resources you found on your own that you found helpful?			
Is there anything else you would like to share about your experience in guiding teachers to use data to influence their instruction?			

Were there any questions that you did not understand? If so, please explain.

_____

_____

Please detail any suggestions you may have for improving the interview process?

_____

_____

APPENDIX K

CONTENT VALIDITY INSTRUMENT FOR TEACHER FOCUS GROUP INTERVIEWS

This is a content validation instrument. The purpose of this instrument is to improve questions that will be used on the survey protocol for the assistant principal, school improvement coach, reading specialist, and teachers.

Directions:

A. Rate each item for its clarity by placing a 1, 2, or 3 in the second column to the right of the question indicating your opinion of the clarity of the item.

1. Unclear, delete the item
2. Somewhat clear, but reword as suggested
3. Clear, leave as is

If you believe that an item requires rewording, place your recommendation in the column labeled "Recommended rewording."

B. Please specify yes or no for each question regarding neutrality. Questions are neutral if they do not lead the respondent to answer in a specific way.

Question	***Clarity Rating 1, 2, or 3***	***Recommended rewording***	***Is the question neutral? Yes or No***
How have curriculum alignment, common assessments, data warehouses, professional learning communities, and professional development influenced your instruction?			
Why do you think the curriculum alignment, common assessments, data warehouses, professional learning communities and professional development influenced instruction?			
How has the student intervention model changed over the past several years?			
How did the routines and resources improve the use of data to influence instruction?			
What do you see as the biggest barrier to using data to influence your instruction? Why?			
Were there any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction? If so, please explain.			
Were there any specific countywide or school wide documents that influenced your classroom and intervention instruction?			

Question	*Clarity Rating 1, 2, or 3*	*Recommended rewording*	*Is the question neutral? Yes or No*
Is there anything else you would like to share about your experience with using data to influence your classroom and intervention instruction?			

Were there any questions that you did not understand? If so, please explain.

_____

_____

Please detail any suggestions you may have for improving the interview process?

_____

_____

APPENDIX L

SURVEY - DATA DRIVEN DECISION MAKING SURVEY

Data Driven Decision Making Survey

Thank you for taking the time to participate in the survey. The survey should take between 10-15 minutes to complete. The survey results will provide valuable information for my dissertation study and will guide the development of follow-up interview questions. Your survey responses are completely anonymous so please be honest in your responses. The survey questions do not have correct or incorrect answers so please answer the questions in a manner that reflects your use of data to influence your instruction. By completing the survey, you are agreeing to be a participant in the research study. Thanks again for taking the time to share your perspective on the use of data to influence instruction.

The following questions will help identify the organizational routines that have been implemented for data-driven decision to influence classroom and intervention instruction. An organizational routine is a formalized structure and practice established by school leaders to foster data-driven decision making in an effort to improve student achievement by influencing instruction (Spillane, 2012).

Please check all the structures that have been put into place to influence your instruction. Please check all that apply.

- ❑ Curriculum Alignment
- ❑ Common Assessments
- ❑ Pre/Post Assessments developed by the teacher
- ❑ Data Warehouse
- ❑ Measures of Academic Progress (MAP)
- ❑ Phonological Awareness Literacy Screening (PALS)
- ❑ Guided Reading Level (Fountas & Pinnell)
- ❑ Professional Learning Communities (Grade level instructional meetings)
- ❑ Professional Development
- ❑ Acceleration Team (A-team)
- ❑ Acceleration Plans
- ❑ Intervention/Enrichment Block (I/E Block)
- ❑ Data Days
- ❑ Master Schedule
- ❑ Leveled Literacy Intervention (LLI)
- ❑ Other - Please specify _____
- ❑ Other - Please specify _____

To what extent do the available structures for data-driven decision making influence your classroom and intervention instruction?

	All the time	*Great deal of the time*	*Some of the time*	*Not at all*
Curriculum Alignment	❍	❍	❍	❍
Common Assessments	❍	❍	❍	❍
Data Warehouses	❍	❍	❍	❍
Professional Learning Communities	❍	❍	❍	❍
Professional Development	❍	❍	❍	❍
Acceleration Team	❍	❍	❍	❍
Acceleration Plans	❍	❍	❍	❍
I/E Block	❍	❍	❍	❍
Time	❍	❍	❍	❍
Data Days	❍	❍	❍	❍
Master Schedule	❍	❍	❍	❍
Leveled Literacy Intervention	❍	❍	❍	❍
Other - Please specify	❍	❍	❍	❍
Other - Please specify	❍	❍	❍	❍

Please identify the three organizational routines or resources that influence your classroom and intervention instruction the most.
_____ Click to write Item 1
_____ Click to write Item 2
_____ Click to write Item 3

The next two questions will help identify the data sources teachers use to influence their classroom and intervention instruction.

Please check all the data sources you use to influence your instruction. (Check all that apply)

- ❑ Standards of Learning Data (SOL)
- ❑ Benchmark Data
- ❑ Pre/Post Assessments developed by the teacher
- ❑ Phonological Awareness Literacy Screening (PALS)
- ❑ Measures of Academic Progress (MAP)
- ❑ Guided Reading Level (Fountas & Pinnell)
- ❑ Teacher Observations
- ❑ Other - Please specify _____
- ❑ Other - Please specify _____
- ❑

To what extent do the data sources influence your classroom and intervention instruction?

	All the time	***Great deal of the time***	***Some of the time***	***Not at all***
SOL Data	❍	❍	❍	❍
Benchmark Data	❍	❍	❍	❍
Pre/Post Assessment Data developed by the teacher	❍	❍	❍	❍
Phonological Awareness Literacy Screening (PALS)	❍	❍	❍	❍
Measures of Academic Progress (MAP)	❍	❍	❍	❍
Guided Reading Levels (Fountas & Pinnell)	❍	❍	❍	❍
Teacher Observation	❍	❍	❍	❍
Other - Please specify	❍	❍	❍	❍
Other - Please specify	❍	❍	❍	❍

The following question will help identify the documents teachers use to influence classroom and intervention instruction.

To what extent do the documents influence your classroom and intervention instruction?

	All the time	***Great deal of the time***	***Some of the time***	***Not at all***
Curriculum Pacing Guides	❍	❍	❍	❍
Literacy Plan	❍	❍	❍	❍
Numeracy Plan	❍	❍	❍	❍
Curriculum Maps	❍	❍	❍	❍
Master Schedule	❍	❍	❍	❍
90 Day School Improvement Plan	❍	❍	❍	❍
Acceleration Plans	❍	❍	❍	❍
Guided Reading Level Running Records (Fountas & Pinnell)	❍	❍	❍	❍
PALS QuickChecks	❍	❍	❍	❍
Professional Development Plan	❍	❍	❍	❍
Other - Please specify	❍	❍	❍	❍
Other - Please specify	❍	❍	❍	❍

Challenges to Effective Data Use

The following question will help identify the challenges to effective data use.

Were there any challenges to the implementation of organizational routines for data-driven decision making to influence instruction? If so, please list below.

_____ Click to write Item 1
_____ Click to write Item 2
_____ Click to write Item 3

Thoughts and Comments
The next two questions will give you the opportunity to provide additional insight into unexpected outcomes and other pertinent information regarding data use. All additional thoughts are greatly appreciated and will be considered for continued improvements for data-driven decision making.

Please describe any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence instruction.

What other thoughts or comments do you have regarding the use of data to influence your instruction for consideration?

Thank you!

Thank you so much for your honest and thoughtful responses to the survey questions. Your responses will provide valuable insight into the organizational routines for data-driven decision making to influence instruction. As practitioners, you all understand the demands of the school improvement process and you are always striving to improve your instruction. Thank you for your continued dedication to the children you encounter each and every day. Please remember you are touching lives every minute of the day.

APPENDIX M

DATA SUMMARY FORM

Category	***Interview – Assistant Principal***	***Interview – School Improvement Coach***	***Interview – Reading Specialist***
Curriculum Alignment (CA)			
Common Assessments (CAS)			
Pre/Post Assessments developed by the teacher (PP)			
Data Warehouse (DW)			
Measures of Academic Progress (MAP)			
Phonological Awareness Literacy Screening (PALS)			
Guided Reading Level (F & P)			
Professional Development (PD)			
Professional Learning Community (PLC)			
Acceleration Team (AT)			
Acceleration Plans (AP)			
Intervention/Enrichment Block (IE)			
Data Days (DD)			
Master Schedule (MS)			
Leveled Literacy Intervention (LLI)			
Facilitated Data Use (FD)			
Other			
Challenges (B)			
Unexpected Outcomes (UO)			

Category	***Interview – Focus Group 1***	***Interview – Focus Group 2***	***Interview – Focus Group 3***
Curriculum Alignment (CA)			
Common Assessments (CAS)			
Pre/Post Assessments developed by the teacher (PP)			
Data Warehouse (DW)			
Measures of Academic Progress (MAP)			
Phonological Awareness Literacy Screening (PALS)			
Guided Reading Level (F & P)			
Professional Development (PD)			
Professional Learning Community (PLC)			
Acceleration Team (AT)			

Category	***Interview – Focus Group 1***	***Interview – Focus Group 2***	***Interview – Focus Group 3***
Acceleration Plans (AP)			
Intervention/Enrichment Block (IE)			
Data Days (DD)			
Master Schedule (MS)			
Leveled Literacy Intervention (LLI)			
Facilitated Data Use (FD)			
Other			
Challenges (B)			
Unexpected Outcomes (UO)			

Category	***Survey Results***	***Document Analysis***
Curriculum Alignment (CA)		
Common Assessments (CAS)		
Pre/Post Assessments developed by the teacher (PP)		
Data Warehouse (DW)		
Measures of Academic Progress (MAP)		
Phonological Awareness Literacy Screening (PALS)		
Guided Reading Level (F & P)		
Professional Development (PD)		
Professional Learning Community (PLC)		
Acceleration Team (AT)		
Acceleration Plans (AP)		
Intervention/Enrichment Block (IE)		
Data Days (DD)		
Master Schedule (MS)		
Leveled Literacy Intervention (LLI)		
Facilitated Data Use (FD)		
Other		
Challenges (B)		
Unexpected Outcomes (UO)		

APPENDIX N

INTERVIEW PROTOCOL: ADMINISTRATOR, SCHOOL IMPROVEMENT COACH, AND READING SPECIALIST

Thank you for agreeing to be a participant in this study. I would like to explain the purpose of this study before we begin.

The purpose of the research study is to examine how and why certain organizational routines facilitated the use of data to influence instruction within the school. In addition, the study will identify challenges to the implementation of the organizational routines and identify any unexpected outcomes of the implementation of organizational routines within the school. The researcher and research assistant will gather information from the assistant principal, school improvement coach, reading specialist, and teachers through interviews. The interview responses will be analyzed to identify common themes about the organizational routines for the use of data to influence instruction.

The interview will be digitally recorded. Your responses will be anonymous throughout the process. Once our interview is completed, it will be transcribed verbatim as soon as possible. A copy of the transcription will be made available for you to review. When you review the transcript, feel free to indicate changes in the transcription that do not reflect your sentiments. All data documents from our interviews are confidential and will be stored in a locked file. All digital recordings of our interview will be stored in a locked file and destroyed after the successful completion of the study.

You will not be compensated for your participation in the study. However, your perspectives are valuable in detailing the implementation of organizational routines within the school. The study may reveal ways we can improve our routines in using data to influence classroom and intervention instruction.

If you decide to withdraw from the study at any time, please feel free to do so without any penalty to you. Participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. I will not know who elected to participate or not to participate in the research study. Valuable lessons may be gleaned from your individual perspectives to reveal how the organizational routines were implemented within your school. If there are certain questions that you do not want to answer, you do not have to do so.

Do you have any questions? _____Yes _____No

Are you willing to become a participant in this study? _____Yes _____No

May I digitally record our interview? _____Yes _____No

Do you have any questions before we begin? _____Yes _____No

I greatly appreciate your willingness to participate in this study.

Interview Questions

Question 1 – Please describe the changes you have observed regarding the use of data to influence classroom and intervention instruction throughout the school.

Probes

1. How has curriculum alignment influenced instruction school wide?
2. How have common assessments influenced instruction school wide?
3. How have Guided Reading Levels like Fountas & Pinnell influenced instruction school wide?
4. How have professional learning communities influenced instruction school wide?
5. How have acceleration plans influenced instruction school-wide?

Question 2 – Why do you think the practices of data-driven decision making have influenced instruction school wide?

Probes

1. What have you noticed as the biggest change to using data to influence classroom and intervention instruction? Explain why.
2. How have data days impacted the use of data to influence instruction?
3. How have professional learning communities impacted the use of data to influence instruction?

Question 3 – How did curriculum alignment, common assessments, guided reading levels, professional learning communities, and acceleration plans improve the use of data to influence instruction?

Probes

4. How did **curriculum alignment** improve the use of data to influence instruction?
5. How did **common assessments** improve the use of data to influence instruction?
6. How did **guided reading levels** improve the use of data to influence instruction?
7. How did **professional learning communities** improve the use of data to influence instruction?
8. How did **acceleration plans** improve the use of data to influence instruction?

Question 4 – What do you see as the biggest challenges in using data to influence instruction from a school wide perspective?

Probes

1. What is something that could be changed to improve the use of data to influence instruction school wide?
2. What is something that stands in the way of using data to influence instruction school wide?

Question 5 – Were there any unexpected school-wide outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction? If so, please explain.

Question 6 – Were there any specific countywide or school wide documents that influenced classroom and intervention instruction? If so, please describe.

Question 7 – Were there any other resources you found on your own that you found helpful in guiding teachers to use data to influence instruction?

Question 8 – Is there anything else you would like to share about your experience in guiding teachers to use data to influence your classroom and intervention instruction?

APPENDIX O

FOCUS GROUP INTERVIEW PROTOCOL: TEACHERS

Thank you for agreeing to be a participant in this study. I would like to explain the purpose of this study before we begin.

The purpose of the research study is to examine how and why certain organizational routines facilitated the use of data to influence instruction within the school. In addition, the study will identify challenges to the implementation of the organizational routines and identify any unexpected outcomes of the implementation of organizational routines within the school. The researcher and research assistant will gather information from the assistant principal, school improvement coach, reading specialist, and teachers through interviews. The interview responses will be analyzed to identify common themes about the organizational routines for the use of data to influence instruction.

The interview will be digitally recorded. Your responses will be anonymous throughout the process. Once our interview is completed, it will be transcribed verbatim as soon as possible. A copy of the transcription will be made available for you to review. When you review the transcript, feel free to indicate changes in the transcription that do not reflect your sentiments. All data documents from our interviews are confidential and will be stored in a locked file. All digital recordings of our interview will be stored in a locked file and destroyed after the successful completion of the study.

You will not be compensated for your participation in the study. However, your perspectives are valuable in detailing the implementation of organizational routines within the school. The study may reveal ways we can improve our routines in using data to influence classroom and intervention instruction.

If you decide to withdraw from the study at any time, please feel free to do so without any penalty to you. Participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. I will not know who elected to participate or not to participate in the research study.

Valuable lessons may be gleaned from your individual perspectives to reveal how the organizational routines were implemented within your school. If there are certain questions that you do not want to answer, you do not have to do so.

Do you have any questions? _____Yes _____No

Are you willing to become a participant in this study? _____Yes _____No

May I digitally record our interview? _____Yes _____No

Do you have any questions before we begin? _____Yes _____No

I greatly appreciate your willingness to participate in this study.

Focus Group Interview Questions

Thank you for your responses to the survey regarding data to influence instruction. Your input was very thoughtful and thorough. I would like to ask some more questions regarding the organizational routines that were identified through the survey focusing on how and why the routines influence your instruction. Again your perspective is valued.

Question 1 – How have the practices of data-driven decision making influenced your classroom and intervention instruction?

Probes

6. How has curriculum alignment influenced your instruction?
7. How have common assessments influenced your instruction?
8. How have Guided Reading Levels like Fountas & Pinnell influenced your instruction?
9. How have professional learning communities influenced your instruction?
10. How have acceleration plans influenced your instruction?

Question 2 – Why do you think the practices of data-driven decision making have influenced instruction?

Probes

9. What helps you use data to inform your instruction?
10. What have you noticed as the biggest change to using data to influence classroom and intervention instruction? Explain why.
11. How have data days impacted your use of data to influence your instruction?

Question 3 – How did curriculum alignment, common assessments, guided reading levels, professional learning communities, and acceleration plans improve the use of data to influence instruction?

Probes

1. How did **curriculum alignment** improve the use of data to influence instruction?
2. How did **common assessments** improve the use of data to influence instruction?
3. How did **guided reading levels** improve the use of data to influence instruction?
4. How did **professional learning communities** improve the use of data to influence instruction?
5. How did **acceleration plans** improve the use of data to influence instruction?

Question 4 – What do you see as the biggest challenges in using data to influence your instruction?

Probes

3. How could school wide practices/organizational routines be changed to improve the use of data to influence instruction?
4. What is something that stands in your way of using data to influence your instruction?

Question 5 – Were there any unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction? If so, please explain.

Question 6 – Were there any specific countywide or school wide documents that influenced your classroom and intervention instruction? If so, please describe.

Question 7 – Were there any other resources you found on your own that you found helpful?

Question 8 – Is there anything else you would like to share about your experience with using data to influence your classroom and intervention instruction?

APPENDIX P

PERSONAL INVITATION FOR INDIVIDUAL INTERVIEWS FOR ADMINISTRATOR, SCHOOL IMPROVEMENT COACH, AND READING SPECIALIST FROM KYLE RHODES

Your individual perspective is important to detail the implementation of organizational routines in the use of data to influence both classroom and intervention instruction. Therefore, I would like to arrange a time for an individual interview with you to share your perspective. The interview will take place on _____ at _____. You will have the opportunity to discuss your experiences openly and freely. Your input may also offer insight into improving the use of data within our school. If you decide to change your mind or need to reschedule for any reason, please let me know. Please remember if you do not want to participate in the study or feel the need to drop out of the study, there is no penalty for doing so at any time. Participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. The researcher will not know who elected to participate or not to participate in the research study.

APPENDIX Q

INVITATION FOR FOCUS GROUP INTERVIEWS FOR TEACHERS FROM KYLE RHODES

Your individual perspective is important to detail the implementation of organizational routines in the use of data to influence both classroom and intervention instruction. In order to get your perspective, I would like to arrange a time for a focus group interview for you to share your perspective. The study may reveal ways we can improve the use of data within our own school to influence classroom and intervention instruction. I will be conducting the interview so you will have the opportunity to discuss your experiences openly and freely. The interview will take place on _____ at _____. Please make every effort to participate in the focus group interview to share your experiences with the implementation of organization routines for data to influence classroom and intervention instruction. Participation is voluntary and the decision to participate will not negatively impact your employment or your relationship with your direct supervisor. The researcher will not know who elected to participate or not to participate in the research study.

APPENDIX R

DATA SUMMARY FORM WITH MERGED CATEGORIES

Category – Organizational Routine	***Code***	***Leadership Interviews***	***Focus Group Interviews***	***Survey***	***Document Analysis***
Curriculum Alignment	CA	L1-5, L1-31, L2-1, L3-1, L3-6	F1-1, F1-5, F1-15, F1-50, F2-13, F2-17, F3-1, F3-2, F3-3, F3-6, F3-13, F3-14, F3-15, F3-33, F3-34, F3-35, F3-36, F3-37	Question 1, 2, 3, 4	DCM-1 & 2 DLP – 3 & 34 DNLP -34, 35, 37, 39, 41, 42, 43
Common Assessment	CAS	L1-6, L1-7, L2-2, L3-7, L3-9, L3-19	F1-9, F3-4, F3-5, F3-6, F3-14, F3-15, F3-19	Question 1, 2, 3, 4 S-70, S74	DCM -6 DLP – 8 through 31 DNLP – 33, 34, 35, 37, 39, 41, 42, 43, 56 DAP - 56
Interactive Achievement	IA		F1-9	Question 1, 2, 3, 4	
Data Warehouse	DW	L3-10		Question 1, 2, 3, 4	
Phonological Awareness Literacy Screening	PALS	L1-7	F3-7	Question 1, 2, 3, 4 S-68, S-75	DLP- 7, 9, 19, 11, 14. 17, 20
Guided Reading Level	F & P	L1-10, L1-18, L2-3, L2-4, L3-8	F1-8, F1-13, F1-14, F1-16, F1-17, F1-18, F1-19, F1-20, F1-21, F1-22, F2-3, F2-4, F2-5, F2-6, F2-7, F2-9, F2-12, F2-31, F3-16, F3-17, F3-18, F3-19, F3-20, F3-31	Question 1, 2, 3, 4 S-69, S-76	DLP- 24, 28, 38, 42 DAP - 57
Professional Development	PD	L1-30, L1-32		Question 1, 2, 3, 4	DLP – 78, 79 DNP – 5, 80, 81
Professional Learning Community	PLC	L1-22, L1-33, L2-5, L2-6, L2-11, L3-4, L3-6, L3-7, L3-9, L3-14	F2-8, F3-1, F3-2, F3-3, F3-5, F3-6, F3-20, F3-29, F3-30, F3-35, F3-38	Question 1, 2, 3, 4 S-47, S-51, S-57, S-63	DLP – 51, 53, 54 DAP - 58
Acceleration Team	AT	L1-2, L1-16, L1-18, L3-14		Question 1, 2, 3, 4	
Acceleration Plans	AP	L1-15, L1-16, L1-18,L2-3, L2-7, L2-8, L2-9, L3-10	F1-23, F1-24, F125, F1-31, F3-20, F3-21	Question 1, 2, 3, 4	DAP – 55, 56, 57, 58, 59

(continued)

Appendix R *(continued)*

Category – Organizational Routine	***Code***	***Leadership Interviews***	***Focus Group Interviews***	***Survey***	***Document Analysis***
Intervention/Enrichment Block	IE	L3-3, L3-8		Question 1, 2, 3, 4	DLP – 9, 60, 73 DNP – 61, 62, 63, 64, 65, 66, 67, 68, 75 DNLP – 3, 38, 40
Data Days	DD	L1-1, L1-3, L1-21, L3-2, L3-13, L3-14	F3-20	Question 1, 2, 3, 4	
Leveled Literacy Intervention	LLI		F2-4	Question 1, 2, 3, 4	
Standards of Learning	SOL			Question 1, 2, 3, 4	DLP – 7, 12, 15, 18, 21, 23, 27, 31, 41, 45
Measures of Academic Progress	MAP			Question 1, 2, 3, 4 L3-19	DLP – 25, 29, 39, 43, 59 DNP - 32
Interactive Achievement	IA			Question 1, 2, 3, 4	
Unexpected Outcomes					
Other – Reteach	RT	L1-19	F1-10, F2-2		
Other – Teacher Reflection	TR	L1-4, L1-21, L2-5, L2-6, L2-14, L3-20	F2-10, F3-3		DAP - 59
Other – Feedback	FB		F1-10		
Other – Focus and Direction	F & D	L1-16, L2-2, L2-3, L2-7, L2-9, L3-6	F1-2, F1-3, F1-6, F1-7, F1-12, F1-13, F1-14, F1-15, F1-24, F1-25, F2-4, F2-15, F2-16, F3-10, F3-11, F3-20, F3-39		DCM – 2 DAP – 55, 57
Other – Collaboration/Teamwork	C	L1-12, L1-13, L1-16, L1-21, L1-33, L1-22, L2-5, L3-7, L3-9, L3-13, L3-14	F1-4		DLP – 50, 51, 52, 53, 54 DAP - 58
Other – Multiple Assessments	MA		F3-9, F3-12		
Other – Student Concerns	SC		F3-40		
Other – Goal Setting	GS	L1-16, L2-9, L2-10, L3-10			DAP - 57
Other – Flexible Groups	FG	L1-18, L2-2, L2-10, L3-8, L3-11, L2-1	F3-8, F3-18	S-44, S-54	
Other – Student Growth/Progress	SG	L1-6, L1-12, L1-18, L1-19, L1-21, L3-10, L3-13, L3-15, L3-8, L3-17	F3-12, F3-40	S-56	DAP-59 DNP - 77
Other – Success	SS	L3-17			

(continued)

Appendix R *(continued)*

Category – Organizational Routine	***Code***	***Leadership Interviews***	***Focus Group Interviews***	***Survey***	***Document Analysis***
Other – Rigor	RG	L3-6, L3-7, L3-9			
Other – Differentiated Instruction	DI	L3-11			DCM – 44 DLP – 45, 46, 47, 48, 49, 69, 70, 74, 76
Other – Ownership	O	L3-11			
Other – Culture	CT	L3-12			
Other - Student Centered	OS	L3-11	F1-11, F2-1, F2-7, F2-9, F2-10, F2-11	S-35, S-53, S-58, S-62, S-65, S-71, S-78	
Other - Tests take fun away	OF		F2-29	S-37	
Other - Teacher Observation	OTO		F2-28	S-38	
Other - Teacher Attitudes	OTA			S-39, S-41, S-59, S-64, S-67	
Other - Teacher Confidence	OTC	L2-11, L2-13		S-40	
Other - Reading and Math Interventions	ORM		F2-1, F2-9	S-42	
Other - Special Education	OSP			S-45	
Other - Benefits outweigh challenges	OB			S-46	
Other - Planning	OP	L3-13		S-48, S-66, S-71	DNP -4
Other - Remediation	OR		F1-46	S-50	
Other - Trust data sources	OT		F2-30	S-61	
Other - Special Area Teacher	SAT		F1-47, F1-48		
Other - Discipline Data	DD		F1-49		
Other - Development of Documents and Resources	OD	L2-8	F2-27		
Challenges					
Challenges – Time	BT	L1-11, L1-14, L1-23, L1-29, L3-15, L3-16	F3-23, F3-24, F3-27, F3-28	S-1, S-3, S-4, S-5, S-8, S-9, S-14, S-17	
Challenges – Time to teach and reteach – apply data	BTT	L3-15, L3-16		S-11	
Challenges – Time assess, collect, analyze, and submit data reports	BTC	L1-9, L1-25, L1-26, L1-27	F1-29, F1-30, F1-35, F1-37, F2-20, F2-22, F2-23	S-22, S-26, S-31	
Challenges – Data points with clashing information	BD	L2-12	F1-36, F1-38, F1-39, F1-40, F1-42	S-25, S-52	
Challenges – Intervention Cancelled	BIC			S-2, S-19	
Challenges – Pacing Guide	BPG	L3-18	F1-32, F1-33, F3-27, F3-32	S-6, S-13, S-49, S-60, S-72	
Challenges – Teacher Buy-In/Teacher Reflection, Change	BB	L1-23, L1-24, L1-30		S-23, S-27	
Challenges – Personnel	BP			S-18, S-20, S-28	
Challenges – Materials/Resources	BM		F1-28	S-21, S-29, S-55	

(continued)

Appendix R *(continued)*

Category – Organizational Routine	***Code***	***Leadership Interviews***	***Focus Group Interviews***	***Survey***	***Document Analysis***
Challenges – Collaboration Time to discuss data, Scheduling	BC	L1-9, L1-17, L1-20, L1-25, L1-28, L3-16		S-10, S-34, S-16, S-24, S-43	
Challenges – Takes away instructional time	BI		F2-21, F2-22, F2-23, F3-25, F3-26	S-33, S-36, S-73, S-79	
Challenges – Management	BM			S-15	
Challenges – Progress Monitoring	BPM			S-30, S-32	
Challenges – Too Much Data, Complicated and Overwhelming	BTM	L1-8	F1-34, F1-41, F1-43, F1-44, F1-45, K18, F2-19, F2-24, F2-25	S-12	
Barrier – Time for programs to work			F2-26		

APPENDIX S

RESPONSES CODED BY QUESTION – FOCUS GROUP SUMMARY, SURVEY, DOCUMENT ANALYSIS BY CATEGORY

Research Questions –Focus Group Interviews, Survey, Document Analysis

What organizational routines for data-driven decision making were implemented to influence classroom and intervention instruction?

Revealed through the survey responses

How did the organizational routines influence classroom and intervention instruction? Why?

Curriculum Alignment

It has allowed us to be able to share materials for particular thing within out grade level because we're all teaching the same thing at the same time.

And that's been valuable.

As we got down to the day, we are all teaching the same thing the same day. And it is very helpful because we can go back and discuss and say, "how did George do with this concept and what did you do differently?" and so we can have a day-to-day discussion about that.

I think so especially with benchmark. We really need that curriculum alignment.

Well, you can see the improvement and so--

Of course it helps too with the children that move within county to everyone in the county just doing the same thing at the same time.

it has given me an idea of where to start and where to begin

I think so especially with benchmark. We really need that curriculum alignment.

Well, you can see the improvement and so--

Of course it helps too with the children that move within county to everyone in the county just doing the same thing at the same time.

It helps us with the assessments. It helps with making sure you get that all essential knowledge that they need to know, the essential questions. So—and you can make sure that your test will do that and then you can go back and see where you need to review or help or add more to it

What you mentioned in layman terms or just a practitioner's terms is a vertical and horizontal line of the curriculum alignment.

1st Six Weeks (1st three weeks)
Essential Skills, Essential Knowledge, SOLs

teachers should closely adhere to their Language Arts Curriculum Map for explicit guidance on the teaching of these skills.

It has allowed us to be able to share materials for particular thing within out grade level because we're all teaching the same thing at the same time.

As we got down to the day, we are all teaching the same thing the same day. And it is very helpful because we can go back and discuss and say, "how did George do with this concept and what did you do differently?" and so we can have a day-to-day discussion about that.

And that's been valuable.

Common Assessments

Instruction…. I know pals influenced teaching instruction

And now it's very helpful because we can use that in our day-to-day meetings and we can discuss that and we're all doing the same thing and its' just really good to have, you know, fellow teachers doing the same thing and you can discuss it.

It helps us with the assessments. It helps with making sure you get that all essential knowledge that they need to know, the essential questions. So—and you can make sure that your test will do that and then you can go back and see where you need to review or help or add more to it. So I think that has helped with the common assessments.

Instruction…. I know pals influenced teaching instruction

Well, it helps us rearrange our groups because we'll change groups more often with our assessments after we get that. So we'll see—regroup when needed. I mean, unfortunately, I think things like the county-wide benchmark or the unit tests that were created for each reading story or each math unit have not helped very much. The things that have helped are the information you get from the math tests or something that you use off of Interactive Achievement. I know that I found that interactive achievement has helped me tremendously because you can actually --

You can actually disseminate that data instantly and say, okay, 45% of my class missed the question on author's purpose. I've got to go back and do that. It gives me immediate feedback.

It makes it easier to go back and know what as a whole we've missed with those assessments through all the same and we have a problem with fractions, we can go back and concentrate more on that or whatever the subject maybe.

But the common assessments are very helpful because before when I first started teaching we did not have common assessments and everyone was using whatever they wanted.

It helps us with the assessments. It helps with making sure you get that all essential knowledge that they need to know, the essential questions. So—and you can make sure that your test will do that and then you can go back and see where you need to review or help or add more to it. So I think that has helped with the common assessments.

I know pals influenced teaching instruction

I think the F&P and going back to the F & P are very important and benchmark too. We look at these to determine what level they're on especially in their reading groups. And map, I don't really know that I understand it, how to use it as much.

And it's great to have more than one because in the past we just have PALS but now we have more than one and most of the time they are on target. All of them are—say the same things but sometimes, you know, different assessments. You know, some kids do better than others on math or you know, pals and Fountas & Pinnell you know, according to what kind of test they do. And so, it's good to have more than one.

The biggest change and it's not just what I think. There's actually data that's showing me exactly what level this child is on when I first started. It was mainly how they did in the classroom and they all were using assessments and it's more valid.

And if you do an assessment on a child on reading and you know that this child needs help in inferences or may not be summarize and then you can focus more on those to get that child where they need to be to learn that skill. You can pin point what you need to do.

I like to see how they are doing and I like to look at all the data because some of the test, we don't know exactly you know, how, compared to the other classrooms, like to see, you know, how my children are doing.

Well, you can see the improvement and so--

I like to see how they are doing and I like to look at all the data because some of the test, we don't know exactly you know, how, compared to the other classrooms, like to see, you know, how my children are doing.

Of course it helps too with the children that move within county to everyone in the county just doing the same thing at the same time.

PALS, Countywide Benchmark, Teacher Created Tests
All K-3rd grade students will read on grade level as measured by the PALS assessment. All 3rd-5th grade students will demonstrate proficiency in reading by passing the Standards of Learning Reading Assessment.
Benchmark assessments will be utilized to determine student learning and instructional effectiveness.
PALS will be used to screen students in grades K-3 for early reading difficulties. Students who fail to meet the established PALS benchmark will receive, in addition to their 90 minutes of classroom reading instruction, 30 minutes of specific phonics instruction delivered by the PALS interventionist.
Pre-Kindergarten will use the Pre-K PALS assessment score sheet for fall and spring.
Kindergarten will use the PALS assessment score sheet for fall, mid-year, and spring. Individual assessment sheets should be placed in the student's assessment folder following each assessment.
Kindergarten teachers will complete the K-3 English Standards of Learning Achievement Record electronically. A copy of this should be placed in the student's assessment folder if the student transfers to another school outside of Smyth County. The electronic record will follow students who transfer schools within the division.
A reading benchmark assessment will be administered at week 30. Optional benchmarks may be given at weeks 8 and 19.
Grade 1 will use the PALS assessment score sheet for fall, mid-year and spring. Individual assessment sheets should be placed in the student's orange assessment folder following each assessment.
Grade 1 teachers will complete the K-3 English Standards of Learning Achievement Record

electronically. A copy of this should be placed in the student's assessment folder if the student transfers to another school outside of Smyth County. The electronic record will follow students who transfer schools within the division.
Reading benchmark assessments will be administered at weeks 18 and 29. An optional benchmark may be given at week 7. This optional benchmark may be used as an instructional tool to help teach technology/test taking skills.
Grade 2 will use the PALS assessment score sheet for fall, mid-year and spring. Individual assessment sheets should be placed in the student's orange assessment folder following each assessment.
Grade 2 teachers will complete the K-3 English Standards of Learning Achievement Record electronically. A copy of this should be placed in the student's assessment folder if the student transfers to another school outside of Smyth County. The electronic record will follow students who transfer schools within the division.
Reading benchmark assessments will be administered at weeks 18 and 29. An optional benchmark may be given at week 7.

PALS assessment will be administered to all third grade students in the fall. Students who meet the high benchmark will not be tested in the mid-year and spring using the PALS assessment. Teachers will continue to assess all other students using PALS mid-year and in the spring. Grade three teachers will file the spring PALS assessment score sheets for each student in the student's assessment folder. Fall and mid-year assessments may be maintained in the student's assessment folder as deemed appropriate.
Grade 3 teachers will complete the K-3 English Standards of Learning Achievement Record electronically. A copy of this should be printed and placed in the student's assessment folder at the end of the year or if the student transfers to another school outside the division.
Reading benchmark assessments will be administered at week 7, 18, and 29. There will be an option to administer these tests over two days.
Students will take the Grade 3 SOL assessments in the spring, and results will be placed in the student's cumulative folder
All students will be screened using the Fountas and Pinnell Benchmark Assessment System. Students who do not meet the Fountas and Pinnell grade level benchmark will be given skill specific intervention.
Either the Star Reading or MAP assessments will be given at least 3 times per year to monitor progress.
Reading benchmark assessments will be administered at weeks 7, 18, and 29.
Students will take the grade level appropriate SOL assessments in the spring. SOL results will be placed in the student's cumulative folder.
All students will be screened using the Fountas and Pinnell Benchmark Assessment System. Students who do not meet the Fountas and Pinnell grade level benchmark will be given skill specific intervention.
Either the Star Reading or MAP assessments will be given at least\3 times per year to monitor progress.
Reading benchmark assessments will be administered at weeks 7, 18, and 31.
Students will take the grade level appropriate SOL assessments in the spring. SOL results will be placed in the student's cumulative folder.
Star Math or MAP Assessments will be administered at least three times a year in grades 1-5 as a progress monitoring tool.
Ongoing formal and informal assessments, including benchmark tests will be utilized to determine student learning and instructional effectiveness, and plan future instruction and intervention.
A Reading benchmark will be given at week 30. Optional benchmarks may be given at week 8 and week 19.
A Math benchmark will be given after Topic 16. This will be a comprehensive benchmark and will be administered via paper-pencil. An optional benchmark may be given after Topic 8.
All benchmark tests will be given according to the directions in the Reading and Math textbook assessment guides.
Reading benchmarks will be given at week 18 and week 29. An optional benchmark may be given at week 7. This optional benchmark may be used as an instructional tool to help teach technology/test taking

skills. Tests will be administered using Interactive Achievement.
The comprehensive Math assessment will be given after Topic 4, after Topic 12 and after Topic 20. These tests will be given using Interactive Achievement.
All benchmark tests will be given according to the directions in the Reading and Math textbook assessment guides.
Reading benchmarks will be given at week 18 and week 29. An optional benchmark may be given at week 7. Tests will be administered using Interactive Achievement.
The comprehensive Math assessment will be given after Topic 4, after Topic 12 and after Topic 17. These tests will be given using Interactive Achievement.
All benchmark tests will be given according to the directions in the Reading and Math textbook assessment guides.
Reading benchmarks will be given at week 7, week 18 and week 29. Tests will be administered using Interactive Achievement. There will be an option to administer the tests over two days.
The comprehensive Math assessment will be given after Topic 8, after Topic 16 and after Topic 20. These tests will be given using Interactive Achievement.
All benchmark tests will be given according to the directions in the Reading and Math textbook assessment guides.
Reading benchmarks will be given at week 7, week 18 and week 29. Tests will be administered using Interactive Achievement.
The comprehensive Math assessment will be given after Topic 8, after Topic 12 and after Topic 20. These tests will be given using Interactive Achievement.
All benchmark tests will be given according to the directions in the Reading and Math textbook assessment guides.
Reading benchmarks will be given at week 7, week 18 and week 31. Tests will be administered using Interactive Achievement.
The comprehensive Math assessment will be given after Topic 8, after Topic 15 and after Topic 20. These tests will be given using Interactive Achievement.
All benchmark tests will be given according to the directions in the Reading and Math textbook assessment guides.

Guided reading levels like Fountas & Pinnell

Well, we make sure they're under instructional level that helps us to make sure we get materials and things that they're able to do

To me that's the most important.

Yeah. To make sure they're affected or instruction more than any other assessment. I'm really looking at that F&P in making sure that, you know, all of my groups are within at least two levels at each other and didn't go any further than that.

I think the F&P and going back to the F & P are very important and benchmark too. We look at these to determine what level they're on especially in their reading groups. And map, I don't really know that I understand it, how to use it as much.

Fountas and Pinnell -it gives you where they left off the year before and it lets you waste less time in trying to --

Find out what their level is. You can just kind of gauge. You already have an idea of what rank they're in. You find out what their summer gap is and you commit along. You get the instruction much more quickly.

I think it's helpful for the kids that are below grade level but for, I mean, the kids that are already reading on grade level and just soaring

It's helped us to form our small groups. It's helped us to make our group more flexible so that we could switch kids around from group to group based on what we see on the results that we get from former intervention groups.

We love Fountas & Pinnell that's really been helpful. Really helpful, more than anything we've ever done.

It really influenced intervention a lot because we've switched to Fountas & Pinnell and that's the focus, that's what we really look at, is what level they are and we can group students according to what level they are and given the instruction they need at that level.

And there are a lot of different guided reading systems and I don't think we were all using the same system until Fountas & Pinnell came in and now we're all using the same system. So if somebody—if a kid is on a level age, we all know what that means. And it takes to Fountas & Pinnell.

The books. You know other books to use on that. Because before, we were using green, red and blue and how can you pull other books.

And even our book room is—the things that we have available are all organized according to guided reading level so that we're all talking the same language and we know even from year to year where were they at the end of the year last year and we can pick them up right there are the beginning of next year and move with them.

Well, we try to stay in line with them or you know, make sure they're on that level that they are on F&P or whatever that they're working on.

Strategies such as whole group instruction, small group instruction

Reading and writing instruction should emphasize a balanced approach to teaching and should include: phonemic awareness, phonics/word study/spelling, fluency, vocabulary, comprehension in all genres, and authentic writing.

Students should receive both small group and whole group instruction.
Small group instruction for struggling readers MUST be done daily!!! These children must get additional instruction in order to make gains and close the achievement gap.
They should receive the whole group instruction, a small group with the classroom teacher and additional small group time(s) with resource teachers.

Small group instruction needs to be based on instructional data and delivered face to face with classroom teacher, title teacher, resource teacher and if applicable PALS instructor.

Professional Learning Communities

For me, it's the sharing of ideas—you know, sharing what you planning on doing for this story—you know, this activity and getting other's input that either gives me an idea of, "oh, I didn't think about that method, go that route or maybe you have something I can borrow which is extremely helpful.

It’s been very beneficial to me just to have—to be able to discuss how the children are doing and looking at the data. And actually look forward to those data day meetings.

It has allowed us to be able to share materials for particular thing within out grade level because we’re all teaching the same thing at the same time.

And that’s been valuable.

As we got down to the day, we are all teaching the same thing the same day. And it is very helpful because we can go back and discuss and say, “how did George do with this concept and what did you do differently?” and so we can have a day-to-day discussion about that.

And now it’s very helpful because we can use that in our day-to-day meetings and we can discuss that and we’re all doing the same thing and its’ just really good to have, you know, fellow teachers doing the same thing and you can discuss it.

Like in 4th grade, I'm going to speak for us like patterns. That was something that was weak on the SOL in the 3rd grade that we saw, so we decided to focus on patterns and that's what we've –
. I mean, we’ve worked on all of our standards this year but the focus that we have turned towards was patterns

talk with anybody that comes in, pull in or pull out to what they'll know, what are we focusing on, where can we get these kids to meet the goal?

Teaching reading and writing is the responsibility of all teachers and administrators with the support of parents and community leaders.

Instructional collaboration will occur between all instructional staff members (including but not limited to administrators, general education teachers, special education teachers, Title I teachers, and reading specialists). This collaboration will occur within the classroom, across all grade levels, and during the transition between schools.

Teaching mathematics is the responsibility of all teachers and administrators with the support of parents and community leaders.

Instructional collaboration will occur between all instructional staff members (including but not limited to administrators, general education teachers, special education teachers, and Title I teachers).

This collaboration will occur within the classroom, across all grade levels, and during the transition between schools.

Acceleration Plans

Certainly has in intervention. That’s what our focus is on. Those are the acceleration plans, those are the goals that are specific to the children who were in intervention because we don’t necessarily—they are based on SOLs but we are trying to fill in gaps that maybe are from a different year. So, those are our goals that we set according—you know, like I said, to guided reading and Fountas & Pinnell and where those students are. So, acceleration plans really have focused--

Well, we try to stay in line with them or you know, make sure they’re on that level that they are on F&P

or whatever that they’re working on.

the intervention is coming in or a title teacher or a special education teacher, we know what we're going to work with, what the focus is going to be.

Very specific. So you can look at the acceleration planning, you know exactly what that child needs to work on.

Targeted Skill
PALS Summed Score, PALS Reading Level, F & P Reading level, MAP Score
Goal: The student will advance _____ Guided Reading Levels as measured by Fountas and Pinnell Benchmarking System.
Instructional Activities to be used in order to accelerate student toward goal:
Evaluation of Intervention/Date Intervention Plan Completed
Instructional Change

All schools will develop, implement, and maintain an intervention program that provides students with needs-based skill specific instruction that is in addition to their 90 minutes of classroom reading instruction and be taught using a different approach than the core program.

Students should receive instructional intervention to address identified weaknesses.

All schools will develop, implement, and maintain an intervention program that provides students with needs-based skill specific instruction that is in addition to their 60 minutes of classroom mathematics instruction..

How did the organizational routines facilitate the use of data to influence instruction?

As teachers are much more aware of where their students' strengths and weakness are instead of just taking a bow and arrow and shooting and hoping you land somewhere on the target. If you have the data of what they have mastered and of what they haven’t mastered, you can drill straight down and work specifically on that skill.

I'm not a classroom teacher but I can see that just in me being a part of the whole school and to me, it helps prove what you thought or what you didn’t think, or disprove. So, before in the old day before all the data, you say, "They can't read. They don’t know. They’re not on grade level." but now all of a sudden, you know exactly what they can do and what they can't do and you can jump right on it. Before, you might just be on gut.

It’s concrete evidence.

Its proof of what you feel or proof of you might be way off target and think that --. Before, you know would say to someone, "Well, they can't do it." "They can't do what?" "Well, they can't read." When it might just be that they didn’t know or they skipped out on missing some of their alphabet sounds.

Well, it keeps you focused on where you need to be and don’t doddle. You know, it keeps you on track.

I think that's been a big improvement in reading instruction overall.

I think it's different in the upper grades. It’s very different in 4th and 5th grades, and I taught kindergarten

last year but I do feel that it's important, I think it's more important in kindergarten, 1st and 2nd grade but when it really comes to their reading level, if they're an L, a Z or a P, I care that they're reading on grade level and that we get on there but I think it's a waste to do these tests on them to see where they are. It's very different and I don't know how to say any more than that. Fountas and Pinnell doesn't work in 4th, I'm going to speak for 4th grade, like it does in the younger grades. I think it's awesome for the younger grades.

speaking for the younger grades, it has helped me make sure that I'm pushing the students and I was in first last year and it was vital to me in first grade.

I mean, everyone could be on the same page to know what level those children are reading on, it was vital. It made a big difference and I think that carries on in the primary grades. When it becomes a matter of the testing grades and children have to be reading on grade level, then the guided reading levels help you with your children who are performing below.

Your grade level. Your on-grade level students and your above-grade level students, it's somewhat not as important anymore.

I do think it's good that we have that common vocabulary across the school even if it's not as helpful to the average and above-average students in instruction in 3rd, 4th and 5th. It's nice that we all know what it is.

I think it helps those kids that aren't on grade level. I had a lot that received intervention that moved up and were reading and working on grade level.

I mean, as far as that we sat down and this is where they were, you know, in the 3rd grade and tested on that at the beginning of the year. I mean, it's a focus, a starting point from somewhere.

You know where this child or this student is coming from, it's background

I think it's helpful also that the interventionist and classroom teachers have a common plan that they're working from for that child.

It's not just a take that child and whatever you do down the hall, I don't know what they're doing, but you know what the goals are and everybody's working in the same direction.

Interactive achievement can be. I mean, I didn't find it on my own. It's provided but it's not on our list here and it's a huge --

Yes, in allowing the children to practice their computer skills on that computer while they're taking the tests and that kind of things. I mean, it's not pretty but it's helpful. And I like conferring with teachers from other areas. That's very helpful and we're teaching at the same grade level, that's been a big benefit to me

Actually, it has made me more consciously aware and paying closer attention to what each individual child is doing. And as much as I hate doing these little reading sheets they do help a little bit. You begin to see a pattern when we transfer on these data to some forms that we have to transfer it to. You know, I can see a pattern with such and such child, he's lacking in vocabulary, or patterns developed in with this child lacking in phonics or comprehension or whatever it maybe. So, it's helped some.

We use the guided reading data from Fountas & Pinnell. I think we're really good at that. They use a lot

of data for their intervention and when they take their intervention out, kids out, we're out with a small group. So we use that data to figure out what we're going to do with the kids for lack with us.

And at primary level, that's what we really need to hit the nail on the head with the small groups. I mean, I like the core, I like the common assessments, I'm glad we're all testing the same thing at the same time because we compare note better.

The biggest change and it's not just what I think. There's actually data that's showing me exactly what level this child is on when I first started. It was mainly how they did in the classroom and they all were using assessments and it's more valid.

And if you do an assessment on a child on reading and you know that this child needs help in inferences or may not be summarize and then you can focus more on those to get that child where they need to be to learn that skill. You can pin point what you need to do.

Well, it helps us rearrange our groups because we'll change groups more often with our assessments after we get that. So we'll see—regroup when needed.

I think it forces everybody that looks at the data because data is different according to which group it is. It forces you to not get in the habit of doing the same thing year after year because your groups are different. And you have to look at the data in order to change what you're doing or what you need to do.

Whole group grade level instruction for all students (5 components of reading)

Whole group instruction time will vary according to need

All teachers will demonstrate thorough planning by using detailed lesson plans.
Teachers should use a variety of teaching strategies to accommodate all children.
Teachers must intervene early to ensure all students' success.
Teachers should use a variety of teaching strategies to accommodate all children.
Teachers must intervene early to ensure all students' success.
Differentiated mathematics instruction will focus on the essential skills of number and number sense, computation and estimation, measurement and geometry, probability and statistics, and patterns, functions, and Algebra.
Small group instruction is strongly encouraged
Professional Development
Professional development is critical to a successful literacy program.
All instructional staff (administrators, teachers, paraprofessionals, volunteers) will be engaged in improving their own literacy and in the pursuit of lifelong learning.
All teachers, principals, and district staff will participate in effective, on-going, researched based professional development.
All instructional staff (administrators, teachers, paraprofessionals, volunteers) will be engaged in improving their teaching methods in mathematics through professional development.

What were the challenges to the implementation of organizational routines within the school for data-driven decision making?

It's just hard to do that because of time. That's probably I would say the least effects if you don't have any time.

time

It does take a lot of time for the assessments.

TIME!!!!!

Well, right now is a challenge to even have time to do anything except, you know, because of, you know, how many breaks. So we're not getting plenty time so because of the testing which it can't be helped but it is a challenge.

The time spent in the assessments.

You know, we still have trouble getting all of us together. We still share as much as we possibly can. But most of our sharing is done passing each other on the hall. "Hey, I found this. This is really good", you know.

It would be more helpful though If we could meet with interventionist more. So that's what we've always talked about acceleration plans. They're wonderful to look at so I can see what they're doing and then I write down what I'm going to be doing in the class but it would be nice to be able to meet more with them but again, it's time.

Time

Time

TIME

scheduled time

Time is a challenge. We have to give up a planning period for PLC meetings, but the advantages of the meetings outweigh the loss of time.

Time management

time to meet with co-teacher to discuss data across all areas (intervention, small group and classroom)

time to collaborate with colleagues
And go back and do it, it is time-consuming and the weekly tests and the unit tests are not helpful.

There's not enough time to absorb.

timeliness of data disaggregation

excessive documentation

We need to process the data.

Everything to assess when you're using so much time to assess.

You just feel like you don't have any time to teach because you're testing so much.

Many data components to view and take into consideration when planning for instruction.

the amount of time in the day to provide the kids with the instruction required as proven by the data

We need more time for that, time to use that data. A lot of times, we're really rushed in using that time to make acceleration plans or intervention plans for students and working with those interventionists and title 1 teachers which is an important piece of data day. There also needs to be part of data day that is team-driven with one of our goals as far as what have we covered, what have we not covered, what are we weak on, what are we not weak and just point it out.

And then, and not only in the classroom. I mean, it does take a lot of classroom time to test these kids but it takes a phenomenal amount of time for us at home or here, at the evenings to filter through all these stat and put it all the different forms that we're supposed to put it on. I mean, it's phenomenal with how much time that's involved.

Sometimes I think that our time could be better spent in some other things like planning our lessons because like, you're doing the one with the reading where we take—I don't even like the reading test that we have especially in second grade because it's—you have the phonics, then you have—I mean, we read the story with them and then you have comprehension. You know, second grade, we need to start getting cold reads and that's what we've started. You know, trying to do, you know, getting them used to how to use the strategies we're teaching you to figure it out. Not that we're reading it with you and they you get to do the comprehension questions. So the end, we're spending all that time on the, filling out the assessments and it just seems like it could be better spent. And with these common assessments I said we see a pattern developed but it rarely changes. I mean if Johnny is having trouble in phonics this week, Johnny is having problems phonics just about everyday.

We have plenty of data we just need the time in our rooms to teach and always be testing or going to meetings/PD

You feel like you're taking away some of your instructional time getting to the assessment time.

We have so many, it would be good if we find this really which one we need to really focus on I guess is what I'm saying.

Testing is time consuming. PALS, MAP, Benchmark, and F and P tests must replace several weeks of instruction during the school year.

Post tests are not designed for the core curriculum and does not measure progress at individual student levels

Measureable progress monitoring for math interventions

But it hurts some students. It hurts a lot of students when you're given a day to do long division and that's it and they either got it that day, that night and we have to move on. I mean, that's what it says and I understand that it's for us to keep on track and to make sure that we cover every SOL and every objective. I get it, but it's not real. It's unfair. I think it's unfair to me and I hate teaching something and see 75% of the class struggle and get upset because
they don't get it but we still have to move on because of our pacing it for us to get everything into it and if they're not getting it with the title teacher or intervention, it's just water falling on them.

Keeping up with the pacing guides

Following the pacing guide prevents further study on particular areas student(s) struggle in

Sometimes time I think a time or a curriculum phasing guide you have to be this.
And you can't really slow down because you get far behind and then, you know, I think that time element.

I think that data driven instruction really works if we are able to implement it in the way need to. Many times, following a strict pacing guide prevents this from happening.

But, the pacing guides are not flexible & really do not allow for teachers to take the needed time to work on areas of weakness with the students.

And it goes so fast and sometimes you feel like you don't really have the concept on before you have to move on and the pacing guide to get to the next one.

That we have sometimes too much.

it's frustrating this time of year giving benchmarks and having SOL testing.

Because there's only elementary math and computer lab time and computer space. I just think it is a larger problem than school wide. I think it is a district problem. And I think that it would be nice if someone would say, "Hey, you can't take these kids and expect them to be tested from May 1st until June 5th and take five different assessments not to mention what it does to the teachers in order to prepare them, and expect excellence on any of it. We're all striving for excellence. I mean, every child, every teacher, every person in this school is contributing to try to get these children to perform at their best level and by the time you get to May 29th and you give the last part of an SOL test and you have to tell your children, "Next week you're going in to take map testing."

Testing.

And I can't imagine that the older level but even at the younger level, our kids are already finished. They're like, "Why do we do this anymore? Why are we still doing it?"

I mean, it's really hard to motivate them and when we're stuck in a classroom all day long because of our SOL testing and we know that's very important and we've expressed that to our kids, but they don't understand --

But sometimes I think we're putting these kids through a whole lot of testing that's not helping us a whole lot. I think we could better use our time teaching instead of testing so much. And that common assessment is a big chunk of our testing. And we—I just don't know if we're getting the benefit from it from the time that it takes to do it.

I think we are collecting more way more data than what we need. Because these kids honestly, we just test these kids today--

A few years ago, a first grade colleague, this was when the kids were still feeling in bubbles before everything was put in the computer. It wasn't that long ago, maybe 2 or 3, 4 years ago. And about halfway through the year she had her children do a journal or something and write about, talk about what they have learned in first grade. And one of her students wrote, I have learned how to fill in bubbles. So yeah, I think we need to focus on the data. And looking at that, we need to do that as teachers but we also

need to look at—you know

How many more times do I need to show you what I know?" It's frustrating and you could see the frustration on their little faces.

And you have to prioritize the data.

the data showing something completely different than what the kids is showing in the classroom

Test scores often do not agree. A child may score very well on one assessment but not on another. It is often difficult to know which assessment is a true measure of the child's ability.

And some of the data counteracts with some of the other data. They might show up doing really well on PALS but then on their maps they score low, but then in their everyday or not every day but at their weekly assessments, they're doing well but then this other one doesn't show that. So, I think some of the data overlaps and it doesn't work cohesively.

And which data is the best data?

Which one has the hierarchy? Is it the PALS, is it the F&P, is it the County Benchmarks? I mean, you just don't know how to prioritize all the data to see which one do I really need to look up and focus on the most.

It's like what data do we look at

And one thing I would like to say about the fact that we have and I will use your term evolve through so many different systems is I don't think we're sticking with one long enough to give it a chance. We jump—you know, we do one thing a year or two and then we're doing something else.

I don't see that the common assessment is helping a whole, whole lot personally. They're okay but they are—they are the core, they are the core curriculum. They assess the core curriculum. They don't do anything to help us with any of our small groups.

in their text, 3rd grade, 4th grade or 5th grade text all day long but we don't have the resources here for some of those kids that are on a Z or above.

materials

Resources

Removing the "I think" statements from decisions.

Teacher Buy in for GRL based instruction for small group reading

Getting whole faculty to buy into the intervention model

Not having subs for intervention and special ed teachers

Intervention often cancelled mostly because intervention teacher were being pulled for other duties

Extra help/personnel

Sufficient number of staff

lack of personnel to help with needs of students

Implementing new scheduling for I/E Block

Scheduling. I have children who could benefit from math and reading intervention, but scheduling will not allow for both.

I have 25 kindergarten students, and it is difficult to implement routines effectively.

What were the unexpected outcomes from the implementation of organizational routines for data-driven decision making to influence classroom and intervention instruction?
Work in Progress

We do have the discipline piece but it goes to somewhat just because there's no time to collect as much data on your disciplinary issues and I truly believe in it but at some point, you start giving up on trying to, you got to fix it with a Band-Aid. I mean, that's what happens when you try to fix it with a Band-Aid as opposed to digging deeper to find out really what the issue is.

And documents. I mean, I feel like we can almost lead the way for other schools. We've shared some of the documents that we've made for our intervention plans and—I mean, our acceleration plans and how we report that to parents and all these different documents that we have to—you know, pretty much create and we've shared that with others and—you know, passing that along.

Because it's been an evolution of kind of what we've added or taken away along the—you know, with our data. And we've went through several different forms of assessment and now—you know Fountas & Pinnell we can always use.

Fountas & Pinnell definitely.

Professional Learning Communities

The benefits of a data driven school far outweigh the challenges. When I began teaching, most of my instruction was planned solely from the SOLs. There were no curriculum maps, pacing guides, or posttest assessment. Grade group meetings were used to discuss field trips and planned events, not curriculum planning or data driven instruction. As a teacher, I felt alone in the planning process. My mentor teacher did help guide me in what I needed to teach, but I still felt overwhelmed when I began to plan my curriculum for the upcoming school year. When we began to talk about how MPS was going to begin using curriculum maps, pacing guides, and data driven decision making I thought these things would be time consuming and would stifle my creativity in the classroom. To my surprise, these things have had an opposite effect on my teaching. I find it so much easier to follow a curriculum map and pacing guide when planning instruction for the year. Also, PLC meetings and data days give me the support and guidance I need to make good decisions when planning and implementing appropriate instruction for my students.

A very positive unexpected outcome of data driven decision making is professional learning communities. I am fortunate enough to work with a very close team and we all work together in planning our

instruction. We also work together to problem solve as well as brainstorming ideas to help individual students.
Especially if you're all on the team and work together and want to be on the same day with everybody.

Well, I'm thankful for it because I feel more supported with the way that we do things now. And like there's more support and making some more discussion.

Well, we have PLC meetings which is kind of once a week where we meet with the other teachers.

It's definitely a positive I think.

When data is used to guide instruction, our students are successful and growth is evident. It takes all of us working together to meet the needs of our students. Collaboration and planning are essential! Classroom teachers, title teachers, and interventionists have to be striving toward the same goals. We can no longer work in an isolated environment, but support and share with each other.

Professional Learning Community meetings give teachers support in the classroom and help teachers to work together as a team. I truly feel I am a more effective teacher since our school has made the switch to data driven decision making

Better Understanding of Student Needs to Plan Strategically

While using data can be time consuming, the benefits outweigh the challenges because I know my students better than before.

I feel some (not all) teachers have become more aware of reading behaviors for each GRL and are adjusting instruction to better meet the needs of our students in the area of reading. We have become more specific when looking at where a student is reading and are able to be more specific in our instruction.

And it helps you pin point exactly—we're kind of forced to talk about it so it helps you pin point what student needs, what specific skills to make them master what we're trying to teach.

And if there are concerns about a student, we have several pieces of data that we can look back on. So we have a lot of good information.

Data-driven decision making helps us tailor our instruction to the needs of our students, complementing efforts to differentiate according to individual student strengths and weaknesses.

While data does drive my instruction, it has to be good data. It is not just enough to have data, but know how to read it and to use it correctly in when giving instruction.

The use of data is a very important tool for teachers and schools when making decisions that will affect the learning of students. Professional Learning Community meetings give teachers support in the classroom and help teachers to work together as a team. I truly feel I am a more effective teacher since our school has made the switch to data driven decision making.

Data makes me very aware of the students' needs and I am able to prepare better for lessons and units.

My instruction is very data driven. My reading instruction is driven by PALs and Fountas and Pinnel reading levels. My math instruction is driven by our teacher created common assessments.

Using data allows me to provide the most effective individualized instruction in my classroom. Data also allows flexible grouping throughout the year.

I am more aware of my instructional choices when I plan. I plan strategically and try to make the most of my time.

And definitely you would look at that pacing guide almost everyday.

Yeah. Well, it helps prepare your plan for the whole, you know, for the week. You just have to stay right with it.

Well, with me, this was my first year in fourth grade and I really use the SOL blueprint off of the Virginia Department of Education website and it was very beneficial and very helpful and user-friendly too because it tells you the information that the instructor needs as well as what the kids need to know. So I use that a lot too.

I was going to say the same thing. I look at that essential knowledge when we do our plans.
We are locked in to the pacing guide that we tend to move on without total student success. We do everything in our power to remediate and help students close the gap in learning (where the data comes into play.)

Data driven instruction is very important in planning how to really work on areas of difficulty the students experience. But, the pacing guides are not flexible & really do not allow for teachers to take the needed time to work on areas of weakness with the students.

Special Area Teachers

I would just say, as special area teachers, I think we're not involved in it as much and so, I feel like if we were a little more involved in it, there are things that we could do to help so that maybe a short fall of just not involving the whole school

So we could make a difference, too, but we're not as involved in all of that, in the driven-decision making but if it was shared more, with guidance and art and various special areas, I think it could be of benefit.

Continued Challenges

The only thing I can really think of to be unexpected would be areas that we thought we were excelling in but the data showed that we probably needed to pay a little more attention to it

I would just like to say that data is great and it's certainly something that has to be looked at but you still can't take away totally what a teacher knows about the student. I mean, there has to be some validity given to a teacher's opinion.

It's turning kids off to school. I mean, having this we can't do anything fun because we got to get them ready for this test. It's really kind of sad.

We need to look at which one of these, which one or two of what we're doing gives us the most information.

I think data driven instruction has its place and that it helps group children based on needs reflected by the

data, however I think we may have gone a bit overboard with it. Example: My children are picked up by 7 different interventionists for a 30 minute block. These 7 teacher arrive to pick up kids anywhere from "on time" to 10-15 minutes late. In the meantime I am trying to proceed with I/E with the children that stay with me which is almost impossible to do with 7 interruptions each time another teacher comes to pick up kids. My children are pulled in so many different directions that it is almost impossible for me to keep up with. Several days per week, in addition to the 7 different interventionists, there are speech teachers, and OT/PT employees also picking up children. I really fear that I am going to physically lose a child. All of this coming and going makes it very difficult to conduct lessons that are not disjointed.

I feel that we are testing too much and need to instruct more. We are being taken out of our classroom for these tests and this takes away from our teaching time. We could eliminate some tests that just aren't useful. Every time my students take the MAP tests I can tell you who will not meet the goal...let me stay in my classroom and teach them so that they can meet it and stop wasting time testing so much. Don't get me wrong, some tests are useful and needed. I feel like weekly math/reading tests and cold reads in the classroom are excellent indicators on progress. I also like the PALS and F&P leveling. However, we are testing so much we are creating some students that have test taking anxiety. On the other hand, we have other students that do not care how they do because they have taken so many, it's just another test to them. Data is needed in a classroom...we just need to stop and think about how much data we really need.

I feel that we spend too much time assessing our students in order to obtain data at the expense of instructional time. I also feel we are so test driven that it has taken all the fun out of learning for the children. I use the data to drive my instruction, but I still feel that teacher observation and daily classwork is the best indicator of the intervention individual children need.

I feel that the most unexpected outcome is that teachers are not more positive and supportive in using data to guide instruction.

Teachers are often not as confident in their decision making as they were before the focus on data. Some feel that their instinct should override any data that in direct conflict. They almost resent the focus on evidence that comes with data driven decision making. Whereas there could be instances where the data does not always provide a clear or accurate picture of a student's achievement, this is truly in the minority, especially when a number of different data sources are considered.

We found that students that would normally receive intervention for math were already receiving intervention for reading. This became a scheduling issue. Not all students who need the math intervention received it. The focus of intervention was shifted from the “lowest achievers” to the “bubble kids”. While the number of special education referrals have not decreased much, the rate of referrals becoming eligible has increased.

Benchmark scores are usually not close to what the student does in the classroom. I have had students who are great at math or reading and working above grade level not do well.

County Wide Documents or Resources

Curriculum maps
Literacy Plan
Numeracy Plan
Acceleration Plans

APPENDIX T

CRESTWOOD PRIMARY SCHOOL-90 DAY SCHOOL

IMPROVEMENT PLAN 2012-13

Crestwood Primary School continues to be fully accredited but did not meet the requirement for Adequate Yearly Progress and has been identified as a Focus School. We are closely examining every instructional aspect of the school day to make improvements. We must always strive for growth. Our goals for the upcoming year reflect that school improvement is a continuous process.

Crestwood Primary School

SIP – Goal 1

Goal

To decrease the number of special education students identified by PALS screening by 50% and to decrease the number of disadvantaged students identified by PALS screening by 75%.

Current Status

Crestwood Primary School has observed a trend identifying a disproportionate number of special education and disadvantaged students being identified by our PALS assessment. The school is seeking expertise in the fields of special education and disadvantaged resources to deliver streamlined instruction to meet their specific needs.

	Spring 2012	Fall 2012
Kindergarten	13 Total, 5 Sped	TBD
First Grade	11 Total, 5 Sped	12 Total, 3 Sped
Second Grade	8 Total, 6 Sped	21 Total, 7 Sped

Action Step	Timeline	Person/s Responsible
Book study – *Explicit Instruction* – written by Anita Archer. A checklist will be developed to monitor explicit instruction regarding pacing, student engagement, and the "I do, we do, you do format". Explicit instruction will be monitored through classroom observations and walkthroughs.	December 15, 2012	ER and All Teachers
T/TAC consultations to assist with SPED and disadvantaged student performance.	November 15, 2012	KW
Strategies will be shared to incorporate higher level thinking strategies into daily lessons. Instruction will be monitored.	November 15, 2012	KW, SD, Grade Level Teams
Vocabulary Development will be a primary focus of MPS teachers.	December 15, 2012	KW, KS, JC, and Classroom Teachers

Crestwood Primary School

SIP – Goal 2

Goal

80% of first and second grade students will increase their reading levels by three steps as measured by the Fountas and Pinnell leveling system by the end of the first semester.

Current Status

In the past, teachers have relied on PALS data for instructional reading levels. By using the Fountas and Pinnell leveling system, students can be instructed at a more specific reading level and can be exposed to appropriate texts on their levels throughout the school day. By understanding the reading levels better, all teachers can streamline their student texts to optimize student growth.

Action Step	***Timeline***	***Person/s Responsible***
Students targeted for acceleration groups will be assessed using the Fountas & Pinnell leveling system to determine their reading level.	October 31, 2012	KM, Resource Teachers, and Interventionist
Acceleration Plans will be developed in coordination with the classroom teacher, resource teacher, and interventionist to determine the target skills and plan for acceleration for each identified student. All teachers will select reading materials on the child's identified reading level.	October 31, 2012	KM, Classroom Teachers, and Resource Teachers
Progress Monitoring will be conducted at least bi-monthly to measure student progress using the Fountas & Pinnell leveling system.	December 15, 2012	KM and Acceleration Team
The acceleration team will meet on a weekly basis to discuss strategies, student successes, and student concerns. The team will refine teaching strategies and resources.	October 15, 2012	KM
Post test data will be analyzed by teachers weekly and acceleration groups will be reassigned every three weeks.	November 15, 2012	ER and Instructional Teams

Crestwood Primary School

SIP – Goal 3

Goal

All teachers will take more ownership of student achievement by reflecting on what they can do differently to have a positive impact on student growth as measured by instructional meeting minutes, lesson plans, professional development activities, data notebooks, and goal setting forms.

Current Status

In an effort to increase student achievement, all staff members are analyzing assessment data and reflecting on current practices to adjust instruction.

Action Step	***Timeline***	***Person/s Responsible***
Survey staff	September 30, 2012	KW
CPS administration, School Improvement Coach, and Reading Specialist will meet together at least monthly to discuss ways to increase teacher empowerment.	May 15, 2013	KW
Principals will hold individual meetings with each teacher to discuss expectations for improved student achievement.	November 15, 2012	KW
Professional Development opportunities will be offered to provide methods for motivating students who are struggling and come from impoverished environments.	November 1, 2012	ER
Longitudinal data system will be used to access data teachers need to drive instructional changes.	December 15, 2012	ER
Grade Level Teams will maintain instructional focus during meetings to share ideas for student growth.	November 30, 2012	SM, JP, CB, RG, KW
Teachers will establish goals for student growth and implement strategies for improved student performance	October 15, 2012	Teachers, KW, SD