

HOW TEACHERS IN ONE ELEMENTARY SCHOOL USE SCOTT FORESMAN'S
READING STREET ASSESSMENT DATA

by

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ABSTRACT

Data-informed decision making is an educational construct developed to meet No Child Left Behind mandates for improving education. Researchers have examined institutional best practices, but relatively little has been said regarding the individual practices of teachers as they implement data use in the classroom. The purpose of this study was to determine how teachers in one elementary school use assessment data from Scott Foresman's reading curriculum, *Reading Street*. The qualitative case study approach was used to develop an understanding of how teachers are using student data, which is necessary in determining plans of action and training regarding teachers' use of data in the classroom.

Results suggested that teachers feel most effective when data use is time-efficient, allows for formative assessment, enables adaptation, and remains accessible. Classroom teachers implemented *Reading Street* data in multiple aspects of the classroom, to determine practice, improve remediation, display accountability to leadership, and demonstrate student improvement. The Continuous School Improvement (CSI) team was determined to be an essential support, as was leadership's focus on allowing classroom flexibility within the confines of school standards and goals. Barriers included the lack of training related to the effective use of the *Reading Street* program and resources, and lack of alignment between *Reading Street* curriculum and system-wide standards. The study's findings provided information that can advance teachers' effective use of *Reading Street* assessment data, illuminate supports essential to teachers' effective use of *Reading Street* assessment data, and reveal barriers that thwarted teachers' effective use of the data.

DEDICATION

I would like to dedicate this dissertation to all children.

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Without my Chair, Dr. Becky Atkinson, the completion of this dissertation would not be possible. Dr. Atkinson encouraged me throughout the process, provided me with resources, met me at The Hoover Library on weekends, answered all of my emails and phone calls, and told me, “You will finish this.” Writing a dissertation is not easy, but without her, it would have been impossible.

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Life has blessed me with two wonderful daughters who cheered me on all along the way. April and Anna-Laura are now successful young women. When they were young, I was their cheerleader, but throughout my doctoral studies, they were my cheerleaders. At their graduations, I was so proud of them; now they are proud of me!

As a young girl, my parents would sometimes take me to the Alabama football games. Being from a small town in Alabama and growing up during a time when very few high school graduates were able to attend The University of Alabama, I was captivated by the beautiful campus with those magnificent trees and all of those smart people walking around that place. Attending The University of Alabama was not even a possibility then for a poor small town southern girl. To earn a doctoral degree from this university today is a great honor. My parents would be so proud. Thank you to everyone who encouraged me throughout this process.

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CHAPTER 1

INTRODUCTION

The educational accountability movement, spurred into action by the passage of the *No Child Left Behind Act of 2001* (NCLB), has prompted educators at the state, district, school, and classroom levels to use various kinds of student data for accountability purposes, as well as to make instructional decisions to improve student outcomes. Behind the NCLB policy is the assumption that by reviewing student achievement data, teachers can modify instructional practices that will lead to higher student achievement (Kerr, Marsh, Ikemoto, Darilek, & Barney, 2006; Mandinach, Honey, Light, & Brunner, 2008; Moody & Dede, 2008; Wayman, 2005). The NCLB Act implies that having accessible data will result in improved teaching, but the act omits an explanation regarding how to use data to inform and initiate changes in teaching practice that would result in increased student achievement.

While NCLB, and the current waiver plans, have prompted schools and districts to collect and display student data, the focus must shift from required reporting of student data to providing teachers with the essential supports to make effective, data-informed decisions. Simply having data does not facilitate teachers' instructional practice (Crawford et al., 2008; Ingram, Seashore, & Schroeder, 2004). Furthermore, Wayman (2005) suggested that teachers will support accountability initiatives if those initiatives lead to increased student learning. For example, Wayman, Cho, and Johnston (2007) found that more than 80% of nationally surveyed teachers want to become more adept at using data to inform instructional practice.

Most schools lack the supports required for teachers to use student achievement data to make changes in instructional practice (Hamilton, Halverson, Jackson, Mandinach, Supovitz, & Wayman, 2009). Evidence gathered through case studies and interviews with administrators and teachers indicated that few teachers actually possess the knowledge and skills essential to using student data to inform instructional practice (Confrey, 2008; Hamilton et al., 2009; Herman & Gribbons, 2001; Lachat & Smith, 2005; Mandinach et al., 2008; U.S. Department of Education, 2009; Valli & Buese, 2007; Wayman et al., 2006; Young & Kim, 2010). Wayman et al. (2006) summed up this dilemma:

To read policy and news accounts, one might surmise that the mere act of providing student data is sufficient to create a school or district driven by this data. On the contrary, although many educators embrace the notion of becoming more reflective practitioners, few educators have the preparatory background to engage in such analysis and reflection. (p. 189)

Although educators have not been trained to make instructional decisions based on data, Moody and Dede (2008) explained, “As the frontline workers in education, teachers are an essential part of any successful school reform” (p. 233). The practice of using data to improve student learning is anticipated to increase in future educational practice, intensifying the necessity to provide the support and training teachers need to effectively use data to inform instructional practices (Kerr et al., 2006; Mandinach et al., 2008).

Because of new reform efforts, which entail the use of student achievement data to inform decision making, teachers’ roles have changed. These role changes necessitate teachers’ acquisition of specialized skills and knowledge that are required to analyze data and use the results to inform instructional decisions (Valli & Buese, 2007). Skills necessary to this process include asking questions about data, locating data, interpreting data, and making instructional decisions grounded in data. Previous researchers provided evidence that the probability of

teachers using data to generate decisions depends on teacher efficacy when analyzing and interpreting data (Thorn, 2002; U.S. Department of Education, 2009). Although teachers are open to training about the use of data, a lack of systematic training continues with this process.

Because of teachers' inadequate knowledge and skills required to successfully execute data-informed decision making, professional development targeted toward these processes is crucial (Kerr et al., 2006; Marsh, Pane, & Hamilton, 2006). In addition to professional development, teachers must have access to other essential supports before they can "turn . . . data into actionable information" (Wayman, 2005, p. 296).

Scott Foresman's *Reading Street* Program

One program intended to support teachers' use of data in reading classrooms is Scott Foresman's *Reading Street* Program. *Reading Street* is the adopted reading curriculum for the school under study. The *Reading Street* program focuses on research-based reading skills that are crucial to students' reading success. These skills include phonemic awareness, phonics (print awareness, alphabetic knowledge, alphabetic principle, and decoding), using graphic and reference sources, recognition of high frequency words, fluency, vocabulary, reading comprehension, and skills essential to answering literal, inferential, and critical-analysis questions. Teachers can evaluate students' skills using the *Reading Street* Weekly, End-of-Unit and Benchmark assessments that are aligned with the reading program.

Scott Foresman's *Reading Street* Assessments

Research shows that classroom assessments rooted in the curriculum and consistent with instructional goals are essential to effective decision making (Kerr et al., 2006; U.S. Department of Education, 2009; Wayman, 2005). To support the process of data-informed decision making in education, Scott Foresman's *Reading Street* (2008) assessments align with the *Reading Street*

program. The program provides many types of assessments. A baseline assessment for each grade level helps determine the level of instructional support needed for each student. In addition, formal assessments are available, such as weekly tests that assess students' reading comprehension and reading skills from the weekly *Reading Street* selections. Summative assessments, which include unit benchmark tests and end-of-year benchmark tests, are available for teachers to evaluate students' knowledge of targeted reading skills, along with reading strategies and higher order thinking skills. Teachers may also utilize informal assessments, such as teacher observations, running records, and teacher-student conferences, to check daily and weekly progress.

Scott Foresman's *Reading Street Assessment Handbook* (2008) provides several informal student assessment instruments to assist the teacher in determining students' specific needs. For example, a student questionnaire is available for teachers to discern students' reading interests, as well as specific topics and genres that may be appealing to students (Foresman, 2008). A student interest inventory familiarizes teachers with students' learning styles and preferences. In addition, the handbook includes a survey to appraise students' motivation to read, feelings about reading, and abilities to read a variety of reading materials. Teachers can use qualitative data gathered through these informal assessment tools to inform teachers' reading instruction and provide specific information that will aid in differentiating instruction to meet all students' needs and interests (Foresman, 2008).

Teacher-Created Assessment of *Reading Street* Skills

Teachers may additionally assess students' knowledge of *Reading Street* skills using classroom assignments, teacher-made quizzes, checklists, and observations. Research shows that discussion, observation, and students' assessment of his or her own learning are additional

methods for collecting data that can provide valuable information for informing instruction and increasing student learning (Foresman, 2008). For these reasons, the teachers' abilities to create individual assessments through the *Reading Street* program are a particularly valuable aspect of this program in relation to the proposed study.

Statement of the Problem

Teachers, formerly left out of data interpretation, are now accountable for using data as knowledge to inform the teaching practice (Kerr et al., 2006; Moody & Dede, 2008). The problem is that while the process of using data to improve student achievement is identified in most schools' continuous improvement plans, and presumed in accountability policies such as NCLB, translating data into information for instructional decisions is a time-consuming and laborious endeavor that requires infrastructures and supports currently unavailable in many schools (Crawford et al., 2008; Ingram et al., 2004; Kerr et al., 2006; Mandinach et al., 2008; Young & Kim, 2010). More information is needed to determine how teachers use assessment data so that teachers can take appropriate measures to ensure that data-informed decision making is implemented effectively and integrates with the school culture (Ikemoto & Marsh, 2007). Specific programs, such as *Reading Street*, already provide many assessment tools that can be particularly valuable for gathering this data.

Purpose of the Study

The purpose of this study was to determine how teachers in one elementary school use assessment data from Scott Foresman's reading curriculum, *Reading Street*. To comply with accountability policies, teachers have increasingly focused on using assessment data to inform decisions (Knapp, Swinnerton, Copland, & Monpas-Huber, 2006; Mandinach et al., 2008).

Understanding how teachers are using student data is necessary in determining plans of action and training regarding teachers' use of data in the classroom. Thus far, inadequate evidence exists regarding how teachers use student assessment data (Ikemoto & Marsh, 2007). If teachers are expected to use student assessment data effectively, then studying how the data are used is essential. With this knowledge, policymakers and educational leaders will have a better understanding of how to advance teachers' use of data to increase student outcomes and provide essential supports to enhance teacher efficacy when using data in meaningful ways. Obstacles that impede teachers' use of assessment data must be identified and addressed (U.S. Department of Education 2011). Identifying both the supports and obstacles involved in teachers' data-based educational practices can provide significant information required to make improvements in assessment practices (Munoz, Prather, & Stronge, 2011).

The researcher of this study contributed to the research by examining how teachers in one elementary school use *Reading Street* assessment data. Because teachers spend one-third of their time on data-related activities, understanding how data are being used is essential (Wayman, 2005). Only when policymakers and educational leaders know how teachers use assessment data can those leaders provide the necessary supports and eliminate barriers regarding teachers' effective use of assessment data.

Researchers have identified some specific supports essential to teachers' effective use of assessment data. These supports include a collaborative culture, supportive leadership, professional development targeted toward data use, and a technological management system designed to organize and manage data (Datnow, Park, & Wohlstetter, 2007; Latchat & Smith, 2005).

This study revealed additional supports that teachers, in a particular elementary school, identified as beneficial to effective data use, particularly the use of *Reading Street* assessment data.

The results of this study identified some supports that facilitated teachers' use of *Reading Street* data for teachers, administrators, and policymakers. Additionally, information resulting from interviews illuminated some barriers that impeded the effective use of *Reading Street* assessment data. Without knowing how teachers use reading assessment data, needed supports and impeding obstacles to effective data-use may be unidentified and therefore left unattended. The study's findings provided information that will advance teachers' effective use of *Reading Street* assessment data, illuminated supports essential to teachers' effective use of *Reading Street* assessment data, and revealed barriers that thwarted teachers' effective use of the data. This information may prove valuable to other educators when adopting a new reading curriculum.

Research Questions

Overarching research question: How do teachers (2nd through 6th grade) use *Reading Street* assessment data?

Sub-Research Question 1: How do teachers experience supports for using *Reading Street* assessment data?

Sub-Research Question 2: How do teachers experience obstacles in using *Reading Street* assessment data?

Conceptual Framework

Creswell (2005) asserted that when conducting qualitative research, the researcher chooses participants and sites based on the capacity of each to assist in understanding the phenomena. Therefore, to address the research questions, the researcher utilized a

phenomenological framework in this study to understand how teachers in one elementary school use assessment data from the reading program, Scott Foresman's *Reading Street*. The researcher constructed questions for individual and focus group interviews to ascertain how teachers in this school use *Reading Street* assessment data.

A phenomenological approach provided the most effective method of attending to the research questions of this study. Creswell (2003) maintained, "A phenomenological study describes the meaning of the lived experience for several individuals about a concept or phenomenon" (p. 51). Creswell (2003) explained that three factors should be contemplated when choosing a research approach. These factors include the type of problem to be researched, the researcher's experiences, and the target audience for the research. A phenomenological study, contended Marshall and Rossman (2011), requires thorough and detailed interviews with people who have experienced the phenomena. Therefore, through individual and focus group interviews, this study endeavored to illuminate how teachers use assessment data from Scott Foresman's *Reading Street* Program. The researcher, who uses *Reading Street* assessment data, sought to understand how other teachers are using the data.

Methodology

The targeted audiences for the study were educators, researchers, and policymakers who could benefit from knowing how teachers in one elementary school used *Reading Street* assessment data. Because each school has students with unique needs, the results from this study may not be generalizable to other settings.

Data Collection for the Study

This study consisted of two components, individual teacher interviews and one focus group interview. The first component consisted of five individual teacher interviews, one

interview with one teacher from each grade level, second through sixth grades. Follow-up interviews ranging from 30 to 45 minutes were conducted with the individual teachers. Through these interviews, the researcher collected information regarding how teachers utilize *Reading Street* data. For the individual teacher interviews, participants were asked to bring all *Reading Street* assessment data that they collected with student names de-identified. The teachers used this information as a reference to address the interview questions. If additional information was required to effectively answer the research questions, a second individual interview was conducted with each of the original five teachers.

The second component of the study involved a focus group interview with two of the regular classroom teachers on the Continuous School Improvement (CSI) Team. There were three regular classroom teachers on the CSI Team, but only two agreed to participate in the focus group interview. Interview questions were specifically constructed to ascertain from the CSI Team how teachers were using *Reading Street* assessment data. The Continuous School Improvement Team was selected as the focus group for this study because the team collects and analyzes school-wide assessment data to inform school improvement goals, measure progress toward those goals, identify interventions to target the goals, and monitor the effectiveness of the interventions. The Continuous School Improvement Team members must apply to be a team member. The school principal selects team members based on specific criteria and strives to select a diverse team who can fulfill the requirements of being a CSI team member.

Participation in this study was voluntary with participants' identities remaining anonymous. With permission of the participants, all interviews, individual and focus group, were recorded using a recording device to ensure accurate transcription by the researcher. Conducted after school duty hours, the interviews and focus group consisted of two 45-minute

sessions. Individual teacher interviews and the focus group interview engaged participants in answering questions that followed an unstructured, open-ended, conversational format--a process consistent with a phenomenological study.

Individual Teacher Interviews

With the permission of the school principal and superintendent, all of the teachers within this particular elementary school were informed of the purpose of the study and the two components of the study. The researcher asked for volunteers who taught second through sixth grades to participate in the individual teacher interviews. The researcher asked volunteers to sign a consent form that detailed the purpose of the study, the components of the study, and an assurance of participants' confidentiality. The researcher aspired to collect data from a diverse group; therefore, gender, age, ethnicity, and years of teaching experience were considered during participant selection for individual teacher interviews. In the event that more than one teacher in a particular grade level volunteered to participate in the study, the teacher with the greatest number of years teaching *Reading Street* was selected.

Materials for Individual Teacher Interviews

A few materials were used to facilitate individual interviews. First, *Reading Street* assessment data with students' names de-identified were available as a guide for each teacher during individual teacher interviews. The researcher also provided the *Reading Street Assessment Handbook* (2008), published by Scott Foresman, in the event that information regarding particular assessments was needed.

Focus Group Interview

To address the focus group research questions, the researcher conducted a group interview with two regular classroom teacher volunteers from the CSI Team. The CSI team

members included one third-grade teacher, one fourth-grade teacher, one fifth-grade teacher, one math instructional specialist, one educational technologist, one speech pathologist, and the school principal. Only the three regular classroom teachers on the CSI Team were asked to participate in the study, because the topic of research concerned how *teachers* use *Reading Street* assessment data. One of the three regular classroom teachers from the CSI Team was unable to participate due to extenuating circumstances; therefore, there were only two participants in the focus group. The focus group participants answered a series of unstructured, open-ended questions designed to address the research questions. The interview followed a conversational format, consistent with a phenomenological approach and took place after regular school duty hours. The Continuous School Improvement team members who volunteered to participate in the study signed a consent form that detailed the purpose of the study, the components of the study, and the assurance of participants' confidentiality.

Data Analysis

Marshall and Rossman (2011) asserted that data collection and analysis are connected and used to fashion a sound explanation of a phenomenon. Data obtained from the teachers' individual and focus group interviews were coded, developed into themes, and then analyzed to comprise a comprehensive description of how teachers in one elementary school use *Reading Street* assessment data. Analysis began as the first data were collected. The collection of data did not cease until the research questions were answered and the analysis of the data could be communicated to readers through clear and comprehensible writing that was authentic to the data. The researcher utilized a descriptive qualitative approach to provide a detailed portrayal of teachers' experiences using *Reading Street* assessment data, including teachers' experiences with supports when attempting to use the data and any barriers that impeded attempts to use the data.

Researcher's Position

As a classroom teacher at the school under study, I, the researcher, am directly involved in collecting, analyzing, and interpreting *Reading Street* assessment data. These data processes help determine students' comprehension levels, identify specific reading skills that students have or have not mastered, select interventions and teaching strategies that are effective in targeting areas of difficulty, and differentiate instruction to meet each student's reading needs.

To conduct a sound phenomenological study, methodical data collection, analysis, and reporting procedures were implemented. The researcher's experiences with using *Reading Street* assessment data included experiences strengthened by supports such as professional development, technological assistance with assessing students on the computer, inputting data into the computer, and administrative support. Administrative support included time afforded to input and analyze data and collaborate with colleagues regarding implications of data. During times set aside for collaboration, teachers discussed student weaknesses and identified instructional strategies, interventions, and differentiated instruction to address the weaknesses.

Some of the researcher's experiences, however, involved obstacles to the effective use of *Reading Street* assessment data. For example, the researcher required one-on-one assistance from the educational technologist when inputting *Reading Street* assessment data into a software program designed to organize the data by classes and individual students. Choosing between *Reading Street* paper-and-pencil assessments and computerized assessments was also a personal challenge. Using assessment photocopies involved consuming a vast amount of paper as well as time investment when grading by hand and analyzing test results. Assessing students on the computer has at times been a challenge, because the format of the assessment was confusing for some students. For example, each reading passage appears on the computer screen several times

as the students attempt to answer questions related to the passage. As a result, some students reread the passage several times. This process has led to long assessment sessions for some students, resulting in frustration for students and teachers. The researcher attempted to bracket-out her personal experiences with using *Reading Street* assessment data during interview sessions through analysis of interview data, and the written description of the findings from the study.

Ethical Considerations

All study participants were informed of the procedures and the purpose of the research study. The researcher explained that individual teacher interviews and one focus group interview comprised the two components of the study and that the information obtained from all interviews was used exclusively to answer the research questions. Additionally, the researcher informed participants that participation was voluntary and all participants' names would remain anonymous. Furthermore, teachers were advised that students would not be involved in any part of the study. Students' names were de-identified on all *Reading Street* assessment documents used as reference material during individual or focus group interviews.

Overview of Relevant Literature

Teachers' Data-Informed Decision Making

Data-informed decision making signifies that educators from the district, school, and classroom levels gather and analyze data in order to make educated decisions that will lead to school and classroom improvement. Various types of data are collected to make informed decisions. For example, achievement test data are required by the state and federal government to determine accountability (Mandinach & Honey, 2008). In addition to achievement test data, teachers collect school-level data through classroom observations, teacher-made and

standardized assessments, and classroom assignments. This study focused on teachers' use of assessment data from the reading program, *Reading Street*.

To comply with accountability policies such as NCLB, teachers have increasingly focused on data-use to inform instructional decisions (Knapp et al., 2006; Mandinach et al., 2008), but many teachers needed support to use assessment data effectively. Many factors affect whether and how teachers use data to make instructional decisions, including teachers' conventional approaches to using assessments, the accessibility of data (Kerr et al., 2006; Lachat & Smith, 2005), and teachers' knowledge of both subject matter and effective instructional practices (Mandinach et al., 2008). Marsh et al. (2006) explained that data-informed decision making is the process of "systematically collecting and analyzing various types of data for the purpose of informing decisions directed towards improving student learning" (p. 1).

Data use involves improving instruction progressively as data are collected. The process begins by collecting data about student learning from meaningful sources, such as teacher-made tests or formative assessment tests from a published program. Mandinach (2012) explained that the next step in the data collection process involves examining the data. Instructional changes are made based on the examination of data. Finally, more data are collected to determine student learning and to evaluate the effectiveness of the instructional changes. Thus, the data collection process involves not only collecting data to assess student learning, but also evaluating and making necessary adjustments to teachers' instruction. In addition, collaborative efforts fostered teacher efficacy in using data (Department of Education, 2011; Hamilton et al., 2009).

According to Welch (2002), a decision is comprised of three aspects: (a) having a clear goal, (b) determining possibilities for reaching that goal, (c) and choosing the best option. Specifically, data-informed decision making entails using both quantitative and qualitative data

to make a knowledgeable decision (Picciano, 2006). In the past, a lack of teacher participation existed in collaborative assessment analysis and decision making because of wariness regarding the use of singular data sources to assess student improvement and teachers' lack of familiarity with data procedures (Department of Education, 2009; Mandinach et al., 2008; Popham, 2006). An example of this process is a group of teachers collaborates on a student's work and then discusses the implications for instruction.

Supports for Data-Informed Decision Making

Because accountability policies assume teachers will use data to inform instruction, supports crucial to teachers' effective data use must be identified and put into practice (Lachat & Smith, 2005; Wayman & Stringfield, 2006). A heightened concern exists regarding the necessity of supports for teachers to successfully use data to make significant and continuous improvements in students' learning (Mandinach et al., 2008). For example, researchers have conducted case studies to examine the practices and supports that have proven efficacious in enabling teachers to effectively use data to make decisions (Halverson, Prichett, & Watson, 2007; Herman & Gribbons, 2001; Lachat & Smith, 2005; Wayman et al., 2006). These case studies provide valuable information for educators at all levels of the educational system, as well as policymakers and researchers (Datnow et al., 2007; Lachat & Smith, 2005).

Datnow et al. (2007), Halverson et al. (2007), and Lachat and Smith (2005) noted that school systems recognized as frontrunners in data-informed decision making are proactive in building teachers' capacities for data-informed decision making. These school systems provide teachers with supports aimed at understanding the processes involved in data-informed decision making (Datnow et al., 2007) Teachers are encouraged and supported in monitoring student progress and analyzing data for the purpose of increasing student achievement and informing

instructional practice (Armstrong & Anthes, 2001). Support is provided through allotted time for teacher discussions centered on student data and effective instructional strategies.

Laying the groundwork for data-informed decision making involves creating a culture that has established expectations for data use, including an expectation that educators consistently use relevant data to inform instruction (Datnow et al., 2007; Mandinach et al., 2008). Effective data use necessitates a culture with a specific and well-communicated school improvement plan, along with strong leadership to provide teachers with the supports to use student data effectively. Data-informed decision making must be contextual in order to be effective (Datnow et al., 2007; Feldman & Tung, 2001), so while many schools have been successful in cultivating an effective data-informed-decision making process, no singular plan is effective in all scenarios. Nevertheless, researchers have identified some common practices in schools that use data effectively (Datnow et al., 2007). For example, having a user-friendly data management system, along with personnel to aid in managing the data were common in schools that demonstrated effective data-informed decision making (Datnow et al., 2007; Wayman, 2005). Providing teachers with professional development focused on analyzing and interpreting data was another established practice found in performance-driven schools (Boudett, City, & Murnane., 2005; Department of Education, 2009; Latchat & Smith, 2005). These school leaders structured time into the school schedule for professional development centered on teachers' collaboration regarding student data (Boudett et al., 2005; Datnow et al., 2007; Department of Education, 2009; Ingram et al., 2004).

Deficiencies in the Evidence

Despite the national legislation that holds states, districts, and schools accountable for student learning, few researchers have examined teachers' experiences with supports and social

structures required to implement a comprehensive and effective approach to data-informed decision making. Specifically lacking is research concerning teachers' use of data to inform instructional practice (Brunner et al., 2005; Datnow et al., 2007). The researcher aspired to fill the gap in the literature by revealing how teachers in one elementary school use reading assessment data collected from Scott Foresman's reading program, *Reading Street*, and how those teachers experienced supports and obstacles when attempting to use the data.

Empowering teachers to make instructional decisions based on student data necessitates identifying and advancing the processes and practices that buttress teachers' abilities to rigorously examine data to make decisions that improve student learning (Mandinach et al., 2008; Mandinach, 2012). Recognizing the influences that facilitate or hinder the creation of successful data cultures can empower decision makers within the school system, as well as policymakers, by providing valuable knowledge that can be used to build a data-informed culture of inquiry and collaboration.

Significance of the Study

Though teachers are expected to change their practice based on the examination of test data (Heibert et al., 2005; Ingram et al., 2004; Kerr et al., 2006), this multifaceted task has remained, for the most part, a responsibility left to teachers (Wayman, Brewer, & Stringfield, 2009). Moody and Dede (2008) explained, "The implementation of data-based decision making initiatives is always at the school site" (p. 234). However, these practices leave teachers and administrators with the charge of attaining proficiency in the complex process of data-informed decision making. Abbott (2008) contended that "capacity to perform precedes performance" (p. 257), supporting evidence from studies showing that teachers must have the capacity to use data to inform instruction before it becomes a part of the school culture (Datnow et al., 2007).

Teachers' capacities to use data to inform instruction depends on several variables including the culture of the school, leadership, professional development, and the usefulness of available technology for organizing data. In addition, accountability policy makers have neglected to address obstacles to data-informed decision making; therefore, teachers and school principals are entrusted with this responsibility.

Educational stakeholders and policymakers at the federal, state, and local levels can utilize the results from this study to inform policies and procedures targeted toward building teachers' capacities to use assessment data effectively. This implementation requires that stakeholders first know how teachers are currently using data. Therefore, the researcher examined a single site to find out how teachers use reading assessment data from a particular program, *Reading Street*. The results may be helpful for other school districts, but further research will be necessary in other settings to provide generalized recommendations.

Significance to Educators

Traditionally, teachers have relied primarily on observations, individual discretion, and past precedents to make instructional decisions, as well as data, such as classroom exams, in-class assignments, and homework. However, systematic data-informed decision making has gained popularity because of recent policies and educational research (Herman & Gribbons, 2001; Mandinach et al., 2008). A barrier to successful data-informed decision making is limited teacher capacity. For example, even in schools considered leaders in data-informed decision making, researchers found that teachers were lacking in basic capacities necessary to interpret and use data to make instructional decisions (Herman & Gribbons, 2001; Supovitz & Klein, 2003). The data from this study may be used to improve teachers' and educational stakeholders' awareness regarding appropriate use of data.

Moreover, although some teacher resistance existed toward the processes involved in data-informed decision making, teachers generally agreed to use data to inform instructional decisions if the process increases student learning, and the essential supports for data-informed decision making are in place (Chen, Heritage, & Lee, 2005; Lachat & Smith 2005; Wayman et al., 2007; Young, 2008). Before these supports can be put into place, more information is necessary regarding the current data-informed decision making process in the classroom. The study provided the first step in gathering this information in one elementary school through exploring teachers' use of *Reading Street* assessment data.

Summary

While accountability policies have led to increased attention to student data, how teachers use the data has been left to local discretion, resulting in different levels of support for teachers. Unless current data use practices are understood, determining which supports are essential is difficult. Mandinach (2012) noted that teachers are not opposed to using data to inform instruction if the data are meaningful in increasing student achievement and the supports required to use data to inform instructional decisions are in place.

Many teachers simply lack the skills and knowledge necessary to use data to inform instruction. Thus, professional development that builds teachers' efficacies in data skills, and time set aside for teachers to examine student data, pinpoint student difficulties, and choose appropriate instructional strategies to address students' learning needs are essential. In addition to professional development focused on building teachers' efficacies in data-use skills, supports proven to be effective in building teachers' capacities for using data in meaningful ways include the following: (a) leadership that uses and models data to make decisions (Copland, 2003), (b) cultures of data use (Datnow et al., 2007), (c) an effective user-friendly data management system

(Hamilton et al., 2009; Wayman, 2005), (d) data that are meaningful for informing instructional practice, and (e) tools and processes required for implementing effectual data-informed decision making (Datnow, 2007).

Determining through in-depth individual and focus group interviews how teachers in one particular elementary school are using student assessment data obtained from the *Reading Street* program may provide valuable knowledge regarding not only how teachers use reading assessment data, but also specific supports and barriers to data use which may be in need of consideration. The researcher was determined to produce significant results that can be analyzed and used by policymakers, school leadership, and educators to implement changes that teachers indicate would facilitate his or her use of *Reading Street* assessment data.

CHAPTER 2

LITERATURE REVIEW

The literature review is organized to best highlight the gap in literature surrounding the data-informed decision making currently practiced by educators in elementary education. Review of the relevant literature clarified the following themes: background of educational accountability, data-informed decision making, barriers to data-informed decision making, supports for data-informed decision making, school culture, and professional development.

Background of Educational Accountability

In the past, instructional decisions were primarily grounded in a teacher's intuition, philosophy, and years of experience. Teachers collected data mainly for the purpose of assigning grades. The purpose of gathering data, however, transformed in 1983 with the publication of a document entitled *A Nation at Risk: The Imperative for Educational Reform* (National Commission on Excellence in Education, 1983). *A Nation at Risk* proposed testing students to demonstrate accountability. Through the utilization of emotional rhetoric, the report created a sense of crisis in reference to the quality of education provided in America's public schools (Kohn, 2000). *A Nation at Risk* concluded that the American educational system was merely mediocre with misplaced educational aspirations, lacking expectations of excellence and tenacity, and enabling other countries to advance ahead (National Commission on Excellence in Education, 1983).

While *A Nation at Risk* launched the standards and testing movement as one solution to America's educational and economic plight, in 2002 the passage of the *No Child Left Behind Act*

of 2001 expanded the standards and testing movement. Nichols and Berliner (2008) proclaimed that NCLB is “probably the most invasive and complex piece of federal legislation on education in our nation’s history” (p. 7). The long-term influence of NCLB may be incalculable, but the act unquestionably influenced students, teachers, and administrators (Cochran-Smith & Lytle, 2006). The influences of the act are particularly evident in terms of teacher accountability (Nichols & Berliner, 2008). Teachers are now accountable for using student data to make adjustments in instructional practice that will lead to increased test scores (U.S. Department of Education, 2011).

Accountability and Data Use

While the accountability movement has led to the accumulation of multiple types of data, uncertainties about how teachers use the data to guide instructional decisions persist (Hamilton et al., 2009; Wayman, 2005). A massive accumulation of data, asserted Wayman (2005), does not equate to “the employment of data to inform and improve educational practice” (p. 296). In fact, Ingram et al. (2004) challenged the validity of accountability policies in actually changing teachers’ practice:

For standards and accountability policies to be effective in changing the core technology of education--teaching and learning--schools must use accountability data to make decisions about whether they are meeting standards or not and, if not, then use data to change practices and monitor the effectiveness of those changes. Despite the pivotal role of data in this and other current school improvement policies, there is little strong empirical evidence on how these policies affect practice. (p. 1259)

Despite NCLB mandates that require schools and districts to collect and present student data for accountability purposes, teachers’ use of student data to inform instructional practice is an uncommon practice (Wayman, 2005).

While teachers have utilized various kinds of data for years (Wayman, 2005), including classwork, quizzes, and end-of-unit tests to determine students’ understanding (Mandinach et al.,

2008), the practice of teachers using data to inform instructional practice has intensified with the accountability movement incited by NCLB (Brunner et al., 2005). NCLB (2001) has brought changes causing educators at the district and school levels to consider the capacity of data to inform instructional decision making (Light, Wexler, & Heinze, 2005). However, as Herman and Gribbons (2001) noted, “Despite both the mandates and the rhetoric, schools are woefully under-prepared to engage in such inquiry. The practice of applying large-scale data to classroom practice is virtually nonexistent” (p. 1). In fact, Firestone, Fitz, and Broadfoot (1999) revealed that while mandated assessments may affect specific topics, teachers’ instructional practices changed only slightly, although the U.S. Department of Education (2011) found that changing instructional practice based on student data is an essential data literacy skill.

Accountability and Teachers’ Effective Data Use

The NCLB did not address specific processes involved in using data to guide teachers’ instructional practice nor the supports teachers need to use data in meaningful ways. Educators are now grappling with ways to gather, organize, and use student data to inform classroom instruction. Districts selected to participate in a case study, and purposefully chosen for actively pursuing the use of data, had a large percentage of teachers who were lacking in the five skills deemed essential to using student data to improve instructional practice. The five skills identified as essential to teachers’ effective use of student data were locating significant data within a data system or data display, understanding the meaning of the data, interpreting the data, determining what the data mean for instructional practice, and creating questions about instruction that can be answered from the data (U.S. Department of Education, 2011).

Teachers recognize their lack of efficacy in using data to inform instructional decisions (U.S. Department of Education, 2009). For example, based on a teacher survey conducted in

2008, more than 50% of surveyed teachers expressed a need for more professional development focused on using data to inform instruction, 48% expressed a desire for professional development on interpretation of test scores, and 38% wanted more training on how to devise questions that could be answered with data (U.S. Department of Education, 2008). Training in the use of multiple types of data to support instructional decisions has been reported as vital to an organization committed to continuous improvement (Boudett et al., 2005; U.S. Department of Education, 2009). However, the U.S. Department of Education (2008, 2011) found that only 17% of teachers from case study districts, more advanced than most districts in data use, recognized the importance of using multiple assessment data to identify students' strengths and needs.

Though schools are using data to inform decision making at an increasing rate, researchers provided evidence that school leaders are not always efficacious in such attempts (Supovitz & Klein, 2003; U.S. Department of Education, 2011). Many variables, including leadership, preplanning for collecting and using data, and staff members' efficacy in using data to inform instruction affect teachers' data use (Kerr et al., 2006). These variables must be examined to determine if the variables are providing support for teachers to use student data effectively in classrooms, and thereby to increase educational accountability. These challenges have been particularly evident when assessing reading (Hosp & Suchey, 2014). Researchers indicated that teachers are willing to support data use if the process helps students learn and if the necessary supports are provided (Chen et al., 2005; Lachat & Smith, 2005; U.S. Department of Education, 2011).

Data-Informed Decision Making

Researchers have discussed the process of using data to promote decision making in schools for more than three decades (Wayman, 2005). Data have been used to carry out decisions at the classroom, school, and district levels (Mandinach et al., 2008; U.S. Department of Education, 2011), but data require interpretation for use. Only then can data become meaningful knowledge that can guide action within a particular context. Knowledge is evident, for example, when a teacher changes instructional practices based on the analysis of students' assessment data (Light et al., 2004). Using data in this way has been defined as data-informed decision making, or data-based decision making (Light et al., 2004). However, the U.S. Department of Education (2011) demonstrated that many teachers simply lack the data literacy skills needed to effectively analyze and use data in meaningful ways.

After examining data from a longitudinal study of nine high schools, Ingram et al. (2004) concluded that an assumption exists underlying accountability policies that external data and accountability measures will result in positive changes in teachers' practice. Absent from this assumption is a consideration of specific decisions teachers make based on data, which kinds of data are most meaningful in making instructional decisions, and what processes are involved in connecting data to effective instructional decisions. This information is pivotal for understanding and implementing effective accountability measures in educational settings.

Data-Driven Decision Making Model

Data-informed decision making is a multifaceted task. Transforming data into knowledge requires teachers to not only gather and organize data, but also use the synthesis and analysis of the data prior to acting (Light et al., 2005). The central constituent in data-driven decision making is the teacher, including the knowledge and beliefs he or she brings to the

process. Moody and Dede (2008) asserted that data-informed decision making involves reflection and collaboration centered on the interpretation of data and teachers' perspectives. Data cannot be transformed into information, explained Light et al. (2005), unless the data have meaning for the interpreter. The school context encompasses both the objectives of school administrators for classroom data use in meeting accountability requirements and teachers' pedagogical convictions and practices, which are integrated into the teachers' worldviews (Light et al., 2005). Light et al. (2008) proposed a conceptual framework for understanding how data are used to inform decisions. This model is based on the belief that educators have questions or problems that can only be answered by gathering and analyzing data.

The process of interpreting data is multifaceted and cyclical (Mandinach, 2012). First, teachers must collect data from meaningful sources, after which the data are analyzed and interpreted for meaning. Mandinach (2012) explained that the next step includes the use of data interpretation to make curricular changes. Finally, more data are collected to determine student learning and to evaluate the effectiveness of the instructional changes. Thus, the data collection process involves not only collecting data to assess student learning, but also evaluating and making necessary adjustments to teachers' instruction.

Though data-informed decision making has shown promise as a means for improving student success, little research thus far has focused on data-informed decision making in the classroom (Datnow et al., 2007). School districts, however, have cited the following areas of need regarding data use as it applies to the classroom: (a) connecting the data to instructional practices, (b) using data to individualize instruction, (c) developing assessments specific to and embedded within the curriculum, (d) collaborating with colleagues about effective instructional strategies to address student learning needs as identified in the data, and (e) communicating

student progress to parents (U.S. Department of Education, 2009). To meet these areas of need, districts and schools must address the barriers to teachers' data-informed decision making.

Barriers to Data-Informed Decision Making

As a major cultural change in the schooling system that is frequently tied to controversial NCLB accountability standards, data-informed decision making has encountered some wariness among educational stakeholders (Wayman et al., 2007). Some specific barriers to teachers' data-informed decision making include the following: teachers' lack of preparation in using data to inform instructional decisions, a school culture of teacher isolation, lack of professional development targeted towards teachers' using data to make meaningful decisions, a user-friendly data system with meaningful student data along with resources such as instructional strategies to address student needs according to the data, and lack of leadership support (Ingram et al., 2004; Mandinach et al., 2008; Wayman, 2005; Wayman & Cho, 2008).

Researchers conducting case studies and interviews with administrators and teachers have identified many barriers to teachers' data use (Mandinach et al., 2008; Wayman, 2005). Teachers reported feeling unprepared to engage in the process of data-informed decision making (Brieter & Light, 2006; Datnow et al., 2007; Feldman & Tung, 2001; Mandinach et al., 2008; Wayman et al., 2006), affirming Young's (2008) assertion that solely implementing requirements for data use is insufficient for transforming educators' decision making processes. This statement is especially valid considering teachers have previously been excluded from interpreting data (Moody & Dede, 2008). Transformation may be achieved by encouraging teachers' user knowledge, which involves taking action regarding the analysis of data by differentiating instruction, linking instruction with curriculum standards, and keeping track of student progress (Kerr et al., 2006).

Changes in Teachers' Roles

Teachers' use of data to inform decision-making is a complex process that compels the examination of the traditional teaching practice of working in isolation (Moody & Dede, 2008). Research indicates that the effective use of student data requires teachers to work collaboratively in teams (Boudett et al., 2005). Schools recognized as effective data users analyze data in small settings such as grade-level group meetings (U.S. Department of Education, 2009). Staff members in these schools indicate an increase in colleagues' dialogue concerning instructional practices and an escalation in learning opportunities through increased data-related processes--an added benefit to teacher collaboration (U.S. Department of Education, 2009). Bransford, Brown, and Crooking (2000) contended, "Learning involves making oneself vulnerable and taking risks, and this is not how teachers often see their role" (p. 195).

Teachers need supports to transform these traditional educational practices that often involve isolation and lack of support to practices of inquiry within collaborative teams. One crucial support that must be provided is the opportunity to develop the skills and knowledge essential to fostering effective learning environments centered on the learner, knowledge assessment, and community.

School's Culture

Because using data to make instructional decisions often necessitates changes in the culture of the school, and because the essential professional development is often not provided, some teachers resist implementing data-informed decision making (Ingram et al., 2004). Teachers frequently question the kinds and purposes of available data (Coburn & Talbert, 2006; Ingram et al., 2004; Mandinach, et al., 2008; U.S. Department of Education, 2009; Wayman et al., 2007; Young, 2008). Mandinach et al. (2008), for example, found that "Teachers . . . are

wary of using any single data source, such as high-stakes test data, to make decisions about students' strengths and weaknesses" (p. 17).

Lack of User-Friendly Data Systems

Teachers frequently find that even when meaningful data are available, the data are presented in a perplexing format, minimizing the likelihood that it will be utilized to inform instruction (U.S. Department of Education, 2009; Wayman, 2005; Wayman & Cho, 2008). For example, research shows that teacher participants reported several impediments to the effective use of data systems (U.S. Department of Education, 2009). Teachers had difficulty with using data inquiries to obtain relevant data and effectively utilizing data for making instructional decisions. Teachers indicated a lack of training in using the data system and making instructional decisions based on the available data (U.S. Department of Education, 2009). In regard to adeptness at using a data system, 44% of participants indicated a need for more professional development targeted toward the mechanical aspects of using a data system (U.S. Department of Education, 2009). In two urban school districts that intentionally provided professional development and technical support for using data to make instructional decisions, Kerr et al. (2006) found that teachers reported using data more frequently and more purposefully. Professional development must be provided if teachers are expected to become efficacious in using student data effectively.

In the U.S. Department of Education's National Educational Technology Trends Study (NETTS; U.S. Department of Education, 2008), teachers reported a substantial increase in the availability of data systems, but conveyed that data systems maintained by the district were ineffective. Educators indicated that district data systems lacked the capacity to transfer data between systems, were challenging to utilize, and lacked sufficient data and instructional

methods that would assist teachers in using data to make instructional decisions. Of the teachers who had student data systems available, only 55% reported having information regarding recent benchmark or diagnostic tests (U.S. Department of Education, 2009).

The NCLB Act has made the use of data in teacher decision making a necessity by requiring that scientifically proven, evidence-based practice be implemented into educational decision making (Nelson-Walker, Fien, Kosty, Smolkowski, Smith, & Baker, 2013). Supporting the decision to use evidence-based practice, the Elementary and Secondary Education Act (reauthorized 2002) requires the use of data systems to collect, analyze, and use student achievement data to inform instructional practice (Means et al., 2009). These data systems are expected to act as a unifying framework that provides instructional resources, such as state requirements and curricula, benchmark assessments, and collaboration tools. More importantly, these systems are intended to organize and enable teacher decision making based on student data (U.S. Department of Education, 2009). Although use of data systems has been placed at the forefront of educational practice and innovation, as of 2009 approximately 50% of students did not have access to the benefits that a data system provides (U.S. Department of Education, 2009).

Lack of Professional Development

Understanding the processes of data organization, analysis, and interpretation to inform instructional practice is a major alteration to teachers' traditional teaching patterns, but the social structures needed to support teachers in the use of data are lacking in most schools. Because the essential professional development is often not provided, some teachers resist implementing data-informed decision making (Ingram et al., 2004). Along with teachers, few administrators have had professional development focused on making decisions based on data (Herman &

Gribbons, 2001). Teachers have expressed the need for professional development before implementing data-informed decision making in the classrooms (Smith, 2011; U.S. Department of Education, 2011). Because the essential professional development is often not provided, some teachers resist implementing data-informed decision making (Ingram et al., 2004).

Teachers communicated a need for more training in specific processes involved in data-informed decision making in the 2006-2007 U.S. Department of Education's National Educational Technology Trends Study (NETTS). Of the study's participants, 58% indicated a need for more professional development focused on modifying instructional practices based on student data. A large percentage (48%) expressed the need for professional development pertaining to the interpretation of test data. More than a third of the NETTS participants related a need for training focused on creating questions answerable by examining test data, as well as effective collaborative techniques focused on the facilitation of data discussions with colleagues.

Making data-informed decision making a common practice for teachers involves training in the skills and knowledge required to effectively perform the processes (Hamilton et al., 2009; Smith, 2011). Researchers indicated that assessment-related procedures comprise as much as 30% of teachers' time; however, the majority of teacher training has not systematically focused on how to use student data effectively (Remesal, 2011). While some districts are beginning to provide training and staff to assist with data-related practices, the level of support offered in schools and districts varies widely (Kerr et al., 2006; U.S. Department of Education, 2009).

Supports for Data-Informed Decision Making

Data-informed decision making involves selecting and administering a variety of formative and summative assessments, analyzing and interpreting the results, determining students' strengths and weaknesses, implementing strategies to address weaknesses, and

monitoring progress following implementation of new strategies (Datnow et al., 2007).

Problematically, Feldman and Tung (2001) found that teachers lack proficiency in these key data-informed decision making processes, including inquiry-based instructional practice, analyzing data, and developing queries; these findings were echoed in Smith's (2011) research.

Supports proven to be effective in increasing teachers' capacities to use data to inform decision making include the following: (a) robust leaders who model the use of data to inform decisions; (b) professional development for teachers focused on collecting and analyzing data, and making meaningful instructional decisions based on data; (c) building the capacity of the staff to engage in data-driven inquiry (Kerr et al., 2006); and (d) a user-friendly technological system that provides meaningful student data aligned with curriculum standards, teacher resources, and instructional strategies to address student needs (Datnow et al., 2007).

Professional Learning Communities

Schools recognized as effective data users analyzed data in small settings such as grade-level group meetings (U.S. Department of Education, 2009). Staff members in these schools indicated an increase in colleagues' dialogue concerning instructional practices and an escalation in data-related learning opportunities through increased data-related processes (U.S. Department of Education, 2009). Previous researchers indicated that more data-focused discussions ensued when educators in several high performance schools developed tools for acting on data, such as protocols for analyzing data and monitoring goals (Boudett et al., 2005; Datnow et al., 2007; U.S. Department of Education, 2009). In addition, these schools created explicit and measurable goals that extended from the system level down to the student level, and then implemented and monitored a system-wide curriculum before expecting teachers to use data to inform instructional decisions. These processes enabled educators to move in the same direction, which was a

strategy indispensable to collecting, organizing, and taking action on student achievement data (Datnow et al., 2007).

Culture of Data Use

Evidence resulting from several studies (Chen et al., 2005; Holcomb, 2001; Love, 2008; Symonds, 2003) indicates that the culture of a school or district is crucial to the effective use of data. While Boudett et al. (2010) suggested that many ways exist to create a data culture tailored to each individual school, the researchers proposed that by organizing productive meetings, forming and supporting a data team, and facilitating collaborative work among faculty, schools can create a data culture that effectively uses many kinds of data to support teaching and learning. Chen et al. (2005) found that a culture of collaborative inquiry fosters the use of data and is crucial to developing the school's capacity for improvement (Copland, 2003), while organizations dominated by a culture of teacher isolation lack the collaborative processes essential to effective data use. Studies have provided evidence that the process of inquiry is crucial to developing the school's capacity for improvement (Copland, 2003), but teachers are frequently uncooperative because using data to make instructional decisions often necessitates changes in the culture of the school (Ingram et al., 2004).

Schools with successful data cultures have established clear expectations for data use and link data results with effective instructional practice (U.S. Department of Education, 2009). Additionally, schools with successful data cultures have a system-wide curriculum aligned with standards (Mandinach et al., 2008), along with flexible pacing guides that afford teachers opportunities to reteach. This provides the framework for the processes of gathering, organizing, and interpreting data (Datnow et al., 2007). Exact and measurable goals created at the district, school, and classroom levels enable educators to collect, organize, and interpret data collectively,

and then implement interventions targeted toward students' learning needs (Datnow et al., 2007; Feldman & Tung, 2001). Then, the cycle of data use, as described by Mandinach (2012), provides the continuity needed to refine curricula and teaching practices.

Collaborative Inquiry

Data can become the focus for enhancing teaching and learning during collaborative inquiry (Birenbaum et al., 2009; Love, 2009). Love (2009) described collaborative inquiry as “a process where teachers work together to use multiple data sources to continuously improve teaching and learning” (p. 3). Collaborative inquiry involves teachers working together to identify and understand students' learning problems by the thorough and meticulous examination of data followed by reflective conversation. However, as the U.S. Department of Education (2009) noted, using this data is impossible unless teachers have a clear understanding about how to translate data into knowledge that results in improved instructional practice and increased student outcomes. This understanding is typically developed through focused leadership.

Leadership

While accountability policies neglect to provide methods for involving teachers in data-informed initiatives, it is essential that district and school leaders support teachers in collaborative efforts to examine student data with the purpose of using the data to inform instructional decisions (Kerr et al., 2006; Wayman et al., 2006). Numerous researchers have found that strong leadership at the district, school, and classroom levels is essential to building teachers' capacities to use data to inform instructional practice (Copland, 2002; Datnow et al., 2007; Feldman & Tung, 2001; Halverson et al., 2007; Kerr et al., 2006; Lachat & Smith, 2005; U.S. Department of Education 2009). Schools and districts provide leadership support for teachers by making data-informed decision making a priority (Birenbaum et al., 2009; Cooper &

Cowie, 2010; Datnow et al., 2007; Knapp et al., 2006; U.S. Department of Education 2009), modeling the uses of data (Feldman & Tung 2001; Herman & Gribbons 2001), providing clear norms for the use of data (Datnow et al., 2007), and structuring time into the schedule for teachers to discuss and reflect on data (Boudett et al., 2005; Farley-Ripple & Buttram, 2013; Lachat & Smith, 2005; Nelson-Walker et al., 2013; Wayman, 2005). Other ways the district and school can support data-use is by purchasing or creating a data system (Datnow et al., 2007; U.S. Department of Education, 2009; Wayman et al., 2006), recruiting teachers efficient in analyzing and interpreting student data, and providing ongoing data-related training (Abbot, 2008; Kerr et al., 2006).

Principals must reshape the school's focus by making decisions based on data, and strengthen curriculum, instruction, and assessment through best practices such as modeling the use of data (Marzano, Waters, & McNulty, 2005). The principal can support data use by creating structures and providing the resources that foster teachers' collaboration around student data (Copland, 2003; Deike, 2009; Lachat & Smith, 2005; Young, 2008). Studies show that principals who are proficient in data-informed decision making distribute leadership responsibilities (Marzano et al., 2005; Wayman & Stringfield, 2005), but this type of leadership necessitates the skills and knowledge to collect, analyze, and derive meaning from pertinent data (Reeves & Burt, 2006).

Teacher Leadership

In addition to developing roles for principals, teacher leadership is an important component of successful data-informed decision making (Feldman & Tung, 2001; Lachat & Smith, 2005; Wayman et al., 2006). For example, some schools form data teams composed of teachers and administrators who collaborate on the use of data to improve instructional practice

and student learning (Wayman et al., 2006). Data teams can promote collaborative inquiry targeted toward scrutinizing assessment data, improving instructional practice, and monitoring progress. Team members can allocate tasks and examine data from many perspectives, increasing the likelihood that the interpretation of data will be objective and comprehensive (McRel, 2003).

Love, Stiles, Mundry, and DiRanna (2008) found that schools with data coaches had significant success in helping teachers with data-related practices. Other researchers indicated that data coaches can be valuable resources in helping teachers with specific data-related processes, such as accessing and interpreting data and instructional strategies (U.S. Department of Education, 2009).

Professional Development

The NCLB Act is specific in identifying the type of professional development that is essential for teachers to acquire the knowledge and skills needed for effective instructional practice. Effectual professional development is coherent, sustained, centered on students' active learning and higher order thinking skills, and utilizes a teacher learning community approach with a focus on academic content (Garet, Porter, Desimone, Birman, & Suk Yoon, 2001; Wenglinsky, 2002).

Professional Learning Communities

Researchers have not provided an adequate understanding of teachers' data use practices, and therefore not enough information exists to generate best practices or to generate adequate supports. The following section combines the literature regarding formative assessment and data-driven decision making to provide a fuller understanding, given the relatively sparse discussion of classroom practices and data-driven decision making processes.

Teachers' Use of Assessment Data

Working as a professional learning community with shared goals and a commitment to continuous improvement is essential to the effective use of data to effect change (Herman & Gribbons, 2001). Birenbaum et al. (2011) noted that two school-level factors affect formative assessment: classroom assessment culture and the larger school-wide assessment culture, or the school-based professional learning community (SBPLC). Classroom assessment culture was determined to be a multifaceted context comprised of democratic relations between all members (students and teachers), trust and respect, and transparent, fair, and flexible decision-making practices. For the purposes of Birenbaum et al.'s (2011) study, classroom assessment culture was found to be determined by the SBPLC, the collaborative community created among teachers to enable innovations, and developments in teaching practice and student outcomes. These are typically created without respect to outside regulations or by necessity, but rather because of the beneficial influence these changes have on student outcomes. However, creating these types of organizations can have the added benefit of simultaneously providing the data-informed teaching practices required by NCLB. These findings were consistent with Birenbaum et al.'s (2009) findings, which confirmed that the classroom assessment culture mirrored the larger organizational culture surrounding assessment.

Identifying and developing processes and practices that support teachers' examination of data to inform instruction are essential to building teachers' capacities to help all students achieve (Mandinach et al., 2008). With the increased focus on the use of data to inform instruction, a body of literature is emerging that identifies specific supports essential to teachers' efficacy in influencing student learning (Kerr et al., 2008; Marsh et al., 2006; U.S. Department of Education, 2009). Supports that repeatedly show up in the literature as well as case study

research include the school's culture and its capacity level for change, focused system-wide goals and standards aligned with the curriculum, a user-friendly data management system along with tools for acting on multiple types of data, and time for professional development, collaborative work, and efficacious leadership. Because of the growing importance of the teacher in implementing accountability measures that involve assessment, teachers must be an integral part of future research regarding assessment (Datnow et al., 2007; Smith, 2011). In order for the research regarding assessment to be furthered, more information is necessary explaining how assessment is currently being used in the classroom. However, the current literature on the use of assessment, including formative assessment and data-informed decision making, focused on the implementation of these practices at an administrative level. Best practices in education cannot be developed without information about the current use of data.

Effective Data Systems

Wayman (2005) explained the four typical kinds of data systems used in education: (a) systems that provide information such as student attendance; (b) systems with the capability of maintaining, organizing, and analyzing various kinds of assessment data; (c) systems that connect several databases containing student historical data; and (d) instruction and curriculum systems. Data use in districts and schools primarily involves reporting standardized test scores in compliance with state and federal mandates and for alignment of curriculum with state-mandated assessments. For teachers' daily decision-making, the data these systems provide are inadequate (U.S. Department of Education, 2009).

Marsh et al. (2006) examined various research studies and determined that some educators do not have access to the aspects of an effective data system. The researchers based this report on case study findings from site visits to nine districts with extensive data use (Marsh

et al., 2006). Researchers conducted interviews with district and school staff members from three schools in each district. Findings showed an increasing use of student data systems as well as professional development focused on the use of data. The school leaders were using information from data systems to facilitate school improvement efforts. Although the case study schools were making use of selected data to make instructional decisions, these types of data were normally not in the student data system. The results from the study indicated that although teachers used data for school improvements, evidence does not show that data are being used to modify instruction. The use of an electronic system that combines data from the classroom and state-required data is exceptional, even in districts identified as having a culture of data use (U.S. Department of Education, 2009).

Datnow et al. (2007) determined that data-driven decision making could be successfully conducted through multiple approaches. Nevertheless, the researchers found that all successful attempts included a few key aspects (Datnow et al., 2007). The first aspect was the integration of a solid foundation for data-driven decision making by setting specific, measurable goals for the system, school, classroom, and students, along with a standardized system-wide curriculum designed to meet these goals (Datnow et al., 2007). The second necessary component was a culture of data use and continuous improvement, where administrators held teachers accountable for certain standards of data use. Implementing user-friendly data management systems to organize data was also determined as essential to these programs' success, not only for faculty buy-in, but also to ensure that the best data were available for decision-making processes (Datnow et al., 2007). Once the infrastructure was created, data-driven decision making had to be supported via professional development, support, and time for teacher collaboration, and decisions on a wider level (e.g., curriculum changes had to be made based on data). Datnow et

al.'s observations included all of these aspects. However, in the researchers' focus on implementation, little research was conducted that assessed the practices of the classroom teachers.

Farley-Ripple and Buttram (2013) assessed the success of teachers' professional learning communities (PLC) in creating a collaborative data culture. Researchers have determined that one of the most significant contributors to the success of using formative assessments is creating a data culture (Birenbaum et al., 2011); therefore, determining best practices for creating this culture is pivotal to the literature. Farley-Ripple and Buttram (2013) studied the influence of PLCs within four elementary schools in two districts in Delaware. This practice was established based on state mandates from the Delaware Department of Education. The mandate resulted in time being set aside specifically for collaboration regarding data. The researchers found that while all schools implemented the mandate, the way that teachers used data differed across contexts (Farley-Ripple & Buttram, 2013). The teachers' data use was categorized into two types: analysis-oriented (evaluating student learning, monitoring student progress, and evaluating educational practices) and action-oriented (informing grade-level or subject-area decisions, setting goals for the PLCs, changing school curricula or instruction, and intervening with individual students). This sample implemented analysis-oriented tasks more often than action-oriented tasks. Farley-Ripple and Buttram determined that the extent to which data-driven decision making and collaboration was successful depended on the individual school's consistency in leadership vision and support for the program, a culture of data use, including established expectations and monitoring, and providing instructional resources. Farley-Ripple and Buttram, following the trend in the literature regarding data-based decision making, did not examine the practices that resulted in successful student outcomes within the classroom.

Formative and Summative Assessment

Both formative and summative assessments are imperative to effective educational practice. Both types of assessments have become a major focus in education because they have shown value in improving student outcomes. Halverson et al. (2007) contended that teachers gather both formative and summative data as evidence of students' learning. Summative and formative assessments serve different purposes, but both types are valuable in assessing student learning and informing instructional practice (Stiggins, 2002). Implementation of these different types of assessment can promote student-centered learning and help teachers evaluate students' understanding (Halverson et al., 2007; Remesal, 2011).

Summative Assessment

The purpose of summative assessment is to confirm a student's achievement. Tests are usually considered summative assessments and involve activities or tasks for students to complete. Summative assessments are given, graded, and understood using set specifications (Foresman, 2008). Airasian (2000) explained that summative assessments are usually considered to be formal assessments and are generally administered at the end of a chapter, a unit, or a semester.

Standardized tests are summative assessments and are given under precise conditions in a highly controlled environment. State tests, given annually for accountability purposes, are other examples of standardized tests (Foresman, 2008). Popham (2004) asserted that standardized tests are high-stakes, because the results are available to the public and can be used to sanction schools. Because standardized achievement test results often arrive near the end of the school year, teachers find the usefulness of the data limited in informing instructional practice for current students (Mandinach et al., 2008; Wayman et al., 2007). Summative assessments,

however, have been the primary focus of measuring student learning for accountability purposes (Wayman et al., 2007).

Formative Assessment

Formative assessment, also called Assessment for Learning, is the practice of using informal and formal assessment to make decisions about classroom and organizational practice (Birenbaum et al., 2009; Birenbaum et al., 2011; Wiliam, 2011). Formative assessment provides ongoing data that can be used to provide feedback both to the student and the teacher. Crawford et al. (2008) maintained that data must be available in real-time if teachers are to make effective instructional decisions based on data. Formative assessment provides the teacher with valuable information for determining the next steps for students' learning, but it is just as significant that teachers can use formative assessment to evaluate instructional effectiveness (Mandinach, 2012; Wiliam, 2011). Formative assessment, then, is part of sound instruction.

Examples of formative assessments include teachers' questions, observations, and individual meetings with students to discuss student learning. Formative assessments serve many purposes. Teachers assess students formatively to determine learning needs, ascertain students' prior knowledge, provide constructive feedback, encourage students to take ownership of his or her learning, and provide information to parents concerning students' progress (Foresman, 2008). Effective teaching depends on what teachers do with data to inform the teacher's instruction and how those teachers use the data to provide feedback to students and engage the students in learning (Garrison & Ehringhaus, 2006).

The value of assessing students formatively is that formative assessment data help close the gap between what the student knows and is capable of doing in regard to the identified learning objectives. When implemented appropriately, assessing students formatively involves a

five-step process, as described by Birenbaum et al. (2009). The first step includes making a plan (establishing goals, delineating objectives and expected outcomes, and determining instructional strategies or interventions). Then, the teacher initiates the plan, and collects and interprets assessment data during the implementation of the plan. In the next step, the teacher is tasked with interpreting the gap between student learning and intended student outcomes. Once this gap is assessed, the teacher should identify interventions that are aimed at reducing the gap. Lastly, the plan is once again evaluated. To maximize student learning outcomes, assessing formatively is a continuous cycle (Birenbaum et al., 2009).

Using formative assessment practices requires a shift in traditional pedagogical practices, wherein the teacher imparts content knowledge without focusing on a students' specific learning needs (Brookhart, Moss, & Long, 2006; Birenbaum et al., 2009). Ultimately, the goal of formative assessment is to create autonomous learners who can use feedback to monitor his or her own learning progress (Cooper & Cowie, 2010). Classroom practices indicative of formative assessment include (a) providing students with adequate time to respond without teacher interference; (b) clarifying outcomes and criteria for success for students throughout the learning process; (c) marking papers and assignments through comments, rather than through grading; (d) conducting classroom discussions focused around questions as a means of determining student understanding; and (e) assessing learning outcomes through timely feedback (Cooper & Cowie, 2010). Benefits of assessing students formatively include an increased focus on individual student learning through specific, individualized feedback (Brookhart et al., 2006).

Formative Assessment

Birenbaum et al. (2009) examined formative assessment (FA), or the use of formal and informal assessment in making classroom decisions, in six elementary schools in Israel with

varying levels of SBPLC. The researchers conducted three separate studies to assess three different inquiry processes of FA: classroom assessment, development and implementation of school-based curriculum, and teachers' professional meetings (Birenbaum et al., 2009). The assessment practices were determined in two studies using ethnographic interviews with teachers and administrators, and in the third study through observing a teachers' professional meeting. In the first study, the researchers examined classroom practices of teachers who worked in an environment with high SBPLC, and that teachers performed the entire FA cycle. These teachers highly valued the assessment processes as means of improving student outcomes. Conversely, the teachers with less organizational support for assessment did not complete the entire FA cycle, instead teaching an outcome once and then moving on to the next required unit. In study two, the same groups were compared to determine the classes' adherence to the curriculum design. Teachers who implemented FA were more successful in maintaining and promoting the required student outcomes. The findings from these two studies were echoed in the professional meetings observed between teachers. When the organizational culture promoted FA practices, the practices were implemented in higher quality and more frequently in educational practice. Consequently, Birenbaum et al. (2009) found that student outcomes were improved.

Though Cooper and Cowie (2010) focused on secondary students, Brookhart et al. (2006) found similar results by examining six remedial reading (K-1) teachers' practices in a large, rural school district. Brookhart et al. (2006) focused not only on student outcomes resulting from FA, but the effects that teachers' examination of their FA practices had on teaching innovation and professional development. Brookhart et al. (2006) determined that teachers gained significant benefits from becoming aware of existing FA practices, training to develop more systemic FA practices, and understanding the benefits of assessing students formatively. The beneficial

effects of assessing students formatively became evident even in the learning progress of young (kindergarten and first grade) elementary students. Once teachers implemented formative assessment practices in the classroom, the results showed that students' reading test scores improved.

In their mixed-method study, Birenbaum et al. (2011) examined 122 in-service teachers in elementary (N = 63), middle (N = 28), and high schools (N = 31) in Israel to determine what AfL practices were being implemented and how organizational culture affected those outcomes. Birenbaum et al. (2011) determined that AfL was directly tied to the SBPLC created within the organization. Unfortunately, the researchers found that only one-sixth of respondents were using predominately AfL practices (Birenbaum et al., 2011). Moreover, these practices were not examined specifically in the context of standardized feedback and data, but rather through teachers' assessment of students' needs. Standardization, particularly through a standard program or curriculum, may provide more adequate and systematic feedback required for the AfL process.

Reading Assessment

Researchers have disputed reading assessment because of the difficulty that teachers experience in quantifying reading success (Hosp & Suchey, 2014). Despite significant changes implemented since NCLB's required evidence-based practice, positive changes in reading outcomes have been small, though statistically significant, and practices for teaching reading still remain relatively unchanged despite low achievement in this area (Nelson-Walker et al., 2013). The National Assessment of Educational Progress (NAEP) conducts assessments in several subjects including reading at several levels--national, state and local. This process provides a significant evaluation of education in the United States. In 2013, the NAEP assessed thousands

of fourth-, eighth-, and twelfth-graders in reading. On average, reading scores increased for fourth and eighth grades from 1992. Overall, fourth-grade reading scores did not increase from 2011 to 2013, although eighth-grade scores did increase (NAEP, 2013). The average reading scores for fourth grade increased from 2011 to 2013 in nine states. The average reading scores for eighth grade increased in 14 states. The only states whose average reading scores increased in both fourth and eighth grades were Iowa, Washington, Tennessee, and the District of Columbia (U.S. Department of Education National Center for Education Statistics, 2014). Based on NCLB and other accountability measures recently implemented in education, reading assessment has come to the forefront in the school-related literature. In particular, determining effective means of assessing reading has become necessary to further the research regarding this subject area (Hosp & Suchey, 2014).

Vasquez, Forbush, Mason, Lockwood, and Glead (2011) cited National Assessment of Education Progress (NAEP) data from students in the fourth grade in 2007 that suggested that assessment performance, specifically regarding reading comprehension, still had significant differences across genders, ethnic and racial groups, and social classes. Included in this data were the disparities that White and Asian students scored 26.7 points higher on a 500 point assessment than American Indian, Hispanic, and Black students, and that students who were eligible for free lunch scored 27 points lower than those who did not (Vasquez et al., 2010). For these reasons, and because of the difficult nature of assessing reading outcomes, Hosp and Suchey (2014) suggested that choosing appropriate assessments for reading outcomes is pivotal both to teacher understanding and to maximizing student outcomes.

Responding to a perceived gap in the literature surrounding reading assessments and student outcomes, Hao and Johnson (2013) examined assessment types in an international

sample (from Canada, England, New Zealand, and the U.S.) of reading students to determine the effects that different types of assessments would have on student outcomes. The researchers culled posttest data from the PIRLS 2001 assessment, an international assessment of students' reading achievement in Grade 4 (Hao & Johnson, 2013). Students and teachers then received a survey to determine which assessment measures were used and the outcomes based on the different contextual variables. U.S. schools were found to use multiple-choice questions more frequently than the other countries, and this measure, along with short-length paragraph formats, was found to reduce gender gaps in reading outcomes. However, short-length paragraph formats demonstrated a negative correlation to students' reading achievement. Overall, the assessment type was not found to significantly affect students' actual reading performance as measured by the PIRLS across the sample (Hao & Johnson, 2013). However, the presence of summative assessment positively correlated with success in this sample.

Reading assessment remains an area that needs further examination. Without an understanding of outcomes and a means of measuring these outcomes, reading will remain in the spotlight as an area that needs further development according to current established standards for measuring student learning. Particularly at the elementary level, both formative and summative reading assessments can be used to improve reading outcomes if the resulting data are used appropriately and systematically within reading programs.

Scott Foresman's *Reading Street* Curriculum

According to the *Reading Street Assessment Handbook* (2008), the *Reading Street* curriculum was developed by testing agency Beck Evaluation and Testing Associates (BETA, 2001) and Pearson, in order to provide a systematic reading curriculum. Specifically, *Reading Street* is intended for developing pre-K-6 students' basic reading comprehension skills, such as

phonemic awareness, phonics (print awareness, alphabetic knowledge, alphabetic principle, and decoding), recognition of high frequency words, fluency, vocabulary, reading comprehension, and skills essential to answering literal, inferential, and critical-analysis questions. In order to create this curriculum, BETA (2001) assembled a team of former instructors and experienced curriculum developers, and all materials were assessed by raters for item quality and content alignment and validated through empirical field-testing.

The *Reading Street Assessment Handbook* noted that the program provides “accurate and ongoing assessment [that] enables teachers to check students’ achievement, to evaluate classroom instruction, and to help children monitor their own learning” (p. 9). Assessment in this program includes tests administered at the beginning of the year, during the year, and at the end of the year. Teachers can use assessments created by the program or develop his or her own assessments. In this way, the program attempts to create a classroom centered on data, or *assessment literacy* (Foresman, 2008) for both teachers and students. *Assessment literacy* includes evaluating assessments and using both summative and formative assessments to measure students’ progress toward the targeted reading goals.

However, no independent researchers (outside of field tests conducted by BETA and Pearson) have evaluated how this program prompted instructors to use data in the classrooms. Gathering this information is pivotal for understanding how teachers use reading assessment data so the proper supports can be provided.

Summary

Schools use many kinds of data to help guide decisions for a variety of purposes. For example, data are used to make instructional decisions, determine objectives, differentiate instruction, match standards with instruction, identify low achieving students, and monitor

student improvement (Datnow et al., 2007; Kerr et al., 2006). Data are also used at the school level to allocate resources, set school improvement goals, and monitor school progress (Kerr et al., 2006). While several technical advancements enabling innovative reporting mechanisms have brought data-supported decision making to the classroom level, questions regarding how teachers understand and use test data for instructional purposes remain unanswered. To provide insight into how teachers are using reading assessment data, the researcher of this study focused specifically on how assessment data collected from the *Reading Street* program are used by teachers in one elementary school.

Explicit instruction has the strongest evidence-based support of all reading instructional practices (Nelson-Walker et al., 2013). The frequent summative assessment practices required by FA and data-driven decision making would therefore most likely address the issues ongoing in reading instruction, while simultaneously addressing the legislative mandates, such as NCLB, which require data-driven decision making practices (Vasquez et al., 2011). Researchers have focused on how to create data cultures from an administrative and school perspective (Cooper & Cowie, 2010; Datnow et al., 2007; Farley-Ripple & Buttram, 2013). However, no researchers have fully addressed how teachers should and do use assessment data in reading classrooms. Without a clear understanding of current practices, administrators and leadership will have difficulty developing adequate and relevant supports and professional development that encourage best practices for data-informed decision making. Chapter 3 details the methodology for the study to reveal how teachers from one elementary school use data from the *Reading Street* curriculum.

CHAPTER 3

METHODOLOGY

This methodological outline provides a comprehensive description of the study. The main purpose of this research was to provide an understanding regarding teachers' use of assessment data from Scott Foresman's *Reading Street* instructional program at one elementary school. A review of the literature suggested that researchers have not determined the way in which teachers utilize student assessment data. Previous researchers have focused on requirements to assess students to satisfy accountability requirements.

The purpose of this study was to disclose how elementary school teachers in one particular elementary school use *Reading Street* assessment data. The researcher constructed secondary research questions to reveal how these teachers experience supports and obstacles when attempting to use the assessment data from this particular program. This chapter contains the methodology used for conducting research for this study and provides descriptions of the methodological components to the study including research methodology, research design, population and sample selection, sample size, procedures of data collection and data analysis, ethical considerations, and the strengths and limitations of the research design.

Demographics

The elementary school of the study's focus is located in the Southern United States and serves students in Grades 2 through 6. Approximately 360 students attend the school at this time. The students are primarily from professional and working class families. Male students comprise 52% of the student population while the female students comprise 48%. The students

are of diverse ethnicity with 64% being Caucasian, 18% Hispanic, 8% multi-racial, and 7% African American. Approximately 115 students participate in the free and reduced lunch program. The student/teacher ratio is 1:13.

The teaching staff includes 17 regular classroom teachers, 3 special education teachers, and several special area teachers including a gifted teacher, Spanish teacher, speech and language teachers, and an ESL teacher. Two instructional support teachers and several educational aides provide extra assistance to students and teachers.

Classrooms are equipped with at least four computers and there are two computer labs located within the school so that entire classes can perform research, work on projects, or take electronic assessments. The computer/student ratio is 1:2. Each classroom has a Smart Board for teachers' and students' use. The school provides many technological resources for the students to access at school and at home. Some of these resources include Brain Pop, IXL Math, online tutoring services, and online research data bases.

Students participate in several special areas including physical education, art, and music. In addition, they are encouraged to participate in special clubs such as chorus, engineering, leadership, and Robotics. The clubs provide students with opportunities for enrichment activities at no cost to their families.

Research Design

In this qualitative study, the researcher focused on how elementary school teachers from one elementary school utilize assessment data from the *Reading Street* program by Scott Foresman. The researcher intended to gain rich, descriptive information regarding how these teachers utilize *Reading Street* assessment data. A qualitative research study is appropriate when

the specific variables of the study are unknown and the research is exploratory (Creswell, 2005). Many reasons exist that explain why a qualitative study is essential to answering the research questions presented in this particular study. Qualitative data are interpretive, experiential, situational, and personalistic (Stake, 2010). Qualitative data allow for the presentation of multiple perspectives and therefore are subjective in nature. In addition, qualitative researchers are not concerned with scientifically verifiable data; rather, they develop data from the experiences of others who provide empirical responses to the research questions. Data collected from a qualitative study may be considered experiential because the data concern only the intent of the study and are understood through the lens of the population of interest. Qualitative data may be perceived as situational because different perspectives are presented, and differences in experiences may occur based upon place, time, and the individual's circumstances. Qualitative researchers seek to bolster knowledge pertaining to multiple perceptions and to find commonalities in the experiences of individuals. Qualitative data are valuable when examining the diversity in situational experiences, and hence are considered personalistic (Stake, 2010).

Quantitative data must be gathered regarding a specific set of variables, and therefore are not beneficial for a study designed to reveal the lived experiences of individuals (Creswell, 2005). For this reason, as well as the strengths of qualitative research, the researcher chose the qualitative method for this research study.

Approach

In following a qualitative design, the research conducted a single case study approach. Case study research involves studying an area of interest through one or more cases with a common link, such as the setting. The goal of the case study was not to create findings that are generalizable to the larger population but to create a greater understanding of the case itself

(Johansson, 2003). The focus of the study was the single case, and that case should be a contemporary, complex, and cohesive functioning unit examined in its natural context (Johansson, 2003). Case studies are appropriate when the goal of the researcher is to explain the how or why some current and specific circumstance occurred (Yin, 2014). Within the scope of this research, the specific purpose was to determine how teachers in one elementary school use assessment data collected from the *Reading Street* instructional program. The case study allows for the examination of this distinct situation (Yin, 2014). The case study approach developed from the need to further understand how teachers utilize assessment data in a specific circumstance (Stake, 1995). Case study methodology allows for the combination of several social research methods with the purpose of examining a case from several approaches (Johansson, 2003).

A major feature of the case study approach is the variety of methods which may be employed in collecting evidence. Using this approach, the researcher may draw on multiple sources of information including interviews, observations, artifacts, archival records, or documentation (Cresswell, 2007). Any combination of these sources may be pooled with the purpose of illuminating a case from different angles, and therefore capturing the complexity of an issue through triangulation (Johansson, 2003). As Schram (2006) highlighted,

Whether you consider case study as a way of conceptualizing human social behavior or merely as a way of encapsulating it, its strategic value lies in its ability to draw attention to what can be learned from the single case. (p. 107)

The focus is placed on the complexity within the case, figuring out what complex things go on within that system, the uniqueness of the case, and the social context of which it is a part of (Johnson & Christensen, 2004).

Research Questions

According to Yin (1994), case study research should produce questions that are clear in statement and provide for social as well as personal relevance. Additionally, the development of a research question indicates the need to understand the lived experience and implications faced by the population of interest to the study. The guiding research questions in this case study are the following:

Overarching Research Question: How do teachers at one elementary school use *Reading Street* assessment data?

Sub-research Question 1: How do teachers at one elementary school experience supports for using *Reading Street* assessment data?

Sub-research Question 2: How do teachers at one elementary school experience obstacles in using *Reading Street* assessment data?

Role of the Researcher

The foremost role of the researcher was to set and follow systematic procedures and collect data from multiple perspectives to present an accurate depiction of the findings. These procedures can be classified as designing the study, collecting data, analyzing the data, and composing. The researcher maintained an open mind to objectively interpret multiple experiences and unexpected occurrences. The researcher encouraged participants to speak openly of his or her perceptions and to elaborate on responses when necessary. Participants were also encouraged to provide honest answers to each interview question. It was important that the researcher created a climate in which the interviewee felt comfortable and was more likely to respond honestly and comprehensively (Creswell, 2005).

To conduct a sound case study, the researcher implemented methodical data collection, analysis, and reporting procedures. The researcher's experiences with using *Reading Street* assessment data were strengthened by professional development, technological assistance with assessing students on the computer, inputting data into the computer, and administrative support.

Some procedures, however, can be obstacles to effective use of *Reading Street* assessment data. For example, the researcher required one-on-one assistance from the educational technologist when inputting *Reading Street* assessment data into a software program designed to organize the data by classes and individual students. Choosing between paper and pencil assessments and computer assessments could also be a challenge. Using paper copies can involve a vast amount of paper and grading by hand. Assessing students on the computer may also be confusing for some students because particular reading selections can appear on the computer screen several times as the students attempt to answer questions related to the passage. This can lead to long assessment sessions and the frustration of some students and teachers. However, the researcher attempted to set aside personal experiences with using *Reading Street* assessment data while conducting the interviews.

The researcher recorded interviews, and a transcriptionist transcribed the interviews for further examination. The researcher then assessed each response to assure that transcriptions were accurate and captured the essence of the responses where applicable. After examining these responses, the researcher determined thematic commonalities among the interviewees. Additionally, the researcher determined any discrepancies within the responses. Any irregularities were presented so that all angles were accurately reported.

The data collection for this research involved the researcher conducting in-depth personal interviews as well as a focus group interview, which may be quite sensitive. All of the data collection procedures involved in this research included the following:

1. Establishing a comfortable, conversational, non-threatening environment
2. Asking open-ended and probing questions objectively
3. Actively listening
4. Critical observation, and
5. Detailed notation on analytic memos

Sampling Selection and Participants' Characteristics

In order to learn about teachers' *Reading Street* data use in one elementary school, the researcher utilized a purposeful convenience sampling strategy (Creswell, 2007). Using a convenience sampling method, the researcher collected responses from study participants who met the study's criteria and were available at the time of data collection. After the district superintendent and school principal approved the research study, the researcher informed regular classroom teachers of the study verbally and through electronic mail. The researcher explained the purpose of the study and the design of the study and asked for regular classroom volunteers, one from each grade level (2nd through 6th) to be interviewed. If more than one teacher volunteered from any grade level, the researcher chose the teacher with the most experience teaching *Reading Street*. These participants were identified and recruited by the researcher in accordance with the University's IRB guidelines. Only elementary school teachers were recruited to participate in individual interviews and the focus group interview. Participation was voluntary.

The design of this study was in alignment with the purpose of the study, which was to determine how teachers use *Reading Street* assessment data. To fulfill this goal, teacher participants were selected using a purposeful sampling approach.

In quantitative research, the goal is to maximize the sample size in order to bolster the empirical validity of the study. However, large samples are often impractical and difficult to achieve (Mason, 2010). As such, considerations of sample size for qualitative research differ categorically from those in quantitative research. In qualitative studies, sample sizes should be sufficiently large to achieve saturation. This means that sample sizes must be large enough to obtain accounts that encompass all or most of the variation of perceptions. Researchers, however, have offered different suggestions for the practical determination of sample size when conducting case studies and a focus group. When conducting case studies, Francis et al. (1998) recommended a sample size between 10 and 13 participants. Morse (1994) advised researchers to utilize a sample size of six, minimally. Guest, Bunce, and Johnson (2006) stated that a sample size of 20 is fitting to achieve saturation when conducting interview-based qualitative research.

Because of the restraints of studying a restrictive population sample, the researcher sought a sample size of approximately five participants, with this number more closely approaching Morse's (1994) recommendation for case study sample sizes. In addition to the five participants for the individual interviews, two other participants comprised the focus group interview component of this study, which helped the development and analyses of additional themes that may not be attained from the five individual interviews. For quantitative research, maximizing the sample size is often recommended, even in cases where sample sizes may exceed what is required to achieve empirical validity. In instances such as these, increases in sample size serve to decrease error; qualitative research, however, differs in this area. For

qualitative research, saturation is the primary consideration when making determinations concerning sample size. Saturation is obtained when including additional participants in the data collection process no longer adds novel or substantive information to the data. The researcher must consider both information that points to novel themes, as well as information that illuminates the relationships that exist between identified themes (Corbin & Strauss, 2008). The researcher must examine every identified theme to determine that the theme has been described and substantiated in order to achieve saturation.

Corbin and Strauss (2008) maintained that sampling should be considered satisfactory when the identified themes reflect complexity, profundity, and diversity of experience, and the researcher's understanding of the phenomenon has fully developed. Marshall (1996) stated, "In practice, the number of required subjects usually becomes obvious as the study progresses, as new categories, themes or explanations stop emerging from the data (data saturation)" (p. 523). In line with these suggestions, the researcher ceased sampling when six participants were gathered for interviewing. Five participants, one from each grade level--second through sixth grades--participated in the individual teacher interviews. Two regular classroom teachers who were on the Continuous School Improvement Team participated in the focus group interview.

The participants' demographic data are reported in Table 1. The identifying names used are pseudonyms.

Table 1

Participant Demographics

Name	Position	Gender	Age	Ethnicity	Education	Years Teaching	Years Teaching <i>Reading Street</i>
Kay	2 nd Grade	female	43	Caucasian	M.A. Elementary Ed./ M.A. Teaching Science	24	3
Jessica	3 rd Grade	female	44	Caucasian	B.A Mathematics/M.A. Elementary Education	10	5
Liz	4 th Grade	female	56	Caucasian	B.A.Early Childhood Education/M.A. Childhood Literacy Development	11	8
Stella	5 th Grade	female	36	Caucasian	M.A. in Educational Leadership /Ed.S. in Teaching and Learning	14	3
Ricky	6 th Grade	male	56	Native American	B.A. Elementary Education	12	4
Laura	3 rd grade	female	50	Caucasian	Ed.S. Educational Leadership	14	5
Scarlett	5 th Grade	female	52	Caucasian	B.A. Elementary Education/ M.A. Curriculum and Instruction	30	4

Instrumentation

Face-to-face interviews were utilized as the primary data collection instrument for this study. The researcher conducted interviews using an interview protocol developed by the researcher. The semi-structured interviews were open-ended in nature. The questions included in the interview were designed to explore participant experiences with the utilization of data from the *Reading Street* program in an elementary school setting, the obstacles present during the process, and the supports that increase teachers’ efficacies in using the data effectively. The focus group interview was conducted in the same manner.

Britten (1995) stated that “qualitative interviewing is a flexible and powerful tool” (p. 253). DiCicco-Bloom and Crabtree (2006) explained that interviews are utilized in qualitative research “to co-create meaning with interviewees by reconstructing perceptions of events and experiences” (p. 316). Opdenakker (2006) discussed several advantages of face-to-face

interviewing as a tool in qualitative research. Opdenakker cited the importance of the ability to notice non-verbal cues, which can inform and illuminate implicit feelings and perceptions. Opdenakker also discussed the spontaneity of response that occurs in face-to-face interviews as a beneficial aspect of this form of interviewing, which may yield more honest responses from participants. Further, interviews can be audio-recorded for the purposes of extended analysis and reflection. Opdenakker (2006) cautioned that face-to-face interviews can lend themselves to researcher bias when the researcher directs the respondent toward a specific response. However, the use of interview protocols in a study may limit this potentiality (Opdenakker, 2006). Because of the ability of interviews to enable the exploration of participant perceptions to deduce and illuminate the meaning ascribed to a phenomenon, semi-structured interviewing was an appropriate data collection tool for this study.

Data Analysis Plan

The researcher sent audio data collected from the face-to-face interviews to a professional transcriptionist and the data were converted to text format. The resulting textual data were stored on the researcher's password-protected home computer during the course of the study. Prior to analyzing the data, interviews were thoroughly read to gain an understanding of the underlying tone of the interviews. Overarching themes related to teachers' *Reading Street* data use were gathered, including themes related to possible obstacles and supports experienced during the process. Once data have been transcribed, the researcher can begin to code the data, identify themes, and derive and interpret meaning (Yin, 1994).

The researcher thoroughly examined data for commonalities among the participants' experiences. Analysis began once the audio data collected from the face-to-face interviews were transcribed and converted to text format as Microsoft Word documents (.docx); resulting data

was stored on the researcher's password-protected home computer during the course of the study. The initial step in analyzing the data was for the interviews to be thoroughly read and reviewed to gain an understanding of the underlying tone of the interviews. This iterative process enabled the researcher to become more familiar with the information. The first read helped gain an understanding of the overall tone of the interview data. During the second read, the researcher grew more familiar with the data and patterns began to emerge (Willig, 2013).

The process of uncovering the themes began by importing the typed interview transcripts into NVivo. These tentative themes were saved as Nodes, or categorical labels, within NVivo. When a statement was found that offered support for an identified theme, the researcher saved this excerpt to the appropriate Node within NVivo. The nodes were then compared for similarities and differences to form categories of related data. Data were coded into nodes and supporting extracts were highlighted. Continuously reading through the interviews allowed the researcher to see different overarching experiences and relationships. Textural descriptions emerged, presented from the why and how of the participants' responses (Patton, 2001). Any common experiences derived from the data were coded into themes.

The researcher kept interview data in first person format for analysis. As data were continuously read and examined, patterns and meaningful themes began to emerge that were informed by the scholarly literature relevant to this study, as presented in Chapter 2. Preliminary examination of data may not reveal themes among the lived experiences of the participants; however, relevant themes begin to emerge as the coding process continues (Stake, 1995). Relationships begin to form between themes to include subthemes and are also presented in the results of the data where applicable (Yin, 1994). In addition, the researcher recognized and disclosed any irregularities in the data.

Data Presentation

Results of the data analysis are presented with textual transcriptions of the interview data. The researcher used descriptive statistics to describe the demographic characteristics of the participants. Categorical characteristics are presented with frequencies and percentages. The presentation of the research questions will be followed by a summary that identifies the themes extracted during the data analysis process. The researcher focused on identifying themes pertaining to teachers' use of *Reading Street* assessment data. Themes that did not pertain to this experience are presented if there was sufficient support. Irregular or contradictory responses are presented as well (Willig, 2013). After the themes extracted from each interview response are presented, the heading of the proceeding sections will be composed of these themes. In each section, the researcher elaborated on the relevant theme, and supporting excerpts were to further solidify the findings (Yin, 1994). Textural data are presented to support each of the themes (Willig, 2013). The textural data comprised of summary information as well as direct quotes extracted from the interviews.

Strengths

Anderson (2010) stated that, when performed correctly, qualitative research is “valid, reliable, credible and rigorous” (p. 22). As Rolfe (2004) explained, validity in qualitative research is referred to by a variety of nomenclature, including the term *credibility*. Credibility in qualitative research refers to the degree to which the results reflect the true and accurate experiences of the participants. A number of methods can be used to improve the credibility of a study.

To improve credibility, participants were informed prior to beginning the study of any known risks associated with participation in the study. Participants then were provided informed

consent prior to participation in the study. All participants were informed that participation in the study was voluntary and that participants could withdraw from the study at any point with no consequences. The researcher aimed to support participants in providing honest and candid information throughout the interviews. The researcher encouraged participants to elaborate on responses that warranted additional explanation.

To enhance the credibility of the study, interviews were audio-recorded and later transcribed by a third-party designee. Anomalies or contradictory findings in the data were identified. The researcher discusses these findings in Chapter 5, among the other identified results, to ensure that the entire breadth of participants' perspectives were represented.

Limitations

The aim of the case study was to obtain a detailed understanding of the lived experiences from the perspective of the individuals pertinent to that case (Yin, 1994). Because of the intentions of this type of study, it was necessary that the researcher purposefully selected participants who existed within the target population, or were a part of the case of interest. As such, some inherent threats exist concerning the validity of the proposed qualitative study. These limitations included generalizability, researcher bias, participants withdrawing from the study, and the possibility of misinterpretation of the data by the researcher.

In qualitative research, external validity can present an important limitation (Seidman, 2006). As qualitative studies typically employ small sample sizes, generalizability to the population at large may be viewed as a limitation to the study. This coincides with the present study's small sample size of five participants for the interviews and a focus group. However, case study researchers are not concerned with generalizing results to a broader population, but

rather attempt to gain a deeper understanding of the case itself. Thus, no additional measures were taken to contribute to generalizability.

Additionally, researcher bias posed a threat because of the potential to influence participant selection, data collection, and data analysis in this study. This may have presented itself if the sample consisted only of individuals who responded to the study because of some common factor that may have affected experiences. For example, participants with extreme views on the *Reading Street* curriculum may have a personal interest in participation in the study and may have different experiences than the majority of teachers who have used the program. Further, participants could withdraw from the study, and thus effectively lower the sample size. This may be remedied by contacting other individuals who volunteered to participate but were not selected or volunteered after the full sample was collected. In addition, participants may have given the interviewer inaccurate accounts, or the researcher may have misinterpreted participants' responses.

Summary

This chapter provided a detailed explanation of the procedures used in the proposed research. These procedures are outlined in depth to elucidate the research design, methodology, data and participant selection procedures, and the action plan regarding data analysis. The researcher also addressed issues of the researcher's role, and strengths and weaknesses of the research design, with special consideration to potential methods that may remedy any difficulties. The researcher adhered strictly to these procedures in gathering and analyzing data in order to efficiently examine the obstacles, supports, and the manner in which teachers in one elementary school utilize *Reading Street* data. In the following chapter, the researcher analyzes the collected data. The data analysis provides a brief demographic description of the collected

sample, and using thematic interview responses reveals how teachers in one particular elementary school setting use *Reading Street* assessment data.

CHAPTER 4

RESULTS

The main purpose of this research was to provide greater understanding regarding teachers' use of Scott Foresman's assessment data at one elementary school. A review of the literature suggested that the way in which teachers utilize student assessment data has not been clearly determined. The literature has focused on requirements to assess students to satisfy accountability requirements, rather than on how teachers use data to guide instruction.

Data Analysis and Results

Analysis began once the audio data collected from the face-to-face interviews were transcribed and converted to text format as Microsoft Word documents (.docx); resulting data were stored on the researcher's password-protected home computer during the course of the study. The initial step in analyzing the data was for the interviews to be thoroughly read and reviewed to gain an understanding of the underlying tone of the interviews. This iterative process enabled the researcher to become more familiar with the information.

The process of uncovering the themes began by importing the typed interview transcripts into NVivo. These tentative themes were saved as *Nodes*, or categorical labels, within NVivo. When a statement was found that offered support for an identified theme, the researcher saved this excerpt to the appropriate Node within NVivo. The nodes were then compared for similarities and differences to form categories of related data. Through this process, the themes emerged from the data until no new themes were located. Some of the initial themes included: remediation, it gets in the way, Pearson success net or *Reading Street*, coloring outside the box,

meeting student needs, training, and research based. No new themes emerged after the second interview, thus saturation was reached (Kolb, 2012). The results of the analysis are reported below.

The results of this case study were intended to help the researcher analyze the use of assessment with Scott Foresman's *Reading Street* program in an elementary school setting. The researcher repeatedly read each individual interview and themes were formed across interviews. An analysis of each interview occurred, and the interviews were examined to create themes. Each interview was summarized below. The researcher examined and analyzed the focus group data to see if new themes emerged or if the data supported existing themes.

Data Drives Instruction

Based on the results of the interviews, data drives a majority of the decision making at the school. The data gathered from *Reading Street* are used on an individual level, a small group level, a classroom level, and a grade level. When examining word frequencies in the transcriptions, the word *data* was the second most used word, and was uttered 164 times.

Scarlett stated:

We are quite a data-driven school here. Um, it may not be specifically on *Reading Street*, but we are using our data driven development. We always sit back and reflect on all areas that we collect data in. So we're constantly thinking about all the data we have, what we can do to help our students with the data we have.

Data are used both on a micro and macro level. Data are used to see how the school is performing overall and are also used by teachers during day-to-day decision making.

Grade-level decision making. Teachers reported using data to make decisions at the grade level. Kay described how her team used the *Reading Street* data:

We spend the time and we take the moment to breathe about data and really process through and disaggregate that data and find out where our children need more support and I think that's where we drive our instruction. Teachers aren't just pulling together

resources without some sort of knowledge about how each individual student is achieving in each individual area that we look at within their learning. So I would have to say that's probably one of the most important things that a teacher would do to use that data to drive instruction.

During weekly meetings, her team took the time to explore the data.

Um, currently our grade level team sits down on a weekly basis and we look at student achievement and what skills are covered for each story that is introduced through *Reading Street*. From that information, our grade level can look at areas of weakness and areas of needs of our entire second grade class and then share supplementary materials or technology programs, websites, anything that can support the skill building activities.

Thus, the data aid in targeting what children need to learn and areas of opportunity to improve understanding of basic skills. In addition, Jessica mentioned that the third grade data are gathered and "our grade level team uses *Reading Street* data as one of our criteria for movement within reading groups." Ricky stated that his grade level used *Reading Street* data in a similar manner. Ricky remarked, "As a grade level, that's how we level our readers and break them down into different reading groups and we differentiate our reading groups according to their level of abilities." When asked about how her team used the *Reading Street* data, Liz said, "Not all the members of my grade level use *Reading Street* data."

Stella spoke about how her grade-level team used *Reading Street* data to change the curriculum for this year:

Well the cool thing about where we work is we have the freedom to use our data to drive our instruction, even if that means kind of changing around some things that we might do. Um, last year we used *Reading Street* um, faithfully from cover to cover and it was discovered that they really didn't notice a huge change, as far as student achievement in their SRI scores, or their Terra Nova scores.

She continued on and said,

Kids were given, as 5th graders, they were given partials to the story, instead of the cover-to-cover book. And, we found that students really enjoyed reading their independent novels. So, we made the decision this year. That we'd use those novels for *Reading Counts*. They would just dive into those more than they would enjoy just a

partial little story because they always want to take a reading counts test on it also. So, that was also a big drive. So, we decided that this year we were going to just use novels.

Because of the information gathered from *Reading Street* the teachers were able to make a decision not to use *Reading Street* in the current school year.

Scarlett from the focus group went into detail and discussed how the data can be used effectively across a grade level:

As a grade level, we plan collaboratively on a weekly basis. Each time we give an assessment of any kind, we discuss the results collaboratively and plan accordingly. If re-teaching needs to be done, we might form one small group between us. If an enrichment group is needed, the same will happen. All of this is data driven. We also use past data to drive our future units. We ask ourselves, “Do we need to reteach the same unit? Is the class as a whole ready to move on? Do we have individual students that need to move to Extreme Reading (the advanced class) or Read 180 (the remedial reading class)? Do we need parent conferences? Do we need to refer students to the Student Support Team?” There [sic] are all conversations we hold as a result of our weekly collaborative sessions in which we discuss results of data. Most of this data is from weekly assessments, but not all of it is from *Reading Street*. Some comes from our *Scholastic Reading Inventory* assessments and some come from *Reading Counts* Assessments.

Individual teacher level. Ricky found the program’s pretests helpful in forming initial reading groups based on student reading levels and abilities. Ricky also suggested that using the data increases his responsiveness to student learning. Ricky indicated the following:

We take and level our readers according to their abilities but throughout the sections we look at how well the students are doing whether or not we need to go back and reteach it or whether or not we can move on.

Ricky is also able to use the continually gathered data to

look at the flow of data on students’ assessments as we go along. I look at the tests from one to another, each assessment. If I see a strong correlation of improvement I know we can move on. If not, then I have to go back and see where the student might be having a problem, or maybe there’s something missing in the instructions that I need to go back over.

Jessica mentioned that she used the data on a regular basis. Jessica stated, “I’m able to use *Reading Street* data within my classroom to help with remediation in my reading groups.” She

continued to talk about using the data to identify problems. Jessica remarked, “I look for trends over time with similar concepts across different stories and units.” Jessica tracks her students’ learning patterns to seek out areas of weakness that she can target on a classroom level. By using the data in this manner, Jessica is able to pinpoint exactly where her students are struggling.

Liz is an active user of the *Reading Street* data. She collects data on a regular basis and uses the information to target how her students are learning during the week. Liz stated:

I collect my data at the end of every week to help guide my small group instruction for next week. Also at the end of the unit, if [t]he skill is still not mastered, we continue to work on it during the following unit.

Liz used the data she gathered to target students who she saw were struggling, and she also gathered the data to share with her pupils and their parents. Liz stated,

My students take the end-of-selection test on Thursday. The test is scored and it analyzes test questions. The software also generates a list of skills that the students need to work on. I have the students print a copy and send it to their parents. Parents, students and teachers know what skills a student needs to be working on throughout the unit and what skills the students have mastered. I like using the *Reading Street* data in my class.

By collecting and sharing the data widely, Liz is able to ensure that everyone is on the same page and she has opened the communication door with each student’s parents so that they also can see what is occurring in the classroom.

Stella stated that data aids with instruction and it “steers our instruction in ways that we can help, best help the student learn--not only in reading but in writing as well.” Kay spoke in more depth about using *Reading Street* and stated,

Well, we often hear that curriculum is driven and instruction is driven by the outcomes of student assessment. But with *Reading Street* we find it’s more of an ongoing for teachers to reteach or go back and look at information students might not have successfully gained. So in order to clarify, so I would say it’s more that we use it to help drive instruction but more importantly it’s used to supplement the standards that we’re

covering. So, even if it's not *Reading Street* . . ., um, our goal ultimately is to find how we can best meet the standards

Kay also discussed how she used the information with the students in her classroom:

Uh, the data that we have assists us with assisting children on their grade level expectations. Um, we often take that data and share with our grade level and talk about how we can improve certain areas or skill building that might ultimately raise their test scores.

By doing this, Kay enabled her students to progress monitor. It took information that was concrete and could help the students understand his or her individual areas of challenge and strength.

School-wide level: Data tracker. The focus group interview specifically spoke to the utility of the data. When asked how the data are used, Laura, one of the members of the CSI team, said,

Our leadership, our principal, along with our IT [instructional technologist] leader in our school developed a data tracker that allows us to put in the data from all of our students over the course of the year and that really tracks their growth. That encourages us to use the *Reading Street* data along with the other data that we glean from the teaching and assessing in the classroom to really help our children grow and push them to the maximum success.

The teachers are able to take the *Reading Street* data and analyze it along with other data he or she gathers to make instructional decisions that guide teaching. Because of the tracker, Laura said,

Throughout the year we can generate a report from our data tracker that we can share with the parents. We can share with the students in their goal binders, and we use it also in our collaborative grade level meetings.

Currently, the school is doing well and no school-wide reading interventions have occurred. The *Reading Street* program makes it clear and easy for the teachers to see the expectations for students to ensure the students are on target. This enabled the entire school to see where the students stood and what progress the students need to push forward.

In my experiences, I find it is important to have a research-based program that allows teachers to have a scope and sequence and understanding of what expectations are for second grade students and what their grade level expectations are for learning.

The focus group reported that the school is in a maintenance phase and the school, as a whole, is making solid progress.

It's Time for Assessment and Remediation

The *Reading Street* data are especially helpful for the teachers as the teachers can use the data to pinpoint and remediate any problems. The teachers can also use the data for both formative and summative assessment and pinpoint areas of strengths and challenges. In addition, the teachers can assess how students are doing individually, on a class level, and even at the school level if necessary.

Formative. Teachers can print out the results of the weekly selection tests for each individual student. These reports reveal the exact skills each student did and did not master. Because of this, teachers are able to identify areas of weakness and directly address any issues.

Liz said,

I started using *Reading Street* data when I taught in a public school system. It allowed me to target my small groups to meet the needs of those students whose data showed they were low in certain skills. Each unit builds on a particular skill. Then after each story the selection test allows me to see the progress each student is making.

Every teacher involved in this study reported using *Reading Street* to make remediation decisions. Liz said, "I use the *Reading Street* data to target students who are struggling with certain skills in reading comprehension The skills that are not mastered will be the target of student learning during small group instruction." Because the data are available, teachers are able to pinpoint areas of opportunity and target the instruction directly to address those needs. One of the major strengths the participants spoke about was the ability to clearly delineate where students were struggling and apply immediate remediation in that area.

Kay spoke at length about using the *Reading Street* data formatively to assess where the student learning needs were before beginning instruction. Kay stated,

So prior to teaching something we might be able to assess what the students need. Formatively look at what students' needs are in certain skill-building activities and then what students may not. So our leveled readers that we have within the program, allows us to drive instruction in our daily workshop and um, anytime we sit down for guided reading those are important elements that we can take away from our *Reading Street* data.

By engaging with the data on this level, Kay can constantly see what the student needs are and adjust her lesson plans accordingly.

Rick used the data to make many different formative decisions in his classroom. He stated that, "Formative assessment is a system of measuring whether the students learn, or what I need to do to move at a slower pace or further differentiate my students, and or the instructions." Rick can use the data to fine-tune instruction to ensure the best student outcomes.

Scarlett mentioned some specific examples of how she uses data formatively:

If multiple students struggle with say, vocabulary, then I know that I am not teaching vocabulary in a meaningful way, and I must adjust my strategy. If I have several students who are routinely scoring 100% on assessments, or perhaps it's only one student that routinely makes perfect scores, then perhaps that student needs to be challenged more. Data driven instruction enables teachers to make meaningful decisions about teaching strategies. It simply makes sense to teach that way. Following a textbook page to page is no longer the way to go. Differentiated instruction dictates that children should be taught according to their abilities and interests. Immediate analysis of data enables a teacher to instruct a child at the appropriate level. Thank you modern technology! In the past, that was not possible. If we just follow the text page to page, some kids are bored to death and other kids are well over their heads.

By constantly checking and rechecking the data, the teachers are able to determine effective remediation techniques and hone in on where students struggle the most.

Summative. Teachers indicated that they were able to use the *Reading Street* data in a summative manner. Kay spoke about how she used the information she gathered from *Reading Street*:

Overall, we can look at end results of students and within the assessments that come with *Reading Street*, it's broken down into different components. So for each section you're able to identify where the students are successfully performing and where re-teaching activities may need to come into play. So at the end of each unit, we're able to find scores that the students have and then compare them with the end of another unit and look at some commonalities or differences within their score sheets.

Having the data broken down, Kay was able to see the results across different learning domains once a unit was completed. Kay was also able to take this information and re-teach areas of challenge in the upcoming unit of instruction.

Liz also spoke to using the data in a summative manner. She felt by measuring students at the beginning and the end of the year, she could see areas of growth. Liz stated,

Students at the beginning of the year take the test, it's scored, and generates a list of skills that are needed to be mastered by the end of the year. After each unit, about every nine weeks, an end-of-unit test is given and it is scored and generates a list of skills that need to be mastered. Hopefully a teacher will see the list of skills to be mastered and decrease when the Master Skills increase.

Liz can use the skill list to aid in designing her lesson plans and then determine students' growth at the end of the year. Jessica also used some of the summative data that she gathered. She said, "I use the results of *Reading Street* stories and unit assessments to create some of my grades in the grade book."

All About Supplements

Although all of the participants reported using *Reading Street* in some form to guide instruction, the teachers also reported using other programs and materials to aid in meeting school-wide reading standards. Kay stated.

More importantly, it's used to supplement the standards that we're covering. So, even if it's not *Reading Street*, um, our goal ultimately is to find how we can best meet the standards . . . and then share supplementary materials or technology programs, websites, anything that can support the skill-building activities.

Liz reported that, “not all the members of my grade level use *Reading Street* data.” Stella indicated her grade level decided to cover the skills *Reading Street* covers, but they do not use the instructional materials. Stella stated reasoning behind this decision is as follows:

They were given partials to the story [this means in the *Reading Street* book the students would have part of a novel, but not the whole novel to read] instead of the whole cover-to-cover book. And, we found that students really enjoyed reading their independent novels. So we made the decision this year. They would just dive into those more than they would enjoy just a partial little story so we decided that this year we were going to just use novels. . . . Um, we hit all of our goals and what we’re going to do from our school standards.

Stella said that her grade level team found that students in the fifth grade were more engaged and preferred to read an entire book. Fifth-graders did not enjoy the excerpts from a series of novels, and reading a small section did not inspire the students to find the books and complete the novels. Stella indicated that the students loved the longer reads. Stella said, “It’s just as if they’re sitting at home reading their own book. They’re just enthralled in it. So the three chapter thing is not an issue.”

Stella decided to use the *Reading Street* program as curriculum enhancement. She mentioned an occasion where she did access *Reading Street*:

Well the cool thing about that is the other day we pulled the story out of *Reading Street* that pertains to the story that we’re reading now which has to do with the Revolutionary War. There was a story that was in there was approximately, maybe five pages long.

Stella was able to see that she was covering similar material using the book she had chosen instead, and that the students were on task and meeting the expectations of the *Reading Street* program. Stella could compare her set objectives with the *Reading Street* objectives and see if the objectives were aligned. The teachers, while aware of the usefulness of the *Reading Street* program, were not afraid to pull in other resources as necessary to supplement the offered curriculum.

Making Meaningful Decisions and Using Professional Judgment

Scarlett, from the focus group, reported that the school leadership allows her to use her professional judgment. Scarlett stated,

The leadership at our school allows us to use our professional judgment. In fact she gives us, she gives us extra time weekly for collaboration in order to use our data to analyze our data to make meaningful decisions based on data so that we can make instructional decisions based on *Reading Street* data and guide our teaching based on data.

The time the administration gives her lets her consult with others, analyze data, examine how children are performing in a variety of levels, and make knowledgeable decisions. Scarlett also spoke about making decisions as a classroom teacher by using the data. Scarlett stated,

But then as a classroom teacher, uh, I'd use the data for a lot of different reasons. I use the data to differentiate in my classroom, to form my groups, to decide if my children might need to qualify for special programs, extreme reading, Read 180. I look at my children and see how they've done after each assessment to see if maybe they need to be retaught a lesson. Maybe I need a new strategy for teaching. Maybe I've got some children that need to move ahead, maybe I'm holding them back. So, it's just a good teaching tool to look over my children's data and see where they are.

All the participants used *Reading Street* data to make decisions about instruction in the classroom. Ricky spoke of using the data and having the ability to change how he covers information in his classroom. Ricky stated,

I look at the flow of data on students' assessments as we go along. I look at the tests from one to another, each assessment. If I see a strong correlation of improvement I know we can move on, if not, then I have to go back and see where the student might be having a problem, or maybe there's something missing in the instructions that I need to go back over.

Ricky is not required to blindly move forward based on a set curriculum. He can make the decision to circle back and remediate problem areas. Other teachers used the data to assess the class as a whole, monitor progress in small reading groups, and track individual students. Laura from the focus group said,

We use some of the data from *Reading Street* to determine interventions and strategies that we would use. Based on some of the data that we got from *Reading Street* we started using fresh reads from the program and the writing section from the textbook that went along with it.

Thus, the teachers were able to make decisions based on data about what resources to use in the classrooms. The data were available to everyone, and the relationships established in the school enable teachers to make decisions based on data rather than just follow a specific curriculum in a specified time.

Time is Valuable

The time support the teachers felt comes across in a variety of ways. The teachers reported the ability to meet weekly in grade-level groups; it is here that they can consult and collaborate with colleagues concerning individual student and grade level data. Teachers have 45 minutes on Wednesdays, during planning time, to collaborate with colleagues on strategies to address student needs. Scarlett stated that leadership “gives us extra time weekly for collaboration in order to use our data, to analyze our data, [and] to make meaningful decisions based on data so that we can make instructional decisions . . . and guide our teaching based on data.” This support from school leadership enables Scarlett to fit her teaching strategies into what is happening in the classroom.

Laura from the focus group spoke indirectly about how a lack of time affects teacher training:

I do feel that we use all of our data, *Reading Street*, and other assessment data to drive our instruction, to differentiate instruction, and to progress monitor. As I said before, however, I do feel we need more training when a new program like *Reading Street* is adopted. There are so many resources and it is hard to go through everything at the beginning of the school year when the students are here.

Thus, training while helpful is not easy to schedule except at the beginning of the school year. At that time, everything is hectic and rushed making it difficult to learn or understand new software. Time is another valuable resource stretched across a multitude of demands.

Making Data Accessible: Data Tracker

The school created a Data Tracker to organize the data. The Data Tracker is user friendly and enables teachers to quickly access the data as well as print individual, class, and school level data reports. Scarlett from the focus group said,

As a school, each classroom teacher tests her class using the posttest for *Reading Street* at the beginning of the year and we give the posttest again at the end of the year. We put the information into the Data Tracker and we can access our children's grades through the year with reading skills.

She spoke further about the Data Tracker and the reason it was created. Scarlett stated,

The Data Tracker was created by one of our computer people here. He created this so that each teacher can compile all of their data from each individual student. We use Terra Nova scores, we use *Reading Street* data, we use writing data. Any kind of assessment that we use on a regular basis with our students we put into the data tracker. And so at any given time we can print out a set of test results on any [child] or our entire classroom, or even a grade level or school. And that way we can, at a moment's notice give anybody a breakdown of what a child's levels are like. Or what our grade level is doing.

Overall, the teachers seem to be satisfied with the results of data usage and the support he or she receives.

The teachers all used *Reading Street* data and found it to be helpful in the classroom setting. Liz indicated she liked the data because she could see at any time, "Students who have not mastered certain reading skills, their instruction is targeted in small groups and so is their daily practice activities during center time." This enabled her to assess progress and know what each student needed.

Ricky commented: “Data of course helps with our instruction and it helps us to . . . it steers our instruction in ways that we can help, best help the student learn, not only in reading but in writing as well.” Ricky sees an improvement in how students learn because the data are available and useful.

Teaching the Teachers

When asked about training, all respondents indicated concerns about the training they received thus far. The teachers each believed that this was an area of opportunity. Teachers received instruction regarding how to use the *Reading Street* program. The teachers were taught basic navigation skills and shown how to find resources; beyond that, no training was offered.

Teachers were not shown how to use resources, how to use different analysis and reports, or specific skills that related to the program. Laura from the focus group elaborated on the *Reading Street* training:

The *Reading Street* program comes with an overwhelming amount and number of resources, along with the on-line components. We had good pre-implementation training and, as I recall, one post-implementation session. However, I would like to have training at more frequent intervals as teachers are actually using the program for the first year to provide support as questions arise. Novice users of the program cannot fully grasp how the program is used to its best results efficiently. I think we would all benefit from actually seeing the program being used by a teacher in a real classroom, ideally over the course of several lessons.

Because the training occurred when the program was initially rolled out and there were no ongoing scheduled trainings, new teachers do not receive any formal instruction. Instead, the teachers are mentored by a fellow teacher and learn as they go.

Some of the participants did not feel like he or she had a complete handle on how to use the *Reading Street* program. Many reported feeling overwhelmed by the amount of data produced. All teachers felt additional training was required for more effective and less time intensive use of the program. Ricky remarked,

The professional development we've received down here at first initiative was just to navigate the website as far as how to find things and what to do and how it will fill our classes, our rosters with students. Other than that, we had to kind of explore on our own to figure out what else we can do.

All of the teachers mentioned that the original training he or she received from the *Reading Street* program was useful and helpful. Several of the teachers also remarked on how time consuming it was to use the data. The vastness of the data made it difficult to sort through, and lack of proficiency with the program made the situation more difficult. Laura suggested that she “would appreciate more training at intervals along the year as we're actually using *Reading Street* and becoming more proficient with it.”

Different Levels of Confusion

Participants reported areas of confusion when using the *Reading Street* program. One of the participants noted a lack of curriculum alignment with the school standards. Some of the skills in the *Reading Street* program did not match school standards. Kay said,

Pre-designed academic assessment and curriculum programs . . . often have extraneous information that doesn't follow our standards, and teachers have to spend time going through the adopted curriculum in order to find what meets their needs and what does not meet their needs.

Kay said that most of the confusion for teachers is caused by not understanding how to use the *Reading Street* assessment program, and that “it's more important that we have more professional development in the area.” Ricky noted that, “the end-of-section assessments are somewhat confusing to the students because some of the answers are, um, kind of ambiguous or are two answers that could be the correct answer. It's kind of confusing to the students.” Stella indicated this issue could lead to scores that do not accurately relay what a student's achievement might have been. Stella spoke strongly to the idea that the teacher needs to carefully assess and make sure that teachers use their skills to determine how a student is doing in the classroom.

Technology gets in the way. Sometimes the technology seemed to get in the way of good time management. Laura reported,

I see the computerized aspect of the program as a double-edged sword. I love that it breaks down the weaknesses and strengths of the students. At the same time, the fact that it's technology based, there are technology glitches, sometimes it's time consuming to get into the program to get the information that you want, that's the only thing that I am hindered by.

Jessica also noted time issues related to using the data and indicated that she wished that the data were more user friendly. She reported being overwhelmed by the amount of data and was not always clear how to interpret and apply all results. Jessica stated:

There is a large amount of information with time recommendations that do not fit into the schedule we have for the day. In order to be able to use the *Reading Street* material effectively I have to change the order that I use it and sometimes I have to extend or reduce the amount of time I spend. Even then, the amount of material that the pacing guide says can be accomplished in a week is unrealistic. So I pick and choose the items that are um most important for my instruction and then find other resources to meet school standards.

Thus, the interventions are not effective for a busy classroom. The recommendations do not seem to allow for other activities or plans the teacher may have for a day. She reported wanting the data to be more transparent and user friendly. Jessica compared *Reading Street* to the school mathematics program. Jessica said, "EnVision Math offers more tools for analysis of assessments for a class rather than just individual student analysis. Those extra tools help me to plan instruction for large and small groups more efficiently."

However, Scarlett did point out one way where she did find technology helpful. Scarlett talked about how she has students use technology:

Well, first of all, we use the Data Tracker to keep up with the technology as a school. As far as the classroom is concerned, it's really nice that the students can test on the computer. It immediately grades it. The students have immediate knowledge of how they did. Not only that but it generates extra practice based on the results. Teachers and parents have immediate results too.

Thus, even though difficulties and glitches exist in implementing the use of technology, at least some teachers expressed the usefulness of the *Reading Street technology components*.

Summary

The purpose of this case study was to provide an understanding regarding teachers' use of assessment data from Scott Foresman's *Reading Street* instructional program at one elementary school. Overall, teachers liked using the *Reading Street* program. Liz stated, "I found it helped me as a teacher to get targets, to target students reading skills that were not mastered in their small group instruction." Because of this information, Liz was able to identify problem areas and design remediation.

The participants of the study used the *Reading Street* program, and, based on the data that was supplied, were able to use it to drive instruction. The themes revealed that teachers used *Reading Street* data to make formative and summative decisions, measure student growth, and even alter instructional methods. The teachers were able to place students appropriately and make professional decisions based on the data. The teachers used data individually and collaboratively and were able to make changes at the individual, classroom, grade, or school levels.

The main desire the teachers expressed was that they wanted a chance to learn how to use the data more efficiently and to be able to take advantage of all the tools *Reading Street* offers. The teachers' desire illustrated a clear weakness in the training specifically related to the *Reading Street* program. The challenges of becoming proficient with the program adds to teacher workload and impacts the time they have to spend in collaboration, planning, and creating lessons. Although teachers received some training when the program was initially

launched, additional training is needed during the implementation stage. Training in the *Reading Street* program would be very helpful for new teachers.

Generally, the participants seemed to use the data gathered by the program to effectively plan, teach, and assess students' learning progress. Using the data provided by the *Reading Street* program, the teachers were able to differentiate instruction to meet the students' needs.

CHAPTER 5

DISCUSSION

The purpose of this qualitative case study was to determine how teachers in one elementary school use assessment data from Foresman's (2008) reading curriculum, *Reading Street*. The study was conducted in order to determine how the use of *Reading Street* data in one elementary school reflected data-informed decision-making practices, and therefore understand the processes that teachers implemented in using data within their classrooms. Previous literature had, in large part, not focused on classroom practices but rather on studying larger educational environments and leadership's implementation of a culture of data (Armstrong & Anthes, 2001; Boudett et al., 2005; Datnow et al., 2007; Ikemoto & Marsh, 2007; Mandinach, 2012). Previously, teachers for the most part have been excluded from data-use processes, but now accountability measures require that teachers take on an active role in implementing a data culture into educational practice (Nichols & Berliner, 2008). Only when policymakers and educational leaders know how teachers use assessment data can they provide the supports and eliminate barriers regarding teachers' effective use of assessment data (Wayman, 2005).

As data-driven decision making comprised an essential tenet of the push for accountability in the wake of NCLB, I intended to address the gap in the literature regarding teachers' data use practices (Ikemoto & Marsh, 2007; Knapp et al., 2006; Mandinach et al., 2008). Identifying specific barriers to success in data use at the classroom level was determined to be an important factor of understanding the phenomenon (U.S. Department of Education, 2011; Wayman, 2005). Because teachers reported the need for additional supports for

implementing data in the classroom decisions in previous literature (Munoz et al., 2011), supports also comprised a focus of this study.

Research Questions

The research questions that guided the study were as follows:

Overarching Research Question: How do teachers (second through sixth grade) use *Reading Street* assessment data?

Sub-Research Question 1: How do teachers experience supports for using *Reading Street* assessment data?

Sub-Research Question 2: How do teachers experience obstacles in using *Reading Street* assessment data?

Findings and Interpretations

To present the results of the study, the following section includes the findings and interpretations of the qualitative data collected in this research study. Findings were outlined according to the research questions, and compared to the current literature available on the topic. The process of uncovering themes began by importing the typed interview transcripts into NVivo. These tentative themes were saved as *nodes*, or categorical labels, within NVivo. When a statement was found that offered support for an identified theme, this excerpt was saved to the appropriate node within NVivo. Through this process, the themes were explicated by the data, thereby ensuring that data saturation was achieved (Kolb, 2012). The resultant findings were compared with the extant literature on the topic in the following section.

Central Research Question

The central research question for the study was as follows: How do teachers (second through sixth grade) use *Reading Street* assessment data? For the central research question, I

identified three themes: data drives instruction, it's time for assessment and remediation, and all about supplements.

Data drives instruction. Decision making at the school under study was driven by the use of data at the individual teacher, grade, and school-wide level. Focus group data suggested that the school was in the maintenance phase of implementing data driven decision making, and that the experience was overall a positive one. Four out of seven interviewees noted that data were utilized throughout the school, not only in relation to *Reading Street* data, but also with leadership emphasis placed on using data, as well as through peer interactions. These practices are consistent with researchers' focus on building a culture of data use (Boudett et al., 2010; Chen et al., 2005; Love, 2009).

In classrooms, data were used for making decisions regarding individuals, small groups, classrooms, grade levels, and the school. Decisions related to individuals included providing additional support to struggling students, such as added resources. Kay noted that this practice was most important for the success of the school:

Teachers aren't just pulling together resources without some sort of knowledge about how each individual student is achieving in each individual area that we look at within their learning. So I would have to say that's probably one of the most important things that a teacher would do to use that data to drive instruction.

Ricky reported creating groups based on pretest data from the *Reading Street* curriculum, as well as to determine whether content had been adequately covered, or whether additional class time was needed or instructions needed to be revised. These practices are consistent with formative assessment at the classroom level (Birenbaum et al., 2011; Halverson et al., 2007; Remesal, 2011).

Consistent with Birenbaum et al.'s (2011) requirement that successful formative assessment be carried out in both the classroom and at the school level, the school also

implemented data driven decisions beyond the classroom. Grade level and school-wide decisions included tweaks to the adopted *Reading Street* curriculum, as reported in the focus group setting. Laura, one of the members of the CSI team said,

Our leadership, our principal, along with our IT [Instructional Technologist] leader in our school developed a Data Tracker that allows us to put in the data from all of our students over the course of the year and that really tracks their growth. That encourages us to use the *Reading Street* data along with the other data that we glean from the teaching and assessing in the classroom to really help our children grow and push them to the maximum success.

Consistent with Chen et al.'s (2005), Love's (2009), and Mandinach's (2012) discussion of developing a data culture, Laura noted that the Data Tracker made the process of collecting and interpreting data more readily accessible, thereby enabling quick decision-making processes as developed in Mandinach's (2012) explication of the cycle of data use.

In all, the school demonstrated a focus on improving student learning through data, a focus not echoed in previous literature on the topic (Birenbaum et al., 2011). Despite the focus on data, participants did not mention standardized testing scores as a tool to measure that success. This finding contradicts some criticism that has suggested data-driven decision making leads to a focus on assessment, rather than student learning (U.S. Department of Education, 2011; Wayman, 2005). At this school, teachers primarily utilized data for formative, rather than summative, assessment (Datnow et al., 2007) regardless of the accountability movement's push for increased test scores (U.S. Department of Education, 2011).

Kay, Scarlett, and Ricky's experiences with the constant reflection on data are consistent with best practices in the data-driven decision making literature, specifically Mandinach's (2012) depiction of the cycle of data use. In these classrooms, teachers consistently reflect on data as a measure of students' success, and instructional decisions are made based on these measures. Jessica's interview supported the notion that decision making based on data must be supported

with a data culture (Datnow et al., 2007; Mandinach et al., 2008; Wayman, 2005), as she shared her results with leadership in an effort to improve student outcomes.

Furthermore, at this school, Laura noted that parents and students are invited to share in the data culture:

Throughout the year we can generate a report from our Data Tracker that we can share with the parents. We can share with the students in their goal binders, and we use it also in our collaborative grade level meetings.

The consistent use of data was an important finding related to this theme. While other researchers have discussed the importance of consistency between teachers and leadership (Farley-Ripple & Buttram, 2013), these results suggested that parents and students play a role in integrating a culture of data use.

It's time for assessment and remediation. Participants noted that *Reading Street* assessment data assisted in determining when students required additional support. Every teacher involved in this study reported using *Reading Street* to make remediation decisions. Liz, the teacher with the most experience using *Reading Street* (8 years), stated that she began using the program to identify individual students' weaknesses. Then, in small group instruction, those specific skills were used to focus remediation efforts. By having access to reports from *Reading Street* that showed individual student's weaknesses, Liz was able to improve her remediation efforts.

Brookhart et al. (2006) previously examined the use of formative assessment practices within remedial education for K-1 students and determined that students and teachers improved through implementing formative assessment practices into remedial reading classes. However, the current findings suggested that using formative assessment initially, and creating groups to target skill deficiencies, may assist in eliminating the need for remedial classes in the first place.

Using *Reading Street* data in this manner may address students' learning needs, thus avoiding the need for remedial intervention.

All about supplements. One key finding from the interviews was the necessity of supplemental programs and resources to support the use of *Reading Street* assessment data.

While *Reading Street* was used as a guide for instruction, instructors reported modifying the program to meet school-wide reading goals and standards. For example, Kay said,

More importantly, it's used to supplement the standards that we're covering. So, even if it's not *Reading Street*, um, our goal ultimately is to find how we can best meet the standards . . . and then share supplementary materials or technology programs, websites, anything that can support the skill-building activities.

Though not all teachers followed the *Reading Street* program completely, both formative and summative assessment data were used to improve instruction. This type of flexibility seemed to improve teachers' attitudes toward the implementation of the reading program.

One particular issue that teachers addressed through supplemental materials was the shortened selections provided to students within the *Reading Street* program. Teachers reported that students preferred to read full, individual books, rather than short, standardized passages from multiple selections within the reading book. Stella noted that in her grade level, which allowed students to read full-length novels while addressing *Reading Street* skills, students showed more passion for reading. Rather than using *Reading Street* as the primary reading source, Stella decided to use *Reading Street* as curriculum enhancement. She mentioned an occasion where she did use *Reading Street* to enhance her students' classroom experiences:

Well the cool thing about that is the other day we pulled the story out of *Reading Street* that pertains to the story that we're reading now which has to do with the Revolutionary War. There was a story that was in there, was approximately, maybe five pages long.

Stella was able to see that she was covering similar material and that the students were on task and meeting the expectations of the *Reading Street* program. This type of flexibility seems to

have led to an increased acceptance of the use of data, and multiple (3) participants noted this same kind of flexibility from leadership.

The use of a reading program as a supplement, rather than the sole resource for guiding all instruction, seemed to be a positive development in this school. Thus far, researchers examining programs that provide formative assessments, such as *Reading Street*, have assumed that all participants followed the adopted curriculum exactly--in fact, Mandinach et al. (2008) noted that a standardized curriculum was essential to the practice of data-driven decision making. However, my study suggests that this rigidity in fact disavows the underlying principle of formative assessment and the cycle of data use, to use data to adjust instruction for student learning. Allowing for variation and adjustment to the adopted curriculum program seems to have enabled teachers and leaders at this school to provide additional resources that improve student outcomes, and remain on target for the school's standards and goals. In addition to using *Reading Street* as a resource for reading instruction, teachers also reported requiring additional supports, which were addressed by the following sub-research question.

Sub-Research Question 1

The first sub-research question was as follows: How do teachers experience supports for using *Reading Street* assessment data? The researcher identified three themes that addressed this question: making meaningful decisions and using professional judgment, time is valuable, and making data accessible. These themes are described in detail in the subsequent section.

Making meaningful decisions and using professional judgment. Teachers found that resources made available to them by school leaders allowed for improved decision-making capabilities within the classroom. For example, Scarlett, a teacher with 30 years of experience, noted that the data tracker created to combine different assessments, including *Reading Street*

data, allowed for comprehensive understanding of individual student achievement, classroom achievement, and the achievement of an entire grade level. Laura noted, “I do feel that we use all of our data, *Reading Street*, and other assessment data to drive our instruction, to differentiate instruction, and to progress monitor.” All teachers indicated efficacy in using data in the classrooms to make meaningful decisions.

These meaningful decisions were facilitated by weekly grade-level meetings, which provided time for teacher collaboration. Bransford et al. (2000), Boudett et al. (2005), and Moody and Dede (2008) reflected that this kind of peer collaboration assisted in helping teachers transition into the cultural change required by data-driven decision-making practices. Participants also noted that the Data Tracker provided by the school enabled timely and facile access to student data, which improved data-driven instructional decisions. Specifically, teachers found that *Reading Street* data provided excellent information for identifying students in need of remediation and specific skills that should be addressed.

Chen et al. (2005), Lachat and Smith (2005), and the U.S. Department of Education (2011) all found that teachers were willing to use data if the teacher perceived that students received benefits from data practices and if the teacher felt adequately supported in data-use. The findings on this theme are consistent with those discovered in the literature regarding supports. Specifically, findings supported the use of collaborative peer groups, such as the CSI team, in order to support teachers’ transition to data-driven decision making. Moreover, the perceptions of meaningful data-informed decision making may increase teachers’ self-efficacy in using data (Newman-Thomas et al., 2012).

Time is valuable. Teachers felt that a valuable support from the school was time to collaborate and work with data. At the school under study, teachers were provided 45 minutes

during planning time on Wednesdays to collaborate on students' data and determine instructional strategies to address student needs identified in the data. For example, Scarlett noted that this additional time allowed her to tailor her curriculum to student needs.

Making data accessible. Teachers determined that one important aspect of support in using *Reading Street* data was the accessibility of the data within this school. The school invested resources to enable usability and accessibility. One essential aspect of the data's accessibility was the Data Tracker. As Scarlett from the focus group said,

The Data Tracker was created by one of our computer people here. He created this so that each teacher can compile all of their data from each individual student. We use Terra Nova scores, we use *Reading Street* data, we use writing data. Any kind of assessment that we use on a regular basis with our students we put into the Data Tracker. And, so, at any given time we can print out a set of test results on any [child] or our entire classroom, or even a grade level or school. And that way we can, at a moment's notice give anybody a breakdown of what a child's levels are like. Or what our grade level is doing.

All participants noted that the accessibility of the data was an important component of maintaining best practices of data use. These findings are consistent with the literature regarding data use (U.S. Department of Education, 2011).

Sub-Research Question 2

The second sub-research question was as follows: How do teachers experience obstacles in using *Reading Street* assessment data? Three themes were found that addressed this question: teaching the teachers, technology gets in the way, and different levels of confusion. These themes are described in detail in the subsequent section.

Teaching the teachers. Each participant, in both individual interviews and the focus group, reported the need for more training in use of the *Reading Street* resources. As Ricky discussed, the current training program involved initial navigation and course setup within the *Reading Street* website, followed by individual teachers' navigation of the system. While all

teachers agreed that the initial training was very useful, teachers required increased support when actually implementing the program and navigating the technological component.

Teachers also expressed being overwhelmed at the sheer mass of data that the *Reading Street* program provided. Moreover, teachers felt that training could reduce the amount of time required to become familiar with the program's resources, including the program's electronic assessment system. Training programs provided at the beginning of the year, before teachers were using the *Reading Street* program, were suggested to be less useful than training provided at intervals throughout the school year. As Laura proposed, "[she] would appreciate more training at intervals along the year as we're actually using *Reading Street* and becoming more proficient with it." Training could increase teachers' efficacies in using the *Reading Street* data.

The lack of training in using the *Reading Street* resources and teachers' desire for more training is constant within the literature (Hamilton et al., 2009; Ingram et al., 2004; Smith, 2011; U.S. Department of Education, 2011). Kerr et al. (2006) and Remesal (2011) noted that training varied widely throughout schools engaged in transforming into cultures of data use. Without this training, as noted among all of the participants in this study, teachers may be less likely to effectively use data within the classrooms.

Technology gets in the way. Both focus group and individual interview data suggested that technology was at times an impediment to successful time management. Because time was considered a valuable support, time spent trying to access an electronic data system, such as the one provided by *Reading Street*, was perceived by some teachers as sometimes a barrier to the successful data use from this particular program. Laura called the computerized aspect of the *Reading Street* program "a double-edged sword" because of glitches and time consumption of this aspect of the program. Jessica noted that *Reading Street* required significant time effort.

However, other participants felt that the computerized aspect of the program reduced time and effort (Ricky; Scarlett).

Mixed results suggested that time may be an offshoot of the need for professional development. Teachers who are familiar with technology may find the technology a benefit, rather than a hindrance (Hamilton et al., 2009; Ingram et al., 2004; Smith, 2011; U.S. Department of Education, 2011).

Different levels of confusion. Teachers reported several areas of confusion related to *Reading Street* use. These included discrepancies between school standards and the *Reading Street* curriculum, occasional confusion regarding *Reading Street* assessment as an accurate depiction of students' success, and technology issues. Whereas technology issues are well-documented in the literature (Kerr et al., 2006; Marsh et al., 2006; U.S. Department of Education, 2009, 2011), the curriculum and school standards confusion has not been reported.

Teachers' perceptions of conflicting objectives of *Reading Street* and school standards were an area of confusion demonstrated in the interviews. Kay noted that there was a surplus of unnecessary information in the *Reading Street* program, which added stress and more time investment for teachers to review the curriculum and remove those extraneous resources. Similarly, Ricky noted that some of the existing materials were ambiguous or confusing to students. Alignment between school standards and the adopted curriculum is crucial. Mandinach et al. (2008) proposed that a consistent, system-wide curriculum was essential to a successful culture of data use. These perceptions of inconsistency could reduce teachers' buy-in to utilizing the resources made available to them through the program. Moreover, it may lead some teachers, like Stella, to believe that the data do not reflect actual student understanding. Feelings about data's inefficacy in measuring student success are already extant among reading

teachers (Hosp & Suchey, 2014); therefore, the inconsistencies may contribute to this existing animosity.

At times technological issues were also determined to be a barrier to teachers' use of *Reading Street* data. Issues involved in the computerized program included confusion resultant from teachers perceiving the data as "overwhelming" (Jessica). In addition, unfamiliarity with the technology led to teachers' viewing the use of data as time-consuming, or not worth the effort it took to parse the data. Marsh et al. (2006) and the U.S. Department of Education (2009) determined that an efficient data system is not available in multiple situations, and may diminish the development of data cultures. However, since multiple teachers reported the availability of an effective data management system, it seems the school may need to increase communication and training regarding that system. Ingram et al. (2004) proposed that changes to the culture of the school without emphasis on the benefit of these efforts and training, could diminish the development of a data culture.

Together, the confusion engendered by conflicting curricular and school standards, as well as technological issues, may somewhat hinder the data-use process, as discussed in the literature (Brieter & Light, 2006; Datnow et al., 2007; Feldman & Tung, 2001; Mandinach et al., 2008; Wayman et al., 2006; U.S. Department of Education, 2009). Transforming decision-making processes requires a significant effort on the part of educators and leaders (Young, 2008). Recommendations for enabling this transformation are discussed in the following section.

Recommendations

Overall, teachers reported satisfaction with *Reading Street* and its resources, as well as with the general use of data within the school. Their successes, the supports required to bolster that success, and the barriers noted within the interviews have led to some recommendations.

Recommendations have been broken down into recommendations for educators and recommendations for leadership.

Recommendations for Educators

The impetus for this qualitative inquiry was primarily the lack of focus on teachers within the literature regarding data-driven decision making (Armstrong & Anthes, 2001; Boudett et al., 2005; Datnow et al., 2007; Ikemoto & Marsh, 2007; Mandinach, 2012). Educators were the focus of the study, and resultantly, the data provided several suggestions for educators who are interested in improving his or her use of data in the classroom. Recommendations related to classroom practice were numerous.

Results showed that teachers felt more efficacious as educators when he or she used data in the classroom to make decisions regarding the learning of individual students, groups of students, and the entire class. Data were used to determine which skills required more remediation for individuals, to work with small groups of students who had similar needs related to specific skills, to improve individualized instruction, and to seek out skills in which the entire class needed additional instruction.

Individual interview and focus group data also suggested that the ability to assess students formatively resulted in a generally positive experience for teachers. Much of the literature on data-informed decision-making proposes a focused curriculum (Brookhart et al., 2006; Mandinach et al., 2008). Findings from this study suggested that teachers like the autonomy and flexibility to use more than one resource to meet and assess students' learning needs. Teachers can assess students formatively, use the data as knowledge to guide instructional practices based on the performance of students, and simultaneously increase student outcomes in line with the accountability movement (Birenbaum et al., 2011).

Teachers should share data with students and parents as a part of building a strong data culture, communicating student learning to parents, and encouraging students to take ownership of his or her own learning. This practice encourages student and parent accountability and provides teachers with valuable information regarding student progress and next steps. Teachers can use the data to monitor all students' progress, as well. Use of data tracking systems that combine multiple points of data, like the one utilized within this school, facilitates open communication regarding data. The system's ability to generate individual student growth reports showing students' quarterly and yearly performance is a valuable communication and progress monitoring tool. The focus on student success, not necessarily tied to standardized testing scores, was a phenomenon noticed in this study that may require future examination.

Recommendations for Leadership

Leadership and leaders' role in proscribing data-driven decision making has been thoroughly addressed in previous literature (Armstrong & Anthes, 2001; Boudett et al., 2005; Datnow et al., 2007; Ikemoto & Marsh, 2007; Mandinach, 2012). Farley-Ripple and Buttram (2013) determined that the extent to which data-driven decision making and collaboration were successful depended on the individual school's consistency in leadership vision and support for the program, a culture of data use, including established expectations and monitoring, and providing instructional resources. However, these findings suggested a few developments that could improve future practice in implementing data-driven decision making.

First, the interview data determined that leadership focusing on implementing a culture of data use, and providing teachers adequate time for reflection on data, resulted in positive attitudes in teachers, thereby encouraging the formation of a data culture. Alternatively, a lack of interval training on the *Reading Street* program and resources was perceived to some extent by

some teachers in this school as a barrier to effective data use. *Reading Street* has a data management system and the school under study has its own data management system. The teachers indicated that the school's Data Tracker organized student assessment data, was user friendly, and provided student growth reports that were beneficial to all stakeholders. More training on the use of the *Reading Street* data management system or any new program would be beneficial to all teachers. These findings bolstered current literature that suggested the importance of leaders' support in perpetuating data-driven decision making, which may also increase student success and schools' compliance with accountability standards. Also, training on a specific program such as *Reading Street* should be implemented at intervals throughout the school year, rather than in one large block of preliminary information at the beginning of the year. To develop and sustain a successful culture of data use, it is advantageous for educational leaders to invest efforts and resources in providing this support.

Second, results suggested that teachers felt supported and efficacious in using data-driven decision-making processes when the teachers perceived flexibility from leaders in determining best practices in the classroom. Using data-driven decision-making processes, teachers at this school determined that *Reading Street* curriculum did not meet all of the needs of students, and necessary adjustments were made at specific grade levels based on teachers' and CSI team members' perceptions. Promoting this kind of openness in programmatic dictates may assist in overcoming teachers' documented reticence to implementing data in the classrooms. This acceptance may also lead to improved performance on accountability measures based on teachers' increased self-efficacy (Newman-Thomas et al., 2012).

Finally, as consistent with the literature, the study suggested that supports were required for the successful implementation of data-driven decision making. For example, the CSI team

was perceived as a great resource for teachers because the team disseminated information and assisted teachers in the role transition to interpreters of data, as consistent with Boudett et al.'s (2005) findings. In addition, the user-friendly Data Tracker that enabled data access for teachers, along with data growth reports for students and parents, assisted in the overall success of the program. These results bolstered the findings of current literature, and suggested that educational leaders should take pains to ensure that viable supports are provided for teachers.

Significance of the Study

The study was significant in multiple aspects. Though many of the findings bolstered current literature or furthered findings from a leadership to an educational setting, some findings were revelatory. Implications affect the school and may spread more widely to supplement the literature.

At the school level, findings suggested that current practices at this school were successful in creating a culture of data use among classroom teachers. Teachers understood the reflective process of data-informed decision making and were aided by the CSI team in implementing data fully into classroom practices. Moreover, practices such as flexibility in utilizing the *Reading Street* curriculum improved teachers' understanding and acceptance of data use. However, teachers perceived that more training in the use of *Reading Street* data and resources could lessen confusion and reduce time spent on exploring the program's many resources, including the technological component.

More widely, the study provided insight into future literature regarding data-driven decision making and school accountability. Previous studies had left the teachers' perceptions of data-use largely unexplored (Armstrong & Anthes, 2001; Boudett et al., 2005; Datnow et al., 2007; Ikemoto & Marsh, 2007; Mandinach, 2012), and this study provided insight into the

specific case of classroom teachers' use of *Reading Street* data at this elementary school. The data culture was improved by the focus on highlighting teachers' experiences, facile communication between teachers and school leaders, and a focus on student success that was not necessarily tied to standardized assessments. Though all teachers mentioned covering school standards, the focus, first and foremost, was on using data to improve student learning and competency in reading. These findings had not yet been demonstrated as related to the data-driven decision-making movement, and contradicted Birenbaum et al.'s (2011) findings that suggested that the push to implement data into school cultures resulted in an overwhelming focus on summative, rather than formative, assessment practices.

Limitations and Suggestions for Further Research

Though every effort was made to constrain the shortcomings of the data, several limitations to the data exist. First, the case study was comprised of a small sample of educators at a single elementary school. Though small, localized samples are appropriate for the qualitative researcher, the choice of design may limit the generalizability of the results (Creswell, 2005). Future studies may be required to determine whether the themes observed in this research hold true in other contexts and with programs other than *Reading Street*.

Another limitation to this research was the focus on teachers' perceptions only. Johansson (2003) and Johnson and Christensen (2004) noted that a case study should address the complexity of a case from multiple perspectives, resulting in the focus group and individual teacher interviews conducted in this study. The particular complexity being addressed in this study was teachers' use of data, the essential supports and the barriers teachers experienced, and the required support from literature. However, student perceptions and student data, such as standardized testing outcomes used in accountability reporting, were not consulted for the

purposes of this research. Future researchers may consider adding this data to give an even more complex understanding of data-driven decision making. Teacher perceptions and practices could be examined in relation to student outcomes utilizing a mixed methods approach.

Summary and Conclusion

The purpose of this qualitative study was to determine how teachers in one elementary school used assessment data from Scott Foresman's (2008) reading curriculum, *Reading Street*. The researcher determined how the use of *Reading Street* data in one elementary school reflected data-driven decision-making practices, and led to an understanding of the processes that teachers implemented in using data within the classrooms. By studying macro-level educational environments from leadership's point of view, previous researchers had, in large part, ignored classroom practices (Armstrong & Anthes, 2001; Boudett et al., 2005; Datnow et al., 2007; Ikemoto & Marsh, 2007; Mandinach, 2012).

This qualitative study resulted in an increased understanding of classroom practices in a culture of data use. Classroom teachers implemented *Reading Street* data in multiple aspects of the classroom, to determine practice, improve remediation, display accountability to leadership, and demonstrate student improvement. The CSI team was determined to be an essential support, as was leadership's focus on allowing classroom flexibility within the confines of school standards and goals. Barriers included the lack of training related to the effective use of the *Reading Street* program and resources, and lack of alignment between *Reading Street* curriculum and system-wide standards. The study has significance for educators looking to implement data-driven decision-making within the classroom, as well as for leaders looking to improve the data culture within the schools.

REFERENCES

- Abbot, D. (2008). A functionality framework for educational organizations: Achieving accountability at scale. In E. B. Mandinach & M. Honey (Eds.), *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Ainsworth, L., & Viegut, D. (2006). *Common formative assessments: How to connect standards-based instruction and assessment*. Newbury Park, CA: Corwin.
- Airasian, P. W. (2000). *Classroom assessment: Concepts and applications*. New York, NY: McGraw-Hill.
- Anderson, C. (2010). Presenting and evaluating qualitative research. *American Journal of Pharmaceutical Education*, 74(8), 141. doi:10.5688/aj7408141
- Armstrong, J., & Anthes, K. (2001). How data can help: Putting information to work to raise student achievement. *American School Board Journal*, 188(11), 38-41. Retrieved from <http://www.ecs.org/html/Document.asp?chouseid=3178>
- Birenbaum, M., Kimron, H., & Shilton, H. (2011). Nested contexts that shape assessment for learning: School-based professional learning community and classroom culture. *Studies in Educational Evaluation*, 37(1), 35-48. doi:10.1016/j.stueduc.2011.04.001
- Birenbaum, M., Kimron, H., Shilton, H., & Shahaf-Barzilay, R. (2009). Cycles of inquiry: Formative assessment in service of learning in classrooms and in school-based professional communities. *Studies in Educational Evaluation*, 35(4), 130-149. doi:10.1016/j.stueduc.2010.01.001
- Brookhart, S. M., Moss, C. M., & Long, B. A. (2006). *Teacher inquiry into formative assessment practices in Title I reading classrooms* (CASTL Technical Report No. 2-06). Retrieved from Duquesne University, Center for Advancing the Study of Teaching and Learning, Department of Foundations and Leadership, School of Education website: <http://www.duq.edu/academics/schools/education/outreach-and-research/castl/research/research-technical-reports>
- Boudett, K. P., City, E. A., & Murnane, R. J. (Eds.). (2005). *Data wise: A step-by-step guide to using assessment results to improve teaching and learning*. Cambridge, MA: Harvard Education Publishing Company.
- Bransford, J., Brown, A., & Crockett, R. (2000). *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academy Press.

- Breiter, A., & Light, D. (2006). Data for school improvement: Factors for designing effective information systems to support decision-making in schools. *Educational Technology & Society*, 9 (3), 206-217. Retrieved from http://www.ifets.info/journals/9_3/18.pdf
- Brinson, D., Kowal, J., & Hassel, B. (2008). *Schools turnarounds: Actions and results*. Lincoln, IL: Center on Innovation and Improvement.
- Britten, N. (1995). Qualitative interviews in medical research. *The BMJ*, 311, 251-253. Retrieved from: <http://www.bmj.com/content/311/6999/251>
- Brunner, C., Fasca, C., Heinze, J., Honey, M., Light, D., Mandinach, E., & Wexler (2005). Linking data and learning: The Grow Network study. *Journal of Education for Students Placed at Risk*, 10(3), 241-267. http://dx.doi.org/10.1207/s15327671espr1003_2
- Chen, E., Heritage, M., & Lee, J. (2005). Identifying and monitoring students' learning needs with technology. *Journal of Education for Students Placed at Risk*, 10(3), 309-332. http://dx.doi.org/10.1207/s15327671espr1003_6
- Cicchinelli, L., Gaddy, B., Lefkowitz, L., & Miller, K. (2003, April). *No child left behind: Realizing the vision* [Policy Brief]. Mid-continent Research for Education and Learning. Retrieved from <http://www.wiche.edu/info/agendaBook/may03/McRelPolicyBrief.pdf>
- Coburn, C. E., & Talbert, J. E. (2006). Conceptions of evidence use in school districts: Mapping the terrain. *American Journal of Education*, 111(4), 469-495. <http://dx.doi.org/10.1086/505056>
- Cochran-Smith, M., & Lytle, S. (2006). Troubling images of teaching in no child left behind. *Harvard Educational Review*, 76(4), 668-726. Retrieved from <http://hepg.org/>
- Confrey, J. (2008). Framing effective and fair data use from high-stakes testing in its historical, legal, and technical context. In E. B. Mandinach & M. Honey (Eds.), *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Confrey, J., & Makar, K. (2005). Critiquing and improving the use of data from high-stakes tests with the aid of dynamic statistics software. In C. Dede, J. Honan, & L. Peters (Eds.), *Scaling up for success: Lessons from technology-based educational improvement* (pp. 198-226). San Francisco, CA: Jossey-Bass.
- Cooley, V. E., Shen, J., Miller, D. S., Winograd, P. N., Rainey, J. M., Yuan, W., & Ryan, L. (2006). Data-based decision-making: Three state-level educational leadership initiatives. *Educational Horizons*, 85(1), 57-64. Retrieved from <http://eric.ed.gov/>
- Cooper, B., & Cowie, B. (2010). Collaborative research for assessment for learning. *Teaching and Teacher Education*, 26(4), 979-986. doi:10.1016/j.tate.2009.10.040
- Copland, M. (2002). *Leadership of inquiry: Building and sustaining capacity for school improvement in the Bay Area School Reform Collaborative*. Stanford, CA: Center for Research on the Context of Teaching, Stanford University.

- Copland, M. (2003). Leadership of inquiry: Building and sustaining capacity for school improvement. *Educational Evaluation and Policy Analysis*, 25(4), 375-395. <http://dx.doi.org/10.3102/01623737025004375>
- Corbin, J., & Strauss, A. (2008). *Basics of qualitative research* (3rd ed.). Thousand Oaks, CA: Sage.
- Crawford, V., Schlager, M., Penuel, W., & Toyama. (2008). Supporting the art of teaching in a data-rich, high-performance learning environment. In E. B. Mandinach & M. Honey (Eds.), *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2003). *Research design. Qualitative, quantitative and mixed methods approaches*. Thousand Oaks, CA: Sage.
- Creswell, J. W. (2005). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.
- Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.
- 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, CA: University of Southern California, Center on Educational Governance.
- Deal, T., & Peterson, K. *Shaping school culture: Pitfalls, paradoxes, & promises* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Deike, M. A. (2009). *The principal as an instructional leader within the context of effective data use* (Unpublished doctoral dissertation). University of Texas at Austin, Austin, Texas.
- DiCicco-Bloom, B., & Crabtree, B. F. (2006). The qualitative research interview. *Medical Education*, 40, 314-321. doi:10.1111/j.1365-2929.2006.02418.x
- Englert, K., Fries, D., Goodwin, B., Martin-Glenn, M., & Michael, S. (2004). *Understanding how principals use data in a new environment of accountability*. Aurora, CO: Mid-continent Research for Education and Learning.
- Farley-Ripple, E. N., & Buttram, J. L. (2013). Developing collaborative data use through professional learning communities: Early lessons from Delaware. *Studies in Educational Evaluation*. doi:10.1016/j.stueduc.2013.09.006
- Feldman, J., & Tung, R. (2001). Using data-based inquiry and decision making to improve instruction. *ERS Spectrum*, 19(3), 10-19. Retrieved from <http://eric.ed.gov/>

- Feldman, J., & Tung, R. (2001, April). *Whole school reform: How schools use the data-based inquiry and decision making process*. Paper presented at the 82nd Annual Meeting of the American Educational Research Association, Seattle, Washington.
- Firestone, W. A., Fitz, J., & Broadfoot, P. (1999). Power, learning, and legitimation: Assessment implementation across levels in the US and the UK. *American Educational Research Journal*, 36(4), 759-793. <http://dx.doi.org/10.3102/00028312036004759>
- Foresman, S. (2008). *Assessment handbook, grades 3-6 (Reading Street)*. Glenview, IL: Pearson.
- Francis, J., Johnston, M., Robertson, C., Glidewell, L., Entwistle, V., Eccles, M. P., & Grimshaw, J. M. (2010). What is an adequate sample size? Operationalising data saturation for theory-based interview studies. *Psychology & Health*, 25(10), 1229-1245. doi:10.1080/08870440903194015
- Fullan, M. (2003). *Change forces: With a vengeance*. New York, NY: Routledge.
- Garet, M. S., Porter, A. C., Desimone, L., Birman, B. F., & Yoon, K. S. (2001). What makes professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38(4), 915-945. <http://dx.doi.org/10.3102/00028312038004915>
- Garrison, C., & Ehringhaus, M. (2006). Formative and summative assessment in the classroom. *School Connections*, 18(2), 1-5. Retrieved from <http://www.amle.org/BrowsebyTopic/WhatsNew/WNDet/TabId/270/ArtMID/888/ArticleID/286/Formative-and-Summative-Assessments-in-the-Classroom.aspx>
- Guest, G., Bunce, A., & Johnson, L. (2006). How many interviews are enough?: An experiment with data saturation and variability. *Field Methods*, 18(1), 59-82. doi:10.1177/1525822X05279903
- Halverson, R., Grigg, J., Prichett, R., & Thomas, C. (2007). The new instructional leadership: Creating data-driven instructional systems in schools. *Journal of School Leadership*, 17(2), 159-194. Retrieved from <http://eric.ed.gov/>
- Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009). *Using student achievement data to support instructional decision making* (NCEE Report No. 20094067). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from <http://ies.ed.gov/ncee/wwc/publications/practice>
- Heibert, J., Stigler, J., Jacobs, J., Givvin, K., Garnier, H., Smith, M., ... Gallimore, R. (2005). Mathematics teaching in the United States today and tomorrow: Results from the TIMSS 1999 video study. *Educational Evaluation and Policy Analysis*, 27(4) 111-132. <http://dx.doi.org/10.3102/01623737027002111>

- Herman, J., & Gribbons, B. (2001). Lessons learned in using data to support school inquiry and continuous improvement: Final report to the Stuart Foundation (CSE Tech. Report No. 535). Los Angeles, CA: Center for the Study of Evaluation (CSE), University of California, Los Angeles.
- Holcomb, E. L. (2001). *Asking the right question: Techniques for collaboration and school change*. Thousand Oaks, CA: Corwin Press.
- Hosp, J. L., & Suchey, N. (2014). Reading assessment: Reading fluency, reading fluently, and comprehension--Commentary on the special topic. *School Psychology Review*, 43(1), 59-68. Retrieved from <http://ebSCOhost.com/>
- Hoy, W., & Miskel, C. (1991). *Educational administration: Theory-research-practice* (4th ed.). New York, NY: McGraw-Hill.
- Hoy, W., & Miskel, C. (2008). *Educational administration: Theory-research-practice* (8th ed.). New York, NY: McGraw-Hill.
- Ingram, D., Seashore K., & Schroeder, R. (2004). Accountability policies and teacher decision making: Barriers to the use of data to improve practice. *Teachers College Record*, 106, 1258-1287. Retrieved from <http://eric.ed.gov/>
- Johansson, R. (2003). Case study methodology. *Proceedings of the International Conference Methodologies in Housing Research, Stockholm*, 22-24. Retrieved from http://www.researchgate.net/publication/236143987_Case_study_methodology
- Kerr, K., Marsh, J., Ikemoto, G., Darilack, H., & Barney, J. (2006). Strategies to promote data use for instructional improvement: Actions, outcomes, and lessons from three urban districts. *American Journal of Education*, 112(4), 496-520. <http://dx.doi.org/10.1086/505057>
- Knapp, M., Swinerton, J., Copland, M., & Monpas-Huber, J. (2006). *Data-informed leadership in education*. Seattle, WA: University of Washington, Center for the Study of Teaching and Policy.
- Killion, J. (2002). *Assessing impact: Evaluating staff development*. Oxford, OH: National Staff Development Council.
- Kohn, A. (2000). *The case against standardized testing: Raising the scores, ruining the schools*. Portsmouth, NH: Heinemann.
- Latchat, M., & Smith, S. (2005). Practices that support data use in urban high schools. *Journal of Education for Students Placed at Risk*, 10(3), 333-349. http://dx.doi.org/10.1207/s15327671espr1003_7

- Light, D., Wexler, D. H., & Heinze, J. (2005). Keeping teachers in the center: A framework of data-driven decision making. *New York Center and Technology*. Retrieved from http://www.grownetwork.com/assets/research/GrowNYC_LightWexlerHeinze 2005.pdf
- Light, D., Wexler, D. H., & Heinze, J. (2004, April). *How practitioners interpret and link data to instruction: Research findings on New York City Schools' implementation of the Grow Network*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.
- Love, N., Stiles, K. E., Mundry, S., & DiRanna, K. (2008). *The data coach's guide to improving learning for all students: Unleashing the power of collaborative inquiry*. Thousand Oaks, CA: Corwin.
- Mandinach, E., Honey, M., Light, D., Heinze, C., & Rivas, L. (2005, June). *Creating an evaluation framework for data-driven decision making*. Paper presented at the National Educational Computing Conference, Philadelphia, PA. Retrieved from <http://cct.edc.org/publications/creating-evaluation-framework-data-driven-decision-making>
- Mandinach, B., Honey, M., Light, D., & Brunner, C. (2008). A conceptual framework for data-driven decision making. In E. B. Mandinach & M. Honey (Eds.), *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Mandinach, E. B. (2012). A perfect time for data use: Using data-driven decision making to inform practice. *Educational Psychologist* 47(2), 71-85. doi:10.1080/00461520.2012.667064
- Marsh, J., Pane J., & Hamilton, L. (2006). *Making sense of data-driven decision making in education: Evidence from recent RAND research*. Santa Monica, CA: RAND. Retrieved from http://www.rand.org/pubs/occasional_papers/OP170
- Marshall, C., & Rossman, G. B. (2011). *Designing qualitative research* (5th ed.). Thousand Oaks, CA: Sage.
- Marshall, M. N. (1996). Sampling for qualitative research. *Family Practice*, 13(6), 522-525. doi:10.1093/fampra/13.6.522
- Marzano, R. J., Waters, T., & McNulty, B. A. (2005). *School leadership that works: From research to results*. Alexandria, VA: ASCD.
- Mason, M. (2010). Sample size and saturation in Phd studies using qualitative interviews. *Forum: Qualitative Social Research*, 11(3). Retrieved from <http://nbn-resolving.de/urn:nbn:de:0114-fqs100387>
- Mason, S. (2001, Spring). Turning data into knowledge: Lessons from six Milwaukee public schools. In *Using data for educational decision making: The newsletter of the Comprehensive Center-Region*, 6(1), 3-6. Retrieved from http://archive.wceruw.org/ccvi/pub/newsletter/v6n1_Spr01.pdf

- Mason, S. (2002, April). *Turning data into knowledge: Lessons from six Milwaukee public schools*. Paper presented at the Annual Conference of AERA, New Orleans.
- Means, B., Padilla, C., DeBarger, A., & Bakie, M. (2009). *Implementing data-informed decision making in schools--Teacher access, supports, and use*. Washington, DC: U.S. Department of Education, Office of Planning, Evaluation, and Policy Development. Retrieved from www.ed.gov/rschstat/eval/tech/data-informed-decision/data-informed-decision.doc
- Means, B., Chen, E., DeBarger A., & Padilla, C. (2011). Teachers' ability to use data to inform instruction: Challenges and supports. U.S. Department of Education. Retrieved from www.ed.gov/about/offices/list/opepd/ppss/reports.html
- Merriam, S. (1998). *Qualitative research and case study applications in education*. San Francisco, CA: Jossey-Bass.
- McReL. (2003). *Sustaining school improvement: Data driven decision making*. Retrieved from https://titleiidgrants.wikispaces.com/file/view/5031tg_datafolio.pdf
- Moody, L., & Dede, C. (2008). In models of data-based decision making: A case study of the Milwaukee public schools. In E. B. Mandinach & M. Honey (Eds.), *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Morse, J. M. (1994). Designing funded qualitative research. In N. K. Denzin & Y. S. Lincoln (Eds.), *Handbook of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage.
- National Commission on Excellence in Education. (1983). *A nation at risk: The imperative for educational reform*. Retrieved from <http://www.ed.gov/pubs/NatAtRisk/risk.html>
- National Staff Development Council (NSDC). (2001). *National Staff Development Council's standards for staff development (revised)*. Oxford, OH: National Staff Development Council.
- Nelson-Walker, N. J., Fien, H., Kosty, D. B., Smolkowski, K., Smith, J. L. M., & Baker, S. K. (2013). Evaluating the effects of a systemic intervention on first-grade teachers' explicit reading instruction. *Learning Disability Quarterly*, 36(4), 215-230. doi:10.1177/0731948712472186
- Newmann, F., King, B., & Rigdon, M. (1997). Accountability and school performance: Implications for restructuring schools. *Harvard Educational Review*, 67(1), 401-474. <http://hepg.org/her-home/home>
- Newman-Thomas, C., Smith, C. A., Zhao, X., Kethley, C. I., Rieth, H. J., Swanson, E. A., & Heo, Y. (2012). Technology-based practice to teach preservice teachers to assess oral reading fluency. *Journal of Special Education Technology*, 27(1), 15-33. Retrieved from <http://eric.ed.gov/>

- Nichols, S., & Berliner, D (2008). *Collateral damage: How high-stakes testing corrupts America's schools*. Cambridge, MA: Harvard Education Press.
- No Child Left Behind (NCLB) Act of 2001, Pub. L. No. 107-110, § 115, Stat. 1425 (2002).
- Opendakker, R. (2006). Advantages and disadvantages of four interview techniques in qualitative research. *Forum: Qualitative Social Research*, 7(4). Retrieved from <http://nbn-resolving.de/urn:nbn:de:0114-fqs0604118>
- Paris, S. (2000). Trojan horse in the schoolyard. *Issues in Education*, 6(1/2), 1-18. Retrieved from <http://ebscohost.com/>
- Reeves, B. (2004). *Accountability for learning: How teachers and school leaders can take charge*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Patton, M. Q. (2001). *Qualitative evaluation and research methods* (3rd ed.). Thousand Oaks, CA: Sage
- Picciano, A. G. (2006). *Data-driven decision making for effective school leaders*. Upper Saddle River, NJ: Pearson.
- Popham, W. J. (2006). *Assessment for educational leaders*. Boston, MA: Allyn and Bacon.
- Reeves, P., & Burt, W. (2006). Challenges in data-based decision-making: Voices from principals. *Educational Horizons*, 85(1), 65-71. Retrieved from <http://eric.ed.gov/>
- Remesal, A. (2011). Primary and secondary teachers' conceptions of assessment: A qualitative study. *Teaching and Teacher Education*, 27(2), 472-482. doi:10.1016/j.tate.2010.09.017
- Rolfe, G. (2006). Validity, trustworthiness, and rigour: Quality and the idea of qualitative research. *Journal of Advanced Nursing*, 53(3), 304-310. doi:10.1111/j.1365-2648.2006.03727.x
- Schram, T. (2006). *Conceptualizing and proposing qualitative research* (2nd ed.). Upper Saddle River, NJ: Pearson.
- Seidman, I. (2006). *Interviewing as qualitative research* (5th ed.). New York, NY: Teachers College Press.
- Smith, K. (2011). Professional development of teachers--A prerequisite for AfL to be successfully implemented in the classroom. *Studies in Educational Evaluation*, 37(1), 55-61. doi:10.1016/j.stueduc.2011.03.005
- Spring, J. (2005). *Conflict of interests: The politics of American education* (5th ed.). New York, NY: McGraw-Hill.
- Stiggins, R. J. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan*, 83(10) 758-765. <http://dx.doi.org/10.1177/003172170208301010>

- Supovitz, J. A., & Klein, V. (2003). *Mapping a course for improved student learning: How innovative schools systematically use student performance data to guide improvement*. Philadelphia, PA: Consortium for Policy Research in Education.
- Stake, R. (2010). *Qualitative research: Studying how things work*. New York, NY: The Gulliford Press.
- Symonds, K. (2003). *After the test: How schools are using data to close the achievement gap*. San Francisco, CA: Bay Area School Reform Collaborative.
- Tabachnick, B. G., & Fidell, L. S. (2012). *Using multivariate statistics* (6th ed.). Boston, MA: Pearson.
- Thorn, C. (2002, April). *Data use in the classroom: The challenges of implementing data-based decision making at the school level*. Paper presented at the Annual Meeting of the American Educational Research Association, New Orleans, LA.
- U.S. Department of Education. (2002). *Overview of No Child Left Behind Act*. Retrieved from <http://www.ed.gov/nclb>
- U.S. Department of Education. (2004). *No Child Left Behind: A toolkit for teachers*. Retrieved from <https://www2.ed.gov/teachers/nclbguide/nclb-teachers-toolkit.pdf>
- U.S. Department of Education, Office of Planning, Evaluation and Policy Development. (2008). *Teachers' use of student data systems to improve instruction: 2005 to 2007*. Washington, DC: Author.
- U.S. Department of Education, Office of Planning, Evaluation and Policy Development. (2009). *Implementing data-informed decision making in schools: Teacher access, supports and use*. Washington, DC: Author.
- U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Child Health and Human Development, National Reading Panel. (2000). *Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction* (NIH Publication No. 00-4754). Retrieved from <http://www.nichd.nih.gov/publications/pubs/nrp/Pages/smallbook.aspx>
- Valente, W. D., & Valente, C. M. (2001). *Law in the schools* (5th ed.). Upper Saddle River, NJ: Merrill.
- Vasquez, E., Forbush, D. E., Mason, L. L., Lockwood, A. R., & Glead, L. (2011). Delivery and evaluation of synchronous online reading tutoring to students at-risk of reading failure. *Rural Special Education Quarterly*, 30(3), 16-26. Retrieved from <http://ebscohost.com>
- Waite, D., Boone, M., McGhee, M. (2001). A critical sociocultural view of accountability. *Journal of School Leadership*, 11(3), 182–203. Retrieved from <http://eric.ed.gov/>

- Wayman, J. (2005). Involving teachers in data-driven decision making: Using computer data systems to support teacher inquiry and reflection. *Journal of Education for Students Placed at Risk*, 10(3), 295-308. http://dx.doi.org/10.1207/s15327671espr1003_5
- Wayman, J., Midgley, S., & Stringfield, S. (2006). Leadership for data-based decision-making: Collaborative data teams. In A. Danzig K., Borman, B., Jones, & B. Wright (Eds.), *New models of professional development for learner centered leadership* (pp. 189-206). Mahwah, NJ: Erlbaum.
- Wayman, J., & Stringfield, S. (2006). Technology-supported involvement of entire faculties in examination of student data for instructional improvement. *American Journal of Education*, 112(4), 549-571. <http://dx.doi.org/10.1086/505059>
- Wayman, J. C., Cho, V., & Johnston, M. T. (2007). *The data-informed district: A district-wide evaluation of data use in the Natrona County School District*. Austin, TX: The University of Texas.
- Wayman, J. D., Brewer, C., & Stringfield, S. (2009, April). *Leadership for effective data use*. Paper presented at the Annual Meeting of the American Educational Research Association, San Diego, CA.
- Welch. (2002). *Decisions, decisions: The art of effective decision making*. Amherst, NY: Prometheus Books.
- Wenglinsky, H. (2002). How schools matter: The link between teacher classroom practices and student academic performance. *Education Policy Analysis Archives*, 10(12). Retrieved from <http://epaa.asu.edu/>
- William, D. (2011). What is assessment for learning? *Studies in Educational Evaluation*, 37(1), 3-14. doi:10.1016/j.stueduc.2011.03.001
- Willig, C. (2013). *Introducing qualitative research in psychology* (3rd ed.) Berkshire, UK: Open University Press.
- Yin, R. (1994). *Case study research: Design and methods* (2nd ed.). Beverly Hills, CA: Sage.
- Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Thousand Oaks, CA: Sage.
- Young, V. (2008). Supporting teachers' use of data: The role of organization and policy. In E. B. Mandinach & M. Honey (Eds.), *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Young, V. M., & Kim, D. H. (2010). Using assessments for instructional improvement: A literature review. *Education Policy Analysis Archives*, 18(19). Retrieved from <http://epaa.asu.edu/>

APPENDIX A
TRAINING CERTIFICATE

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

HUMAN RESEARCH CURRICULUM COMPLETION REPORT

Printed on 09/30/2014

LEARNER Tracy Bergmann (ID: 1557887)
PHONE 334-598-4408
EMAIL tabergmann@crimson.ua.edu
INSTITUTION University of Alabama
EXPIRATION DATE 04/09/2015

NON-MEDICAL INVESTIGATORS : Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social/Behavioral Research with human subjects.

COURSE/STAGE: Refresher Course/2
PASSED ON: 04/09/2013
REFERENCE ID: 6953519

REQUIRED MODULES	DATE COMPLETED	SCORE
University of Alabama	04/01/13	No Quiz
Biomed Refresher 2 - Instructions	04/01/13	No Quiz
Biomed Refresher 2 – History and Ethical Principles	04/02/13	3/3 (100%)
Biomed Refresher 2 – Regulations and Process	04/03/13	0/2 (0%)
Biomed Refresher 2 – Informed Consent	04/04/13	3/3 (100%)
Biomed Refresher 2 – SBR Methodologies in Biomedical Research	04/05/13	4/4 (100%)
Biomed Refresher 2 - Populations in Research Requiring Additional Considerations and/or Protections	04/05/13	1/1 (100%)
Biomed Refresher 2 – Vulnerable Subjects – Children	04/05/13	3/3 (100%)
Biomed Refresher 2 – Conflicts of Interest In Research Involving Human Subjects	04/09/13	2/3 (67%)
How to Complete the CITI Refresher Course and Receive a Completion Report	04/09/13	No Quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)

HUMAN RESEARCH CURRICULUM COMPLETION REPORT

Printed on 09/30/2014

LEARNER Tracy Bergmann (ID: 1557887)
PHONE 334-598-4408
EMAIL tabergmann@crimson.ua.edu
INSTITUTION University of Alabama
EXPIRATION DATE 01/28/2012

NON-MEDICAL INVESTIGATORS : Choose this group to satisfy CITI training requirements for Investigators and staff involved primarily in Social/Behavioral Research with human subjects.

COURSE/STAGE: Basic Course/1
PASSED ON: 01/28/2010
REFERENCE ID: 3966965

REQUIRED MODULES	DATE COMPLETED	SCORE
Belmont Report and CITI Course Introduction	01/14/10	3/3 (100%)
Students in Research	01/14/10	7/10 (70%)
History and Ethical Principles - SBE	01/14/10	4/4 (100%)
Defining Research with Human Subjects - SBE	01/16/10	5/5 (100%)
The Federal Regulations	01/16/10	5/5 (100%)
Assessing Risk - SBE	01/17/10	5/5 (100%)
Informed Consent	01/18/10	4/4 (100%)
Privacy and Confidentiality - SBE	01/20/10	2/3 (67%)
Research with Prisoners - SBE	01/20/10	4/4 (100%)
Research with Children - SBE	01/23/10	3/4 (75%)
Research in Public Elementary and Secondary Schools - SBE	01/23/10	4/4 (100%)
International Research - SBE	01/23/10	3/3 (100%)
Internet Research - SBE	01/24/10	5/5 (100%)
Research and HIPAA Privacy Protections	01/27/10	2/2 (100%)
Vulnerable Subjects - Research Involving Workers/Employees	01/27/10	4/4 (100%)
Conflicts of Interest in Research Involving Human Subjects	01/28/10	2/2 (100%)
University of Alabama	01/28/10	No Quiz

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI participating institution. Falsified information and unauthorized use of the CITI course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.
Professor, University of Miami
Director Office of Research Education
CITI Course Coordinator

APPENDIX B
INFORMED CONSENT

AAHRPP DOCUMENT #193

**UNIVERSITY OF ALABAMA
HUMAN RESEARCH PROTECTION PROGRAM**

CONSENT FORM FOR NONMEDICAL INTERVIEW STUDY

UNIVERSITY OF ALABAMA

Informed Consent for a Research Study

You are being asked to be in a research study. This study is called, “How Teachers in on Elementary School” use Reading Street assessment data. This study is being done by Tracy Bergmann. She is a doctoral candidate in the Department of Educational Leadership, Policy and Technology Studies at the University of Alabama.

What is this study about?

This single case qualitative study, utilizing a phenomenological approach, will endeavor to find out how teachers in one elementary school are using reading assessment data from the Scott Foresman’s Curriculum, Reading Street. The study will consist of two components. The first component will consist of five individual teacher interviews while the second component will consist of a focus group interview.

Why is this study important—What good will the results do?

This study is important because it can provide information about how teachers are currently using Reading Street assessment data, what supports are crucial for the effective use of the data, and what barriers may be preventing effective data use. Understanding how these data are currently being used is necessary in determining future plans of action and training for teachers’ use of data in the classroom.

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

You have been asked to take part in this study because you have taught Reading Street for at least three years and have collected student assessment data from Reading Street. Based upon these experiences, you have the knowledge to answer the research questions of this study.

How many other people will be in this study?

The investigator hopes to interview five individual classroom teachers, one from each grade level, second through fifth grades, and conduct one focus group interview with the Continuous School Improvement Team which is comprised of six members, one third grade teacher, one fourth grade teacher, one educational technologist, one speech teacher, and the school principal.

What will I be asked to do in this study?

If you agree to be in this study, Mrs. Bergmann will interview you concerning your experiences with using Reading Street assessment data. The interviews will take place at the [REDACTED] after school hours. The interviews will last approximately 30 to 45 minutes. The interviewer would like to audio-record the interview to be sure that all your words are captured and transcribed accurately. However, if you do not want to be taped, simply tell the interviewer, who will then take handwritten notes.

How much time will I spend being in this study?

The individual interviews are anticipated to last between 45-60 minutes, depending on how much information about your experiences using Reading Street assessment data you choose to share. The focus group interview is anticipated to take from 45 minutes to one hour.

Will being in this study cost me anything?

The only cost to you from this study is your interview time.

Will I be compensated for being in this study?

You will not be compensated financially for your participation in this study.

What are the risks (problems or dangers) from being in this study?

There are no risks involved in participating in this study.

What are the benefits of being in this study?

Participation in this study provides an opportunity to grow both personally and professionally by reflecting on your experiences with using Reading Street assessment data. Participating in an individual interview or focus group interview may increase your knowledge of how different grade level teachers in the [REDACTED] are using the Reading Street assessment data. The results of the study may provide information that can be used to advance all teachers' use of Reading Street assessment data.

How will my privacy be protected?

Your privacy will be protected throughout this study. Your name will not be identified in the study. The taped interviews will be destroyed after the information has been documented.

How will my confidentiality be protected?

The only place where your name appears in connection with this study is on this informed consent. The consent forms will be stored in a locked file drawer in Mrs. Bergmann's classroom. File drawer keys are kept in a secure location. I am not using a name- number list so there is no way to link a consent form to an interview. When the interview is recorded, your name will not be used so no one can identify you from the recordings. I will destroy all audio recordings at the conclusion of the study. This

should occur within one month of the interview. You may also refuse to be audiotaped, in which case the interviewer, Mrs. Bergmann, will take handwritten notes.

This study will be printed and on file at the University of Alabama but participants will be identified only as “elementary teachers”. No one will be able to recognize you by reading the study.

What are the alternatives to being in this study?

The only alternative is not to participate.

What are my rights as a participant?

Being in this study is totally voluntary. It is your free choice. You may choose not to be in it at all. If you start the study, you can stop at any time. Not participating or stopping participation will have no effect on your relationships with the University of Alabama nor with the researcher.

The University of Alabama Institutional Review Board is a committee that looks out for the ethical treatment of people in research studies. They may review the study records if they wish. This is to be sure that people in research studies are being treated fairly and that the study is being carried out as planned.

Who do I call if I have questions or problems?

If you have questions about this study right now, please ask them. If you have questions later on, please call Mrs. Bergmann at 334-791-0989. If you have questions or complaints about your rights as a research participant, call Ms. Tanta Myles, the Research Compliance Officer of the University at 205-348-8461 or toll-free at 1-877-820-3066..

You may also ask questions, make a suggestion, or file complaints and concerns through the IRB Outreach Website at http://osp.ua.edu/site/PRCO_Welcome.html . After you participate, you are encouraged to complete the survey for research participants that is online there, or you may ask Mrs. Bergmann for a copy of it. You may also e-mail us at participantoutreach@bama.ua.edu.

The researcher’s advisor’s name is Dr. Becky Atkinson. She can be reached at:
The University of Alabama
323 Graves Hall
Tuscaloosa, Alabama

Email: atkin014@bamaed.ua.edu

Phone: 205-348-0357

I have read this consent form. I have had a chance to ask questions.

Signature of Research Participant

Date

Signature of Investigator

Date

- I agree to have my interview audio recorded.
- I do not agree to have my interview audio recorded.

APPENDIX C
INDIVIDUAL TEACHER INTERVIEW QUESTIONS

1. Describe experiences that have facilitated your use of *Reading Street* data.
2. Describe experiences that have hindered your use of *Reading Street* data.
3. Describe your experiences with professional development as it relates to using *Reading Street* data.
4. Describe your experiences with leadership as it relates to using *Reading Street* data.
5. What experiences have you had with technology as it relates to using *Reading Street* data?
6. When do you collect *Reading Street* data?
7. How do you use *Reading Street* data to make changes in your instruction?
8. Describe your experiences with using *Reading Street* data within your classroom.
9. Describe your experiences with using *Reading Street* data as a grade level team.
10. Describe your experiences with using *Reading Street* data formatively?
11. Describe your experiences with using *Reading Street* data summatively?
12. How do you identify a problem when looking at *Reading Street*
13. What would facilitate your use of *Reading Street* data?
14. Who else besides teachers define problems?
15. How does data from *Reading Street* move from summative to formative judgments, if they do?
16. Do the processes of data analysis lead to improved student learning and instructional practice?

APPENDIX D
CSI TEAM INTERVIEW QUESTIONS

1. Which *Reading Street* data do you collect, analyze, and display to show student growth in reading?
2. Discuss your experiences with collecting grade level *Reading Street* data.
3. Describe your experiences with supports for collecting grade level *Reading Street* data.
4. Discuss your experiences with organizing grade level *Reading Street* data.
5. Describe your experiences with supports for organizing grade level *Reading Street* data.
6. Discuss your experiences with analyzing grade level *Reading Street* data.
7. Describe your experiences with supports for analyzing grade level *Reading Street* data.
8. As the data team, describe your experiences with leadership as it relates to collecting, analyzing, and displaying *Reading Street* data.
9. Discuss how the processes involved in collecting, analyzing, and displaying data affect the culture of our school.

APPENDIX E
IRB APPROVAL

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

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

November 4, 2014

Tracy Bergmann
ELPTS
College of Education
Box 870302

Re: IRB # 14-OR-375, "How Teachers in One Elementary School use
Scott Foresman's Reading Street Assessment Data"

Dear Ms. Bergmann:

The University of Alabama Institutional Review Board has granted
approval for your proposed research.

Your application has been given expedited approval according to 45 CFR
part 46. Approval has been given under expedited review category 7 as
outlined below:

*(7) Research on individual or group characteristics or behavior
(including, but not limited to, research on perception, cognition,
motivation, identity, language, communication, cultural beliefs or
practices, and social behavior) or research employing survey, interview,
oral history, focus group, program evaluation, human factors evaluation,
or quality assurance methodologies.*

Your application will expire on November 3, 2015. If your research will
continue beyond this date, please complete the relevant portions of the
IRB Renewal Application. If you wish to modify the application, please
complete the Modification of an Approved Protocol Form. Changes in this
study cannot be initiated without IRB approval, except when necessary to
eliminate apparent immediate hazards to participants. When the study
closes, please complete the Request for Study Closure Form.

Please use reproductions of the IRB approved stamped consent forms to
obtain consent from your participants.

Should you need to submit any further correspondence regarding this
proposal, please include the above application number.

Good luck with your research.

Sincerely,



358 Rose Administration Building
Box 870127
Tuscaloosa, Alabama 35487-0127
(205) 348-8461
FAX (205) 348-7189
TOLL FREE (877) 820-3066

Carpanato T. Myles, MSM, CIM, CIP
Director & Research Compliance Officer
Office for Research Compliance
The University of Alabama