

## ABSTRACT

Title of Document:

**THE INSTRUCTIONAL LITERACY  
COACH'S ROLE IN THE DATA-DRIVEN  
DECISION MAKING PROCESS IN AN  
URBAN SCHOOL**

Natalie M. Arthurs, Doctor of Philosophy, 2014

Directed By:

Professor Victoria-María MacDonald,  
Department of Teaching and Learning,  
Leadership and Policy (Minority & Urban  
Education)

The current high-stakes testing environment has resulted in intense pressure on schools to build professional learning communities focused on data-driven decision-making (DDDM). As a result, schools and school districts are implementing systems where teachers, teacher leaders, and school leaders collaboratively analyze assessment data and use the results to inform instructional practice. One promising approach to providing teachers better guidance on using data to inform practice is the use of instructional coaches – master teachers who offer on-site and ongoing instructional support for teachers. Even though there are current studies on the various roles of instructional coaches, one prominent role that has rarely been examined is the instructional coaches' role in data-driven decision making.

This qualitative case study examines the convergence of two popular school improvement policies: instructional coaching and data-driven decision making (DDDM).

Building upon current large-scale research studies on DDDM as well as instructional coaching, this study examined how an instructional literacy coach in an urban, high-poverty, public charter middle school supports DDDM and how this support relates to teacher practices. Interviews, observations, and document/artifact analysis were utilized to inform this study. Findings show that while the instructional coach improves teachers' *data use* knowledge and skills, they also indicate that the coach's support had minimal impact on actual teaching practices. Findings also indicate that the coach possessed key attributes that deemed him 'effective' in his support to teachers with DDDM: strong pedagogical and content expertise, which allowed him to gain the respect of teachers; strong interpersonal skills, which assisted him with building trusting relationships; and, a strong belief in the capacity of others to grow and develop, which helped him to develop teachers' self-efficacy. Furthermore, an analysis of the attributes of an effective instructional literacy coach may contribute to the way schools and school districts evaluate the effectiveness of their instructional coaches. Results of the study also have potential implications for federal and local policy on professional development for teachers, teacher leaders, and instructional coaches.

*Keywords:* Data-driven decision making; instructional coach; professional development

THE INSTRUCTIONAL LITERACY COACH'S ROLE IN THE DATA-DRIVEN  
DECISION MAKING PROCESS IN AN URBAN SCHOOL

By

Natalie M. Arthurs

Dissertation submitted to the Faculty of the Graduate School of the  
University of Maryland, College Park, in partial fulfillment  
of the requirements for the degree of  
Doctor of Philosophy  
2014

Advisory Committee:  
Professor Victoria-María MacDonald, Chair  
Professor Tara Brown  
Professor Natasha Cabrera  
Professor Wayne Slater  
Professor Jennifer Turner

© Copyright by  
Natalie Arthurs  
2014

## ACKNOWLEDGEMENTS

With God, all things are possible! Thank you, Lord!

The successful completion of my doctoral studies could not have been accomplished without the support and assistance of people in both my academic and personal lives. I am sincerely appreciative of those who helped me during this endeavor. Without their continuous encouragement, patience, and love throughout the dissertation writing process, this would not have been possible.

I would like to thank Dr. Victoria-María MacDonald, my advisor and dissertation chair, for her support throughout the entire process. I will never forget the phrase you used to encourage me over and over again, “Tu vales mucho!”

I also extend my sincere gratitude to the members of my dissertation committee, including Dr. Tara Brown, Dr. Natasha Cabrera, Dr. Wayne Slater, and Dr. Jennifer Turner. I would also like to thank Dr. Julie Marsh for sharing interview protocols with me as a stepping-stone for my study. Additionally, I would like to thank Dr. Marian White-Hood for your mentorship as well as the opportunity to conduct a study in your school. Your support was instrumental in making this study possible.

Finally, I am truly grateful to my mother, Phillipia Arthurs, my sisters, Reneé and Kristina, and my significant other, Ross. Without your love, patience, encouragement, and the final push, this would not have been possible. God is awesome!

## Table of Contents

<b>CHAPTER 1: INTRODUCTION</b> .....	<b>1</b>
<b>Statement of the Problem</b> .....	<b>1</b>
<b>Purpose of the Study</b> .....	<b>2</b>
<b>Research Questions</b> .....	<b>4</b>
<b>Significance of the Study</b> .....	<b>5</b>
<b>Research Site Description</b> .....	<b>7</b>
<b>Methodology</b> .....	<b>9</b>
Positionality.....	10
<b>Delimitations and Limitations of the Study</b> .....	<b>11</b>
<b>Assumptions</b> .....	<b>12</b>
<b>Definition of Key Terms</b> .....	<b>13</b>
<b>Organization of the Study</b> .....	<b>16</b>
<b>CHAPTER 2: LITERATURE REVIEW</b> .....	<b>18</b>
<b>Introduction</b> .....	<b>18</b>
<b>Data-Driven Decision-Making (DDDM)</b> .....	<b>18</b>
Data Use Practices.....	21
Factors Influencing the Use of Data.....	24
Data Analysis Processes.....	30
<b>Summary</b> .....	<b>33</b>
<b>Professional Development and Instructional Coaching</b> .....	<b>34</b>
Professional Development and the Learning Theory.....	34
<b>Professional Development and Instructional Coaching</b> .....	<b>36</b>
Overview.....	36
History of Coaching.....	39
Characteristics of Effective Coaches.....	50
<b>Coaching as a Vehicle for Professional Development</b> .....	<b>53</b>
<b>Research on Coaching</b> .....	<b>58</b>
Effectiveness of Coaching on Teacher Practice and Student Achievement.....	58
<b>Limitations and Implications</b> .....	<b>65</b>
<b>Instructional Coaching and DDDM</b> .....	<b>69</b>
<b>Conceptual Framework</b> .....	<b>70</b>
<b>CHAPTER 3: RESEARCH METHODOLOGY</b> .....	<b>75</b>
<b>Overview</b> .....	<b>75</b>
<b>Research Questions</b> .....	<b>75</b>
<b>Case Study Methodology</b> .....	<b>76</b>
Critical Case Study.....	78
DDDM and Critical Case.....	78
Achievement History and Critical Case.....	81
<b>Site Description</b> .....	<b>82</b>
<b>Sample/Participant Selection</b> .....	<b>84</b>

<b>Data Collection</b> .....	<b>85</b>
Confidentiality .....	88
<b>Data Analysis</b> .....	<b>89</b>
Validity .....	94
Positionality .....	95
<b>Delimitations and Limitations of the Study</b> .....	<b>96</b>
<b>Summary</b> .....	<b>97</b>
<b>CHAPTER 4: RESULTS</b> .....	<b>99</b>
<b>Overview</b> .....	<b>99</b>
<b>Three Prominent Roles</b> .....	<b>99</b>
Curriculum and Instruction Specialist .....	99
Classroom Supporter .....	103
Data Coach .....	107
<b>Summary</b> .....	<b>115</b>
<b>Providing Differentiated Support to Teachers</b> .....	<b>119</b>
<b>Building Trusting Relationships and Teachers’ Confidence in Data Use</b> .....	<b>125</b>
<b>Creating a Culture of Collaboration for Data Use</b> .....	<b>128</b>
<b>Developing Capacity of Teachers as Reflective Practitioners</b> .....	<b>136</b>
<b>CHAPTER 5: DISCUSSION AND IMPLICATIONS</b> .....	<b>144</b>
<b>Overview</b> .....	<b>144</b>
<b>Discussion</b> .....	<b>144</b>
Coaching Improved School Culture Through the Collaborative Use of Data .....	147
Coaching Enhanced Teacher Knowledge and Skills of Using Data to Drive Instruction .....	153
Coaching Increased Leadership’s Capacity to Analyze and Reflect on Data .....	157
<b>Implications for Practice</b> .....	<b>158</b>
<b>Implications for Policy</b> .....	<b>162</b>
<b>Implications for Research</b> .....	<b>163</b>
<b>Limitations</b> .....	<b>165</b>
<b>Concluding Remarks</b> .....	<b>168</b>
<b>APPENDICES</b> .....	<b>170</b>
<b>Appendix A</b> .....	<b>170</b>
<b>Appendix B</b> .....	<b>171</b>
<b>Appendix C</b> .....	<b>173</b>
<b>Appendix D</b> .....	<b>177</b>
<b>Appendix E</b> .....	<b>183</b>
<b>Appendix F</b> .....	<b>190</b>
<b>Appendix G</b> .....	<b>194</b>
<b>Appendix H</b> .....	<b>198</b>
<b>Appendix I</b> .....	<b>202</b>
<b>Appendix J</b> .....	<b>203</b>
<b>Appendix K</b> .....	<b>205</b>
<b>Appendix L</b> .....	<b>206</b>
<b>Appendix M</b> .....	<b>207</b>
<b>Appendix N</b> .....	<b>208</b>

<b>Appendix O</b> .....	<b>209</b>
<b>Appendix P</b> .....	<b>212</b>
<b>Appendix Q</b> .....	<b>213</b>
<b>Appendix R</b> .....	<b>214</b>
<b>Appendix S</b> .....	<b>215</b>
<b>Appendix T</b> .....	<b>219</b>
<b>REFERENCES</b> .....	<b>220</b>



## CHAPTER 1: INTRODUCTION

### **Statement of the Problem**

The enactment of the No Child Left Behind Act (NCLB) of 2001 indicated a new era in education reform. Never before had a piece of legislation placed such stringent requirements on states and school districts for the academic improvement of all students, and never before has failure to meet federally mandated standards had such drastic consequences for schools. NCLB requires annual testing of all students in grades three through eight and at least once in grades ten through twelve. Disseminated test results must be disaggregated by factors such as race, gender, English proficiency, and socioeconomic status with schools expected to demonstrate a predetermined measure of adequate yearly progress (AYP) toward a goal of universal proficiency by 2014 for each subgroup. A school's failure to meet AYP targets in any category can result in the eventual initiation of increasingly severe sanctions including state takeover (U.S. Department of Education, 2002).

One of the key means by which policymakers and education reform advocates contend that educators should respond to the challenges imposed by NCLB is to become data-driven. In recent years, the term, "Data-Driven Decision-Making" (DDDM) has become a ubiquitous addition to educational discourse. Researchers and policymakers often state that schools should engage in data-driven decision-making (DDDM) or that teachers should use data to inform instruction (Mandinach & Honey, 2008). The intense focus on data has come as a result of the severe consequences associated with schools failing to make AYP towards the universal achievement targets.

Furthermore, schools that do not make AYP for two or more years are required to develop and implement a school improvement plan that includes professional development programs for teachers in order to improve teacher practice. Currently, one way schools and school districts invest time and money in professional development for teachers is through *instructional coaching*. As schools and school districts struggle to close the achievement gap and meet the provisions of the No Child Left Behind (NCLB) Act, there has been an increased emphasis on instructional coaching as a vehicle for professional development – to improve teacher practice, and, ultimately, student learning (Poglinco & Bach, 2004; Dole, 2004). In fact, school-based coaching programs are now one of the fastest growing forms of professional development and are being proclaimed as a promising strategy to improve data-driven instruction and ultimately enhance student achievement (Poglinco & Bach, 2004; Darling-Hammond, Wei, Andree, Richardson, & Orphanos, 2009). Despite the widespread use of instructional coaches and DDDM, there is little research examining how instructional coaches support DDDM in schools and the extent to which these efforts are associated with improvements in teaching and student achievement.

### **Purpose of the Study**

Most schools and school districts collect data regularly, whether it is in the form of daily attendance rates, student course enrollment and grades, or student demographic information. Schools are required to report specific student data as a condition for receiving federal and/or state funds. School leaders often utilize student grades and anecdotal information in assessing the quality of teaching and learning in their schools. Johnson (2006) asserts, “Effective educators make effective decisions, decisions based on

accurate information.” Johnson (2006) argues that implementation of a complete program of data collection and use can lead to the improvement of education more than any other educational innovation of the last century. Johnson (2006) contends that school leaders must recognize that data-driven decision making is essential to school improvement and embrace it. Thus, school leaders have no choice but to implement systematic collection of data and become sophisticated in its use. “With *No Child Left Behind*, data will have to be used not just collected. It will be used to plot progress, or lack thereof, plan and execute instructional interventions, report results, as well as hold students, teachers, administrators, and school systems accountable” (Doyle, 2003).

When school leaders embrace the importance of data-driven decision making, there are a number of hurdles to overcome. According to Bernhardt (2004), some of the most common barriers to the effective use of data are:

1. Few people in schools and districts are adequately trained to gather and analyze data or establish and maintain databases.
2. Administrators and teachers do not see gathering and analyzing data as part of their jobs.
3. Gathering data is perceived to be a waste of time (after all we are here every day – we know what the problems are).
4. Schools do not have databases that allow for easy access and analysis of data.
5. Teachers have been trained to be subject-oriented, not data-oriented; process-oriented rather than product-oriented.
6. There is a lack of professional development for teachers to understand why data are important and how data can make a difference in their teaching.
7. Some teachers see data as another thing that takes away from teaching.
8. Data have been used in negative ways in the past.
9. There is confusion upon which data to focus.
10. There are not enough good examples of schools gathering, maintaining, and benefiting from the use of data (p. 6).

Barriers to effectively using data continue to hinder schools and school systems from improving teacher practice and student achievement. Schmoker (2003) describes the following encounter: “I recently sat with a district administrator eager to understand her

district's achievement results. Pages of data and statistics breakdowns covered the table. Looking somewhat helpless, she threw up her hands and asked me, "What do I do with all this?" (p. 22). It is the common tendency to complicate the analytical use of student performance data that prevents many educators from reaping the benefits of using data to inform decision making (Schmoker, 2003). One solution to the problem of navigating the often labyrinthine world of data is providing professional development to teachers and administrators specifically on the effective use of data to inform instruction. Many schools and school systems are hiring instructional coaches to support the use of data to improve teaching practice and student achievement.

This qualitative case study examines the convergence of the two popular school improvement policies: instructional coaching and data-driven decision making (DDDM). Even though instructional coaches perform many roles and coaching activities, spending time helping teachers analyze student data to guide instruction is a key role that has been minimally examined in current research studies. Drawing on the current large-scale research studies on DDDM as well as instructional coaching, the purpose of this study is to examine how an instructional literacy coach in an urban, high-poverty, public charter middle school supports DDDM by building teacher capacity in the use of data and how this support relates to teachers' knowledge, skills, and practice.

### **Research Questions**

The research study is guided by one overarching research question with subsidiary questions:

Overarching Research Question:

1) What is the role of the instructional coach in the data-driven decision making process (data analysis and support) in an urban, low-performing, public charter middle school?

Subsidiary Questions:

- a) How does the instructional coach in an urban, low-performing, public charter middle school encourage and support teachers in using data to inform their instruction and improve student learning?
  - i) How does the instructional coach encourage and support the use of data to inform instruction?
  - ii) What challenges are encountered by the instructional coach in supporting teachers' use of data to inform instruction? How are these challenges managed?
  - iii) What structures are in place, if any, that assist the instructional coach with facilitating the use of data to inform decision-making regarding instruction?

### **Significance of the Study**

The research on data-driven decision making (DDDM) and instructional coaching is emerging. One mixed methods study of a statewide reading coach program in Florida middle schools examined how coaches support DDDM and how this support relates to student and teacher outcomes (Marsh, McCombs, and Martorell, 2010). Marsh, McCombs, and Martorell (2010) found that although the majority of reading coaches spent time helping teachers to analyze student data to guide instruction, data support was just one role among many that the coach performed. The researchers also discovered that data analysis support had a significant association with both perceived improvements in

teaching and higher student achievement. Marsh, McCombs, and Martorell (2010) argue, “To further understand and enhance the roles coaches play in supporting DDDM, more research is needed to identify the specific skills and knowledge needed to effectively bridge the divide between data and practice for teachers, and how to build this capacity on a large scale” (p. 902). Even though this particular research study has set the stage for examining the role of coaches in data-driven decision making, future studies are needed to identify how an individual coach’s perceived effectiveness changes as he or she gains professional learning experiences through various professional development opportunities as well as how teachers’ effectiveness changes as they work with a coach over a period of time. Also, future research should include direct observational measures of teacher practice, which will add depth to the understanding of how coaches may influence instruction.

This study seeks to begin to add to the knowledge base of DDDM and Instructional Coaching by focusing on one single case of literacy coaching in a low-performing, urban, middle school in order to examine the phenomenon more closely. Answers to the research questions will contribute to policy and practice in several ways. First, given the significant federal, state, and local resources allocated to coaching programs (e.g., Reading First and America’s Choice<sup>1</sup>) and to generating data (e.g., interim assessments and state testing programs), it is vital for policy makers to better understand if and how instructional coaches support the effective use of data and whether these investments result in better teacher and student outcomes. Second, if instructional

---

<sup>1</sup> The America’s Choice School Design is one of the nation’s largest comprehensive, K-12 school improvement programs, serving approximately 325,00 students in 16 states and the District of Columbia (Toch, 2005). The National Center on Education and Economy, a nonprofit organization founded in 1988, launched America’s Choice in 1998 after conducting extensive research on the best educational practices nationwide and abroad ([www.americaschoice.org](http://www.americaschoice.org)).

coaching proves to be an effective means of facilitating data-use and improved outcomes in urban, high-poverty schools, then administrators, instructional coaches, and teachers would benefit from information about what constitutes and enables effective coaching practice in this area.

### **Research Site Description**

The study was conducted at Great Schools Academy<sup>2</sup>, a middle school in a high-poverty, urban community. The school was formed in 1998 by a foundation initially created as a program for teens involved in the juvenile justice system. The program offered youth opportunities to earn money, learn marketable skills, and participate in an academic environment that offered small class sizes and individualized instruction from highly qualified teachers. Great Schools Academy was established as a middle school campus in 2007, and it was accredited by the Middle States Association of Colleges and Schools Commission on Secondary Schools through 2013. As of May 2013, the status of the school's accreditation was unknown. The school serves 210 students in grades six through eight. Approximately 99.5% of the student population is African American and 0.5% of the student population is Hispanic/Latino. Ninety-four percent of the students receive free and reduced meals, and 24.5% of the students are identified as students with disabilities<sup>3</sup> and are taught via an inclusion model. There are four classes in each grade level, and the average class size is 20 students.

Great Schools Academy students face significant challenges in their lives.

Twenty-two percent are involved in the foster care system or abused, and twenty-one

---

<sup>2</sup> Great School Academy is the pseudonym for the research site.

<sup>3</sup> Students with disabilities are also referred to as special education students.

percent are involved in the juvenile justice system. Great Schools Academy's comprehensive school program is designed to be transformational through four key components: an engaging and relevant academic program that is integrated with a robust socio-emotional learning program; extended day/extended year activities, and their future focus and post-secondary programming that enables students to plan for success after middle and high school. Since Great Schools Academy is a neighborhood school, the student re-enrollment rate is eighty-four percent. However, there is high teacher turnover. Approximately seventy-four percent of the teachers (including fifty-seven percent of ineffective teachers) were planning to leave Great School Academy within the next one to two years<sup>4</sup>. One hundred percent of the teachers are African American.

Over the past five years, Great Schools Academy has made large investments in building its data-use capacity. These investments include the purchase of a data-warehousing program that stores a large variety of the student data to which all teachers have access. Teachers, coaches, and school leaders are able to use the software to access a wide variety of reports that can be disaggregated based on user preference. The use of software to access data reports provides teachers, coaches, and school leaders with access to the results of past standardized test data, periodic diagnostic tests, various reading inventories, attendance, and discipline records. To facilitate analysis of these data for the purpose of informing instructional decision-making, in 2011, the school implemented an instructional coaching program, in which they hired an instructional literacy coach (to support the English/language arts and social studies teachers) and an instructional mathematics coach (to support the mathematics and science teachers). The instructional

---

<sup>4</sup> This data was taken from The New Teacher Project's (TNTPs) Instructional Culture Insight Survey. The Instructional Culture Insight survey is a diagnostic tool that distills teacher feedback into a clear roadmap to a stronger school culture (<http://tntp.org/what-we-do/policies/in-action/insight> retrieved on May 13, 2014).



coaches perform many roles including meeting with teachers weekly to either provide feedback on an observation, support the teacher with planning a lesson, and facilitate analyses of student work and data. Even though this is a high-risk student population, it is not the purpose of this study to examine the relationship between the instructional coaches and students. Additionally, the students' backgrounds did not emerge in the findings.

### **Methodology**

This study is a descriptive, analytic qualitative case study of one instructional literacy coach's support with teachers' data-driven decision making processes in a single high-poverty, low-performing, public charter middle school that has implemented formal structures for the analysis of assessment data through the *Data Wise Improvement Process*<sup>5</sup>. Data collection methods included interviews with the principal, teachers, and the instructional coach<sup>6</sup> regarding the extent to which the instructional coach focuses his work on data analysis and support, as well as how the instructional coach's data-support influences teachers' instructional practices. The interviews provided information on the types of support and professional learning the instructional coach receives that promotes his data-support activities.

Observations of one and a half data analysis meetings were conducted to triangulate data obtained via interviews. I recorded fieldnotes during my observations

---

<sup>5</sup> Boudett, City, and Murnane (2005) describe the *Data Wise Improvement Process* as the cycle of "schools [being] engaged in a set of activities (i.e., prepare) to establish a foundation for learning from student assessment results. They then inquire, and subsequently act on what they learned. Then, they cycle back to further inquiry" (p. 4).

<sup>6</sup> The instructional literacy coach at this school site is a male, and he will be referred to as "he" throughout this document.

and used them to look for instances of the instructional coach's support with data-driven instruction that stood out as important to the focus of the study. Additionally, I kept post-observation analytic memos to note anything that should be discussed or referenced in the interviews. Finally, I also collected documents and artifacts including data printouts, data displays, data analysis meeting minutes, and other materials participants use in regards to data-driven instruction. Data printouts and data displays were on a class-level and school-level and not on a student-level. Excerpts from these artifacts were used as prompts during interviews. Document (artifact) analysis also served as an additional means of corroborating interview and observation data.

Data analysis for this study occurred through a process of inductive coding that facilitated the development of central categories and themes. This inductive approach was particularly useful given the emergent nature of the data. A triangulation process was utilized to attend to issues of validity. The varied methods of data collection that were employed in this study allowed for comparison between data sources. As a result, teacher interviews were compared to the coach interview, the principal interview, observation fieldnotes, and document analysis to identify inconsistencies that were further explored through a process of theoretical sampling (Glaser & Strauss, 1967).

### **Positionality**

In qualitative research, the researcher is a tool of collecting and analyzing data. Thus, I will describe my background and how I became interested in the topic of the study in order to help identify and uncover possible assumptions and preconceived notions that can influence the way I view and interpret the data.

As an educator, teacher leader, and school leader for the last eleven years, I have always worked in high-poverty, low-performing, urban schools. In each of these schools, there was an instructional coach whose role was to support and build the capacity of teachers. I first came to have a curiosity about the impact of instructional coaching on teacher practice when I, in fact, participated in an Instructional Literacy Coaching Certificate program offered through the University of Maryland and a local public school system in 2008. This certificate program offered six three-credit courses geared around literacy and coaching/mentoring. In 2008, I also became an instructional mathematics coach. My thoughts were that being knowledgeable in all content areas would build my capacity to better support teachers in all areas of instruction. I aimed at building teacher capacity by modeling lessons, observing teachers and providing feedback, co-teaching, planning lessons collaboratively, assisting with the analysis and utilization of data, and facilitating professional development sessions. I wanted to ensure that my support to teachers was not in vain. I also started my doctorate in 2008, and I was able to apply my literacy coaching course credits to my doctorate; therefore, I opted out of actually receiving the Literacy Coach Certificate even though I completed all courses.

### **Delimitations and Limitations of the Study**

Due to the small sample size, study results are not generalizable beyond the specific populations from which the sample was drawn. This study is delimited to the support of one instructional literacy coach with teachers' data-driven decision making processes. It limits the ability to make generalizations that are applicable to other schools and school districts that may not share its particular demographics.

Interviews are limited to the principal, the instructional coach, and teachers who are directly supported by the instructional coach. The limited number of responders hinders the researcher from making generalizations that apply to all staff throughout the school or even all staff within a district. The researcher must also be cognizant of the possibility that teachers responding to the interview questions share similar characteristics and represent a particular subgroup (African American), thus providing a set of perceptions and views that are not representative of all staff members. Also, the researcher was in the same New Leaders Emerging Leaders program with the instructional coach, which can cause potential biases.

Since the questions are designed to determine individuals' perceptions of the instructional coach's support with the data-driven decision making process and the perceptions of its impact on teacher practice, the validity of the results is limited by the accuracy and dependability of their responses.

### **Assumptions**

The following assumptions are made:

- 1) The researcher assumes that all participants will answer the interview questions honestly.
- 2) The researcher assumes that all participants in the core content areas of English/language arts and social studies receive some form of instructional coaching and support with the data-driven decision making process from the instructional literacy coach in order to accurately respond to the interview questions.

## Definition of Key Terms

The following definitions are provided to ensure uniformity and understanding of these terms throughout the study. The researcher developed all definitions not accompanied by a citation.

**Coaching:** The fundamental objective of coaching is capacity building; the development of knowledge and skills for individuals as well as organizations (Coggins et al., 2003).

**Content Coaching:** The core of content coaching is simple: to improve learning, teachers must concentrate on pertinent, essential, rich content (West, 2007).

**Corrective Instruction:** Teachers following their assessments with instructional alternatives that present concepts in new ways and engage students in different and more appropriate learning experiences. High quality, corrective instruction is not the same as re-teaching, which often consists simply of restating the original explanations louder and more slowly. Corrective instruction calls for teachers to use approaches that accommodate differences in students' learning styles and intelligences (Guskey, 2003).

**Data Disaggregation:** Breaking data down to find out what a number looks like for different subgroups hidden within an average or basic percentage. Users typically do this with a drill-down process, which begins with a general question, followed by increasingly specific questions that focus on smaller subsets of data

**Data-Driven Decision Making:** Data-driven decision-making (DDDM) in education refers to teachers, principals, and administrators systematically collecting and analyzing various types of data, including input, process, outcome, and satisfaction data, to guide a range of decisions to help improve the success of students and schools (Marsh et al., 2006; Ikemoto & Marsh, 2007).

**Data Use:** A social venture through which educators interact with a variety of data, engage in collaborative meaning-making, and adjust practice accordingly (Datnow, Park & Wohlstetter, 2007).

**Data Warehouse:** An organized storage area for data elements that are pulled from the various databases. It is the integration of all data into one central repository. A well-designed and well-built data warehouse can serve as the foundational layer for a strong data-driven decision making system by allowing for various queries and analyses that provide information and insight into further improvement of the organization and allow for compliance with external requirements (Rudner & Boston, 2003).

**Instructional Coach:** A school-based, full-time professional developer in schools who work collaboratively with teachers to help them incorporate research-based instructional practices (Knight, 2007).

**Instructional Coaching:** Instructional coaching includes seven principles: equality, choice, voice, dialogue, reflection, praxis, and reciprocity (Knight, 2007). Based on the partnership approach and the seven principles, instructional coaches work with teachers to help them integrate research-based instructional strategies into their teaching (Knight, 2007).

**Literacy Coach/Reading Coach:** Literacy and reading coaches perform a variety of activities in schools, sometimes working with students but more often working with teachers to increase students' literacy skills and strategies (Knight, 2007).

**National Assessment of Educational Progress (NAEP):** Nationally representative and continuing assessment system of students' knowledge in a variety of subject areas; assessments are performed regularly in mathematics, reading, science, writing, the arts, civics, economics, geography, and U.S. history.

**Learning Forward (formerly known as the National Staff Development Council (NSDC)):** The largest non-profit professional organization dedicated to ensuring success for all students through staff development and school improvement.

**Peer Coaching:** Two or more professional colleagues who work together to improve their professional knowledge and skills (Poglinco et al., 2003).

**Professional Development:** Those processes that improve the job-related knowledge, skills, or attitudes of school employees (Sparks & Loucks-Horsley, 1989).

**Professional Learning Communities:** A professional development model that trains teachers to be the teachers and learners of each other. Teachers and educators work together to determine the needs of their school and research methods to address those needs through a collegial collaborative process.

**Standards:** Specifications of those things that every student should know and be able to do in specific subjects.

**RTTP:** As part of American Recovery and Reinvestment Act (ARRA) of 2009, also known as the “federal stimulus” act, Congress provided \$4.35 billion for competitive grants to states to encourage education innovation and reform in four areas: (1) enhancing standards and assessments, (2) improving collection and use of data, (3) increasing teacher effectiveness and achieving equity in teacher distribution, and (4) turning around low-achieving schools. The RTTT scoring rubric awards states that apply for a grant a maximum of 500 points based on how well they meet the grant's various criteria. Points are awarded in six areas with many subareas. Winning states must use the grant money to implement the programs and plans detailed in their grant applications.

### **Organization of the Study**

The subsequent chapters of this dissertation provide an overview of the literature related to data-driven decision making and instructional coaching as well as a description of the methodology that was employed in the study, followed by the findings, and the discussion and implications. The review of literature is primarily organized according to three broad areas of research – instructional coaching, professional development, and data-driven decision making. Chapter One of this dissertation begins with an introduction to the study, a statement of the problem, the purpose of the study, the overarching research question and subsidiary questions that the study answers, the significance of the study, a brief overview of the methodology, definition of terms, and the delimitations and limitations of the study. Chapter Two consists of a review of research on data-driven decision making and instructional coaching, as well as the conceptual framework. Chapter Three identifies the research methodology that was used



in the study and clarifies how the study was designed and the participants selected.

Chapter Four details the findings obtained through data collection organized according to major themes. Chapter Five, the final chapter, discusses these findings and provides implications for practice, policy, and future scholarly research.

## CHAPTER 2: LITERATURE REVIEW

### Introduction

At the heart of the push to introduce data-driven decision making is the assumption that providing schools with access to data will lead to improved instruction, thus, leading to improved student achievement. Unfortunately, implementing formal structures for data analysis is not enough to influence teachers' beliefs and practices (McLaughlin & Talbert, 2006). Continuous job-embedded professional development via a data expert or instructional coach may be essential in the data-driven decision making process in order to influence teacher practice (Marsh, McCombs, & Martorell (2010). However, there is very little empirical research that seeks to provide an in-depth understanding of how or even if instructional coaches' support with the data-driven decision making process actually influences teacher practice. As a result, this review of literature seeks to examine two specific areas of research, *data-driven decision making* and *instructional coaching*.

### Data-Driven Decision-Making (DDDM)

The latest school reform era in the U.S. dates from the 1983 publication of *A Nation at Risk*, ushering in an era of high stakes testing and international competition. On the National Assessment of Educational Progress (2011) and on some international measures such as TIMSS (2011), US schools have shown some gains in recent years in closing the achievement gap between minority students and their White counterparts in reading and mathematics achievement, but the pace of change is slow. Particularly, although the academic performance of middle class students is comparable to that of similar students in other countries, one of the most important challenges within education

in the U.S. is the continuing low achievement of disadvantaged and minority students. For example, on the 2007 4<sup>th</sup> grade NAEP reading assessment (NCES, 2009), 43% of White students scored proficient or above, while only 14% of Black, 17% of Hispanic, and 18% of American Indian students scored at this level. Among students who receive free lunches, 44% scored at proficient or above. Results in mathematics and at different grade levels showed similar gaps.

The continuing low performance of disadvantaged and minority students must be considered in light of the evidence showing positive effects of a wide range of educational innovations. The push to improve test scores, especially those of minority students, has led to substantial interest in the use of data within schools and districts to drive decisions and motivate change. The focus of data-driven decision-making reform approaches is on obtaining timely, useful information, trying to understand the “root causes” behind the numbers, and designing interventions targeted to the specific areas most likely to be impeding success. Data-driven decision-making reform involves collection, interpretation, and dissemination of data intended to inform and guide district and school reform efforts.

Essentially, data-driven decision-making (DDDM) in education refers to teachers, principals, and administrators systematically collecting and analyzing various types of data, including input, process, outcome, and satisfaction data, to guide a range of decisions to help improve the success of students and schools (Marsh et al., 2006; Ikemoto & Marsh, 2007). Notions of DDDM in education are modeled on successful practices from industry and manufacturing, such as Total Quality Management (TQM), Organizational Learning, and Continuous Improvement (Deming, 1986; Marsh et al.,

2006). These practices emphasize that organizational improvement is enhanced by responsiveness to various types of data, including input data (such as material cost or *the demographics of the student population* in education), process data (such as production rates or *the quality of instruction* in education), outcome data (such as defect rates or *student test scores* in education), and satisfaction data (including employee and customer opinions or *opinions from teachers, students, parents, or the community* in education) (Mandinach, Honey, and Light, 2006). The concept of DDDM in education is not new and can be traced to state requirements to use outcome data in school improvement planning and site-based decision-making processes dating back to 1970s and 1980s (Massell, 2001) and school system efforts to engage in strategic planning in the 1980s and 1990s (Schmoker, 2004).

The broad implementation of standards-based accountability under the federal No Child Left Behind (NCLB) Act has presented new opportunities and incentives for data use in education by providing schools and school districts with additional data for analysis, as well as increasing the pressure on them to improve student test scores (Massell, 2001; Marsh et al., 2006). NCLB required states to adopt test-based accountability systems that meet certain criteria with respect to grades and subjects tested, the reporting of test results in aggregated and disaggregated forms and school and district accountability for the improvement of student performance. Implicit in NCLB and other state accountability policies is a belief that data – particularly student test results – are important sources of information to guide instructional decisions. State and local test results are adding to the data on student performance that teachers regularly collect via classroom assessments, observations, and assignments.

DDDM is also a major feature of the American Recovery and Reinvestment Act of 2009 and the Race to the Top Competition sponsored by the US Department of Education (Hamilton et al., 2009). The theory of action underlying these policies require that educators know how to analyze, interpret, and use data so that they can make informed decisions in all area of education, ranging from professional development to student learning. The assumption is that when school leaders become knowledgeable about data use, they can more effectively review their existing capacities, identify weaknesses, and better chart plans for improvement (Earl & Katz, 2006). Another assumption is that when teachers examine test results, they can target instructional practices towards students' individual needs (Mandinach & Honey, 2008).

### **Data Use Practices**

There is considerable disagreement regarding the role of assessments in improving the instructional practices of teachers. Firestone, Mayrowetz, and Fairman (1998) posit that there are three major positions regarding the influence of assessment. The first argument is that testing and the moderate-to-high stakes that may be attached to it dilute the curriculum and compel teachers to focus on areas that will appear on the test, thereby, excluding other important topics and subjects (Corbett & Wilson, 1991). On the other hand, there are those who argue that testing is a catalyst for more productivity and more skillful instruction (Baron & Wold, 1996; Rothman, 1995). This position contends higher levels of rigor will compel educators to innovate and find more effective means for enhancing the learning process. The final position questions whether assessments have any meaningful influence on practice. It is grounded in the assertion that the incoherent nature of American curricula and a predominance of teaching practices that

focus on lower-order skills make it extremely difficult to effectuate anything other than superficial change (Cohen, 1995).

In concurrence with the latter view, Firestone, Mayrowetz, and Fairman (1998), in their study of the effects of performance-based testing with moderate and high stakes on math teaching practices in Maine and Maryland, found that considerable changes were made to align the school curriculum to state standards. For example, teachers changed the order of the content presented and some schools rescheduled when certain courses would be offered based on state tests. However, there were little identifiable differences in how teachers actually presented the math content. Although the sample size was small, the intensive nature of the qualitative research process employed in this study provided useful findings. The researchers interviewed the entire organizational hierarchy from central office administrators to principals to teachers. They also utilized several classroom observations accompanied by additional teacher interviews to provide insight into how teachers perceive the connection between their teaching practice and the assessment. Such methods, while not necessarily yielding results that may be broadly generalized because of the small sample size, do provide deeper insight into the nature of the impetus for change testing without a concurrent focus on data analysis has on instructional practice.

According to Murnane, Sharkey, and Boudett (2005), teachers use assessment data in at least three major ways. The first is an instrumental approach that focuses on using data to make decisions such as promotion or retention or placement in a special education program. The second approach is symbolic and is used to justify decisions such as reassigning teachers or implementing a new curricular program. The final

approach is conceptual, which focuses on using formative and summative assessment information as a starting point for a closer examination of student strengths, weaknesses, and the effectiveness of instruction. These methods allow teachers to recognize and diagnose the reasons for patterns that emerge in assessment results, which allow for more informed and focused improvement efforts. It is this approach that is at the heart of current proposals for data-driven instruction.

Additional studies provide insight into how data are used in schools. Suppovitz and Klein (2003) found that data provide a means of ensuring that instruction is aligned to content standards. In this instance, data allow schools to determine how well students are performing in relation to standards and allow teachers to adapt their instruction as necessary. Another major use of data identified by authors is to identify students performing below standards and to track their progress over time as they receive targeted interventions. These interventions may include altered grouping practices where students are grouped by achievement levels and receive differentiated instruction based on their levels in specific content areas. This approach is intended to be more responsive and relevant to students' needs and is more representative of prevailing arguments in favor of data use. However, one practice that has the potential to emerge from this approach is the identification of "bubble kids" (Booher-Jennings, 2005, p. 233). These are students whose achievement levels are very close to passing. As a result, they have the potential to make a substantial impact on a school's passing rate, which in the context of the current high stakes testing environment, can have grave implications for schools that fail to make significant improvement. This group is targeted for enhanced instructional interventions and a disproportionate amount of resources in an effort to improve their

passing rates. On the other hand, students whose test performance falls substantially below standards are essentially marginalized, neglected, and often referred to special education, a designation that, at the time, would place them in a category of students whose performance would not have adverse consequences for the school because they are exempt from the state's accountability measures (Booher-Jennings, 2005). Nonetheless, current provisions of the No Child Left Behind Act now require students in special education programs be included in all schools' accountability profiles.

Gilborn and Youdell (2000) term such rationing "educational triage." In the Booher-Jennings (2005) study, the author found that triage manifested in a variety of practices. These included additional assistance to bubble kids in the form of extra assistance throughout the school day, small group sessions with literacy coaches, afterschool or weekend tutoring specifically targeting this group, and the reassignment of music, physical education, and library teachers to work with small groups of students on test preparation activities. While this study was limited to one state, Marsh, Pane, and Hamilton (2006) found in their studies of several schools in three states that more than 75 percent of principals indicated they encourage teachers to focus special attention on this group of students, resulting in many questions regarding the status of students whose achievement is either significantly higher or lower than minimum standards.

### **Factors Influencing the Use of Data**

Lachat and Smith (2005) conducted a study of the data use practices of five low-performing urban high schools undergoing comprehensive reform and found that several practices had a significant positive effect on the effective use of data. The first was data quality and access. Because the school district in the study had never before engaged in



rigorous examination of data, there were not systems in place that allowed for the quick and comprehensive dissemination. This resulted in data that schools found to be either irrelevant or arrived so late that it was no longer useful. It took significant effort on the part of the school and district to address these problems by providing data in a timely manner and which were related to achievement objectives. These actions resulted in an enhanced perception of the relevance of data by teachers and administrators.

Data disaggregation was another very important factor that supported the effective use of data. Previously, the high schools in the study received information that was minimally disaggregated, if at all. The implementation of a data warehousing database that delineated student information by a variety of factors allowed the schools to address student performance issues more effectively. The means by which these issues were to be addressed occurred through a process of collaborative inquiry. The researchers found that in schools where data inquiry was organized around mutually developed, focused set of questions related to student achievement, there was an increase in faculty motivation to use data. The teachers were more objective in their analysis and were more willing to question assumptions about students, which led to a greater understanding of how to go about the school improvement process. These understandings were further enhanced when the school instituted leadership structures such as data teams composed of administrators and teachers to organize the data in a manner that maximized its communicative potential and ensured that the information was disseminated to teachers in a timely manner. Data teams, because they were constituted by teachers, had the additional effect of helping to overcome the perception that data were not useful.

The findings of Lachat and Smith are confirmed by similar findings from Kerr, Marsh, Ikemoto, Darilek, and Barney (2006) in their study of the data use practices of three urban districts. However, the authors make an additional recommendation for developing the capacity for data use. The researchers found that teachers often did not have the requisite skills to engage in the inquiry process. Thus, it is recommended that districts provide additional training and support to facilitate the effective use of assessment information. The parallel findings of both of these studies indicate several practices that support the effective use of assessment information. Because they were conducted in urban settings on both a school and district level, it may be possible to generalize best practices for urban schools at the very least.

One of the major findings of the two previous studies was the necessity of data being readily accessible and presented in a form that can be readily analyzed by teachers. A study by Wayman and Stringfield (2006) indicates that data software can play a substantial role in facilitating the effective use of data. Two of the most common types of software are assessment systems that quickly organize and analyze student assessments such as benchmark tests and data warehousing programs that provide access to a variety of student historical data but generally are not designed to provide the quick turnaround of assessment system software. The authors found that the use of these types of software resulted in an enhanced sense of efficiency. Teachers reported better access to data and reduced time spent compiling and organizing information for later analysis. The authors also found these programs resulted in increased ability to develop effective interventions as a result of the more comprehensive breadth and depth of data provided. In addition, teachers reported enhanced reflective capacity. They felt they were better

able to gauge the effectiveness of their planning, instruction, and efforts to differentiate instruction to meet student needs. Finally, a major benefit of the implementation of software programs was improved collaboration. Improved access to data resulted in higher levels of interaction and the development of both a shared language for data analysis and metric for student achievement.

Datnow, Park, and Wolhstetter (2007), in their study of how high-performing school systems use data to improve achievement for elementary students, emphasize six strategies that are congruent with the findings of the aforementioned studies. The first is to develop a comprehensive framework for data-driven decision-making. This includes setting challenging student achievement goals that are aligned with a common, system-wide curriculum with clear content standards. The second strategy identified by researchers is to develop a culture of data use and continuous improvement through the implementation of explicit expectations and accountability at both the school and district level. These efforts are to be supported by substantial investment in information systems and the provision of support enable schools to make effective use of data. In these districts, there was also a strong emphasis on obtaining and utilizing useful and diverse sources of data that enhanced the districts' abilities to make curricular decisions. This includes the use of system-wide benchmark assessments that are aligned to content standards.

Another major strategy employed by high-performing districts was efforts focused on improving the district and schools' capacity for data use through professional development and the scheduling of regular times for school collaboration. Finally, the districts enacted data analysis protocols and action plans to ensure improvements were

made. Ingram, Louis, and Schroeder (2004), conducted a study of the data use practices of nine high schools designated exemplars of Continuous Improvement (CI) practices as part of a longitudinal study. The Continuous Improvement concept is derived from Deming's (1986) Total Quality Management framework and has been applied to education settings. This study focused on the Continuous Improvement practice of rational, data-driven decision making. Ingram et al. found significant barriers that impede the use of data to improve instructional practice. One significant obstacle was teachers' strong mistrust of data. In their interviews, the researcher found that many teachers believed that data was often used as a means of justifying predetermined, politically motivated decisions rather than being used to inform the decision-making process. Furthermore, teachers often believed that data was used punitively as a means to punish teachers or the school. Such actions resulted in a strong aversion to data presented by school administrators and a disinclination of teachers toward collecting data themselves.

Another significant barrier Ingram, Louis, and Schroeder (2004) found that hindered data use was the fact that several teachers developed personal measures such as anecdotal or personal experience for determining the effectiveness of their instruction that often differed from the more formal systems. They often relied on anecdotal evidence, experience, and their own professional judgment and did not reach consensus regarding what outcomes were most important. Furthermore, teachers often did not equate student achievement with the effectiveness of their own performance, a finding that has the potential to seriously diminish efforts to enhance the instructional program. Finally, Ingram and colleagues found numerous technical hurdles that impeded the

instructional process. Schools often did not make structural changes such as scheduling time for collaborative planning and learning for teachers to effectively analyze and make meaning of the tremendous amounts of information they were presented. As a result of these cultural and structural barriers, the capacity to use assessment information for instructional improvement was greatly reduced.

Perhaps more than any other factor, the presence or lack of culture of data use has great influence on the ability of schools to effectively use data. Marsh, Pane, and Hamilton (2006) found that data use was greatly limited in schools that mandated individualistic notions of teaching and learning and did not employ substantive forms of collaborative inquiry. In this regard, school leadership is essential. Mason (2002) found that school leadership is critical in building support for data analysis and securing the resources to sustain inquiry. When strong, supportive leadership is not present, the commitment and collaboration necessary for effective data use often fails to manifest. However, even when there is a commitment to data inquiry, the author found the lack of analytical capacity is a major hindrance to schools' ability to use data well. Participants in the study reported major difficulty making sense of the data; thus, they were not able to effectively translate their analytical efforts to effective instructional interventions, even after receiving training. To address this issue, Wayman (2005) recommends scaling down professional development experiences to promote interaction between small groups of teachers regarding contextually relevant topics. This process is further facilitated by the appointment of an in-house data expert or instructional coach who is usually a teacher that has undergone advanced training in data analysis. This individual

serves as a facilitator and provides training and support for teachers as they attempt to use data to inform their instructional practice.

### **Data Analysis Processes**

While the aforementioned studies provide insight into how schools may institute structures and practices that promote the use of data, they do not describe how schools may actually use that information to tangibly improve instruction. As stated previously, there is very little scholarly information that deals specifically with this topic. However, research conducted for this review of literature did yield a very prescriptive text, **Data Wise**, a book written by Harvard Graduate School of Education Professor Richard Murnane, Lecturer Kathryn Boudett, and doctoral student Elizabeth City (2005) as a practical step-by-step guide to help schools turn student assessment data into a tool to improve instruction as well as turn the act of data analysis into a process that improves organization, function, and climate of schools. While it is not a formal scholarly study, it does systematically incorporate the insights and proven practices of leading scholars and practitioners in the field of educational leadership, and components of the practices advocated by it are confirmed by studies detailed in this review. Therefore, it is included in this paper with the acknowledgement that significant portions may still need to be confirmed by empirical research.

Boudett, City, and Murnane (2005) propose an eight-step process (please see Figure 1)<sup>7</sup> termed *Data Wise* by which schools should go about the process of data inquiry. The first step involves organizing for collaborative work, which includes

---

<sup>7</sup> The Data Wise Improvement Process graphic is reprinted from *Data Wise* by permission. Copyright © 2005 by the President and Fellows of Harvard College. All rights reserved. For more information, please visit Harvard Education Press.

developing a data team whose primary responsibility is to manage and organize the vast amounts of data available. The team is also responsible for formatting information in a manner that will enable it to be readily accessible to teachers. Guided by an explicit improvement process, the teachers will then work together to interpret the information. However, this process will be substantially impeded if the faculty does not have functional assessment literacy. Therefore, it is recommended that the school engage in substantial efforts to improve teachers' knowledge of assessments and numerous factors that influence student achievement on tests. Once this is accomplished, schools should develop data displays that clearly portray student achievement information.

The next step in the *Data Wise* process involves isolating and analyzing a single data source to develop an understanding of students' thinking. The purpose of such a practice lies in the fact that even though students may have poor assessment outcomes, they are usually guided by some type of logic that led them to a wrong answer. Through a detailed analysis of student responses, teachers gain insight into students' approaches to school work and will develop a more thorough understanding of student needs, which can lead the educator to challenge assumptions about students' capabilities or the effectiveness of their own teaching strategies. Such insights will inevitably lead teachers to the next step in the improvement process, which is collaborative examination of instruction. According to Boudett, City, and Murnane (2005) this begins by "reframing the learning problem as a problem of practice" (p. 98), which acknowledges the critical need to focus on instruction in any attempts to enhance student learning. Such recognition will require the school to develop shared understandings of what constitutes effective practice that will be used to address the learning problem. This process occurs

by seeking evidence from an examination of both internal (colleagues) and external (research) resources and comparing it to the current practice. From this information, the faculty can go about the process of creating an action plan that addresses the problem of practice.

The school should then choose an instructional plan based on their shared understanding of effective instruction and develop a common vision for its implementation. It is recommended that the school develop implementation indicators so that all members of the faculty have a clear understanding of how the strategy should be implemented in their classroom as to ensure the coherency of the improvement effort and maximize its potential for student learning. The final steps in the process involve integrating the plan into the instructional program and developing methods by which to assess the consistency and effectiveness of the initiative.

Boudett, City, and Murnane (2005) present a very detailed framework for using data analysis to improve instructional practice. However, the approach they outline necessitates a strong emphasis on improving teachers' pedagogical and content knowledge and skills. The means by which this objective is accomplished is professional development, which includes the facilitation and support of an instructional coach. For this reason, professional development and instructional coaching comprise the focus of the next section of this review.





Figure 1: The *Data Wise* Improvement Process<sup>8</sup>

### Summary

The literature on data-driven decision making indicates there is great diversity in the manner in which data is utilized. These include diagnostic purposes, as a means of curriculum alignment, and to identify problems in student achievement for the purpose of targeting students for instructional intervention. How data are used and the extent to which they become a meaningful part of school functioning depends heavily on several factors. These include the extent to which data is received in a timely manner and is presented in a disaggregated form that is readily accessible to teachers for analysis.

---

<sup>8</sup> Boudett, City, and Murnane (2005) use the *Data Wise* Improvement Process graphic to illustrate the cyclical nature of the work. “Initially, schools engage in a set of activities (i.e., prepare) to establish a foundation for learning from student assessment results. They then inquire, and subsequently act on what they learned. They then cycle back to further inquiry” (p.4).

Another major determiner of data use practices is the extent to which the data analysis process is framed in terms of specific student achievement objectives and occurs within a culture that is supportive of data use. To this end, collaboration is essential.

Collaboration increases teacher buy-in and alleviates the sense of mistrust many teachers feel toward data. Therefore, school leaders must ensure that data analysis becomes an integral part of the school's culture. One specific means by which this can be accomplished is the implementation of formal, collaborative processes for data analysis and ongoing professional development. Instructional coaching is one potential avenue for providing teachers with professional development on DDDM.

## **Professional Development and Instructional Coaching**

### **Professional Development and the Learning Theory**

The effectiveness of professional development as a means of facilitating school improvement efforts has a strong correlation to the social learning theory of Alfred Bandura (1993). According to Bandura, there are two major factors influencing one's learning and behavior. First, there are outcome expectations, which refer to one's beliefs regarding the relationships between actions and outcomes. The second factor is perceived self-efficacy, which refers to the belief in one's ability to achieve certain outcomes. Teachers with a high degree of self and instructional efficacy and who believe that their instructional interventions can positively influence student achievement spend more time teaching and providing greater levels of assistance to students who have difficulty learning and provide more praise for accomplishments. On the other hand, teachers with lower degrees of perceived self-efficacy are more likely to spend a disproportionate amount of time on nonacademic tasks, provide less assistance, and

criticize students when they fail. However, according to Bandura (1993), perceived efficacy is not confined to individual teaching in a single classroom. Due to the fact that the school is a social system, a sense of collective efficacy is present. Schools with a low sense of collective efficacy, that have little confidence in their ability to substantively influence student achievement, promulgate a sense of dire inevitability that eventually characterizes school culture. Bandura found that greater levels of poverty, absenteeism, and student mobility were correlated with a lower collective efficacy.

Bandura's (1993) findings have significant implications for professional development and instructional coaching. According to Bandura's theory, learning occurs both enactively and vicariously. Enactive learning involves learning by doing and as a result of specific actions, which provide the individual with a means to assess the likelihood of the outcome of specific actions. Vicarious learning involves modeling and observation of others, which also serves to influence one's thinking regarding the probability of one's success at a particular endeavor. Individuals usually select activities or actions in which they believe they will do well and avoid those that they do not. The conditions of one's environment have great influence in this regard. Individuals are likely to select more challenging experiences when they have an opportunity to observe and assess the success and failures of others serving as models as well as when they are provided specific feedback and support about their individual performance (Smylie, 1995). In professional development contexts, one chooses whether to incorporate particular methods into his or her teaching practices based on expectations of effectiveness and the teacher's belief in his or her ability to implement the new methodology. Ross and Gray (2006) state, "Teachers who perceive themselves to have

been successful on a particular task, whether individually or as part of a collective, believe they have the ability to perform that task and anticipate they will be successful in future encounters with it” (p. 183). Thus, this theory implies that to the extent professional development experiences allow teachers to observe, assess, and practice methodologies within supportive learning environments, relative increases in positive outcome expectations and feelings of self-efficacy occur. In turn, this enhances teachers’ ability to successfully implement new instructional methods. The central tenets of Bandura’s social learning theory are reflected throughout the research literature on professional development and instructional coaching.

## **Professional Development and Instructional Coaching**

### **Overview**

In many school districts throughout the country, there is an increased emphasis on instructional coaching partly due to the professional development requirements in the No Child Left Behind (NCLB) Act of 2001 (Poglinco & Bach, 2004; Dole, 2004). Schools that do not make Adequate Yearly Progress (AYP) for two or more years are required to develop and implement a school improvement plan that includes professional development programs for teachers. Currently, one way schools and school districts invest time and money in professional development for teachers is through *instructional coaching*. As schools and school districts struggle to close the achievement gap and meet the provisions of the No Child Left Behind (NCLB) Act, there has been an increased emphasis on instructional coaching as a vehicle for professional development – to improve teacher practice, and, ultimately, student learning (Poglinco & Bach, 2004; Dole, 2004).

Traditional workshops and professional conferences are ineffective avenues for sustained growth because they do not offer the consistent opportunities for collaboration, feedback, and reflection needed to change teachers' classroom practice (Ball & Cohen, 1999); therefore, many school districts with low-performing schools are adopting instructional coaching as a vehicle for the professional development of their teachers, a step that will theoretically translate into improved teacher performance and student achievement. Research indicates that the ability to implement skills learned outside the classroom into teachers' classroom practice needs some kind of support to sustain it (Showers & Joyce, 1996). To transfer knowledge gained from attending workshops or any professional development opportunities and integrate the learned innovative ideas into classroom instruction, teachers need to be supported by having someone observe their actual classroom instruction practices and provide them with feedback.

Alexander Russo (2004) makes a compelling rationale for school-based coaching:

Many of the more conventional forms of professional development – such as conferences, lectures, and mass teacher-institute days – are unpopular with educators because they are often led by outside experts who tell teachers what to do and are never heard from again. To be effective, scores of researchers say, professional development must be ongoing, deeply embedded into teachers' classroom work with children, specific to grade-level or academic content, and focused on research-based approaches. It also must help to open classroom doors and create more collaboration and sense of community among teachers in a school. (p. 2)

Russo (2004) posits that school-based coaching meets these criteria remarkably well. He argues that school-based coaching allows for a close connection to teachers' classroom practices, whereas, traditional forms of professional development do not make that connection.

Instructional coaching is a process whereby seasoned teachers provide instructional support, professional development opportunities, feedback, and materials to classroom teachers. Instructional Coaches assist teachers with developing content knowledge as well as instructional strategies proven to increase student achievement (Poglinco & Bach, 2004). The function of an instructional coach is to break the culture of teacher isolation, in which teachers work in private without observation or feedback and to collaborate with other professional development efforts in order to increase a school's capacity (Neufeld & Roper, 2003). Research results suggest the promise of instructional coaching as a way to build the instructional capacity of schools and teachers, which is "a known prerequisite for increasing [student] learning" (Neufeld & Roper, 2003, v.).

The remaining review of literature explores the historical development of coaching beginning in the late 1980s, examines the characteristics of effective instructional coaches today, reviews instructional coaching as an effective professional development model through the activities coaches are engaged in today, and investigates impact of instructional coaches on teacher practices and student achievement.

Coaching can be dated back to the 1980s and even the 1960s if you include reading specialists. This section highlights the history of coaching, focusing on peer coaching and the transition of reading specialists to literacy coaches.

## **History of Coaching**

### **Peer Coaching**

“Like athletes, teachers will put newly learned skills to use – if they are coached.” –  
Joyce, B. & Showers, B. (1982)

Bruce Joyce and Beverly Showers (1982) are commonly attributed as the first researchers to seriously explore the promise of coaching in education. Joyce and Showers began their journey to discovering what makes teachers learn and apply what they were learning in their professional development. Joyce and Showers posited that many innovations in education never made it to the implementation level, and therefore, never had an opportunity to benefit students. They noted that the transfer rate – the frequency with which new learning was actually used in the classroom – was low for most staff development that involved presentations and even demonstration (Joyce & Showers, 1996). Joyce and Showers envisioned pairs of teachers coaching each other in a reciprocal way and called their model “peer coaching.” They argued that coaching provides companionship and technical feedback, prompts the analysis of applications of knowledge to instruction, encourages the modification of instruction to meet students’ needs, and facilitates the practice of new methods.

One of the earliest definitions of coaching in education is provided by Showers (1982), who states, “coaching... may be conceived as a combination of several elements... companionship... feedback... and analysis of application” (p. 8). Showers (1982) adds that coaching provides an opportunity for evaluating goals, curriculum, and newly obtained skills or behaviors. Thus, peer coaching began in the early 1980s as a strategy to improve the degree of implementation of new curriculum and instructional techniques. In their studies, Showers and Joyce (1996) found that teachers’

implementation of new learning rose dramatically when peer coaching sessions occurred. Showers and Joyce (1996) posit, “teachers who had a coaching relationship – that is, who shared aspects of teaching, planned together, and pooled their experiences – practice new skills and strategies more frequently and applied them more appropriately than did their counterparts who worked alone to expand their repertoires” (Showers & Joyce, 1996, p. 14). Peer coaching incorporates collaborative planning, observation, and feedback in order to increase the level of implementation of instructional strategies and curriculum (Ackland, 1991; Showers & Joyce, 1996).

Poglinco et al. (2003), in their evaluation of America’s Choice, a comprehensive school reform model for K-8 schools in literacy, define coaching as a “form of inquiry-based learning characterized by collaboration between individual, or groups of, teachers and more accomplished peers” (p. 1). Furthermore, coaching includes professional, continued classroom modeling, supportive feedback of practice, and explicit observations (Poglinco et al., 2003). Deussen, Coskie, Robinson, & Autio (2007) assert, “coaching occurs when a more knowledgeable professional works closely with another professional to increase productivity or to meet some predetermined outcome” (p. 5). Perhaps the simplest yet all encompassing definition of coaching provided is by Coggins, Stoddard, and Cutter (2003), who state the fundamental objective of coaching is capacity building – the development of knowledge and skills for individuals as well as organizations. Ackland (1991), in his review of the literature on peer coaching, categorizes coaching into two categories. One category is coaching by experts, who are “specifically trained teachers with an acknowledged expertise who observe other teachers to give them support, feedback, and suggestions” (p. 24). Ackland (1991) continues by defining



reciprocal coaching (the second strategy) as teachers observing and coaching each other jointly to improve instruction. In essence, the difference is determined by who does the coaching and the content of the coaching.

There are several variations of the term *peer coaching* in the literature, such as *technical coaching*, *team coaching*, *collegial coaching*, *cognitive coaching*, and *challenge coaching*. Research suggests that the terms can be grouped into three general categories based on the professional development strategies used. Technical coaching and team coaching focus on incorporating new curriculum and instructional strategies into teacher practice (Ackland, 1991; Showers & Joyce, 1996; Poglinco et al., 2003). Collegial and cognitive coaching seek to improve existing teacher practices by refining techniques, developing collegiality, increasing professional dialogue, and assisting teachers with reflecting on their teaching (Ackland, 1991; Showers & Joyce, 1996; Costa & Garmston, 2002). Challenge coaching focuses on identifying and treating a specific problem and can be used in a larger context than the classroom such as a school or grade level (Ackland, 1991; Becker, 1996). Regardless of the terminology, peer coaching and all of the variations refer to peers assisting teachers to achieve the goal of improving the teaching and learning process.

Research demonstrates that peer coaching programs encourage professional growth, recognition, experience-enhancing roles, and collegiality for peer coaches (Killion, 1990). A number of strategies used by peer coaching programs are currently still being used by instructional coaching programs with the goal of developing a professional culture, building instructional capacity, and consistently supporting

classroom instruction via ongoing classroom visits, feedback, and questions that foster reflective practice.

### **Reading Specialists and Literacy Coaching**

Literacy coaching (in the area of reading) was not new to the educational field in the twenty-first century. In the modern era, Vogt and Sheared (2007) found that there were concerns about students not becoming proficient readers dating back to the late 1960s. These concerns caused an infusion of funding into public schools, which resulted in a small number of classroom teachers being assigned the responsibility of assisting students to become more proficient in the area of reading. Those classroom teachers worked at both the school and district levels with a wide variety of titles, including reading specialists, reading resource teachers, or reading coordinators.

Reading specialists have traditionally taught students identified as “at risk,” a designation that emerged from the Elementary and Secondary Education Act (ESEA) of 1965. The reauthorized ESEA of 2000 provided funds for extra resources to local agencies and schools with large numbers of low-income students to ensure a high-quality education (Dole, 2004; IRA, 2004). Elizabeth Sturtevant (2005), who conducted a literature review on literacy coaches, commented:

The position of literacy coach is, in many ways, similar to that of the 1970s and early 1980s secondary school reading specialist who worked in federally funded projects in low-income schools across the United States. Like these earlier counterparts, the twenty-first century literacy coach must be highly knowledgeable in reading and literacy. (Sturtevant, 2005, p. 19)

Shifting the roles of reading specialists from teaching to coaching has made a dramatic change in the way professional development is delivered to teachers. Under the traditional coaching model, teachers shift from passively accepting professional development from traditional conference settings to receiving direct professional development as literacy coaches work within the actual classrooms of teachers and their students. The job role of the reading specialist, now identified as the literacy coach, has shifted from teaching children to facilitating learning with adults. Today, there are many literacy coaches who can trace their origins back to the early specialists of the 1960s and 1970s (International Reading Association (IRA), 2004).

Since the term, “Literacy Coaching” has been used in multiple ways, there has been some confusion about the roles and responsibilities of a literacy coach. In some schools, the literacy coach’s primary responsibility is to assist students in improving their reading and writing skills (which is more of a role for a Reading Specialist), and the coach does not actually coach teachers. In other schools, the literacy coach has a wide range of responsibilities, all with the goal of helping teachers better serve students. Researchers found that one of the most effective kinds of ongoing professional development is for master teachers to work directly with teachers in their classrooms on a daily basis (Hawley & Valli, 1999; Syke, 1999). In the reading field, these master teachers have particular expertise and training in reading and literacy and are known as “reading coaches” or “literacy coaches.” With their expertise and knowledge about reading, literacy coaches provide teachers with consistent and ongoing assistance and classroom support.

One of the largest and probably most well-known programs using coaching is Reading First. Reading First is a federal project that seeks to improve reading skills in low-performing K-3 schools; an essential component of Reading First has been professional development for teachers through workshops, institutes, and foremost site-based literacy coaches (Deussen et al., 2007). Reading First schools can be found in all 50 states, the District of Columbia, Native American Indian reservations, as well as U.S. territories (Toll, 2007). Therefore, since the Reading First program mandates that professional development be provided by a reading coach, over 5,200 schools have hired reading coaches (Deussen et al., 2007). In some schools, literacy coach and reading coach are synonymous, while in others they have very distinct roles (Knight, 2007). Knight (2007) concludes, “literacy and reading coaches perform a wide range of valuable activities in schools, sometimes working with students and more frequently working with teachers, to increase students’ literacy skills and strategies” (p. 12). Depending on the type of model implemented, literacy coaching might range from implementing specific teaching strategies to altering teachers’ views about grant regulations or a required curriculum of literacy instruction (Toll, 2007).

Thus, literacy coaching is seen as a way to help teachers build on their strengths, improve their teaching practice, and understand how they can develop content knowledge while simultaneously improving literacy skills (IRA, 2006). Literacy coaches provide job-embedded, ongoing professional development for teachers by modeling lessons, co-teaching alongside teachers, and observing teachers and providing timely feedback (Poglinco & Bach, 2004). Currently, the term “literacy coaching” is often used synonymously with “instructional coaching.”

## **Instructional Coaching**

As schools, school districts, and even teachers face increasing demands on performance and results, school districts across the country are looking for ways to effectively support high-quality instruction and school reform. One strategy that is gaining prominence in many states and school districts is the use of instructional coaches as a support and catalyst for instructional improvement (Brown, Stroh, Fouts, & Baker, 2005; Neufeld & Roper, 2003). Coaching has been adopted as a central professional development strategy in Boston, Dallas, New York, and Philadelphia public schools, as well as other school systems around the country. Several school reform models, such as America's Choice, High Performing Learning Communities, and the Breaking Ranks framework, also rely on instructional coaching to support successful reforms (Borman & Feger, 2006).

Despite the prevalence of coaching in schools and districts across the country, there is not a standard model or uniform definition of an *instructional coach*. Schools and school district officials may decide to utilize an existing employee – usually a master teacher, content specialist, or district-level instructional leader – to take on coaching responsibilities; or they may employ an external coach with particular expertise. School and district officials also have a variety of purposes for implementing coaching initiatives: some adopt a coaching strategy to improve instructional capacity across the entire school district, while others focus their efforts only on low-performing schools (Knight, 2007). District officials may also define coaches' goals differently depending on the local context and their reform and professional development goals. Instructional coaches may be asked to train teachers to use a particular approach to teach a particular

content area, or they may work to improve general instructional practices or to promote a more reflective, collaborative, and professional culture among the faculty, among other duties.

Coaching programs across the country are extremely varied because they are usually designed to meet the schools' and school districts' local needs using available resources. Jim Knight developed the term *instructional coaching* and refers to instructional coaches as school-based, full-time professional developers in schools who work with teachers to help them incorporate research-based instructional practices (Knight, 2007). Knight (2007) based instructional coaching on a partnership approach, thereby, deriving seven principles from the fields of adult education, cultural anthropology, leadership, organizational theory, and epistemology to form the theoretical framework for instructional coaching. Knight incorporates seven principles into instructional coaching: equality, voice, dialogue, reflection, praxis, and reciprocity. The equality principle signifies that the instructional coach and the teacher are equal partners; the instructional coach listens in order to understand, not necessarily to persuade. The choice principle indicates that teachers have a choice in what and how they learn (Knight, 2007). The voice principle implies that professional development should empower and value the voices of teachers. The dialogue principle means that professional development should facilitate genuine dialogue; they listen more than they talk. The reflection principle states that by definition, reflective thinkers have the right to choose or reject ideas. The praxis principle means that teachers should apply their learning to real-world practice. The reciprocity principle signifies that instructional coaches should anticipate to receive as much as they give (Knight, 2007). Based on the partnership approach and the

seven principles, instructional coaches work with teachers to help them integrate research-based instructional strategies into their teaching.

Instructional coaches must be highly skilled at facilitating teachers' reflection about their classroom practices. Instructional coaches focus on a broad range of instructional issues (not just literacy), sharing a variety of effective practices that might address classroom management, content enhancement, specific teaching practices, or formative assessment. Instructional coaches must know a wide variety of scientifically proven instructional practices (Knight, 2007). Some researchers define an instructional coach as someone whose primary professional responsibility is to bring practices that have been studied using a variety of research methods into classrooms by working with teachers rather than students (Poglinco et al., 2003). Instructional coaches may spend some time working with groups of teachers and may have other administrative responsibilities; however, they set aside a significant portion of their time to offer classroom support to specific teachers via modeling and supportive feedback (Killion & Harrison, 2006).

Instructional coaching<sup>9</sup> is embedded and situated work that includes observations of classroom teaching, demonstration of model practices, and cycles that include pre- and post-conferences with practitioners (Neufeld and Roper, 2002). Descriptive literature suggest that instructional coaches are expected to enroll teachers to be coached (through partnerships); identify appropriate interventions for teacher learning; model teaching; gather data in classrooms; and, engage teachers in dialogue about classroom and other data (Knight, 2006). The Annenberg Institute for School Reform (2004) has studied

---

<sup>9</sup> For the purposes of this literature review, "Instructional Coaching" will be used synonymously with "Academic Coaching," "Peer Coaching," "Coaching," "Literacy Coaching," and "Mathematics Coaching."

coaching for several years. In a publication about instructional coaching, the Institute claims that “coaching provides such supports through an array of activities designed to build collective leadership and continuously improve teacher instructional capacity and student learning. These activities, ideally, coalesce in ways that create internal accountability due to the embedded nature of the work and people engaged in it” (Neufeld & Roper, 2003, p. 2). Neufeld and Roper (2003) conclude, “there are many good reasons for teachers to broaden the array of people with whom and from who they learn. But improving teachers’ learning – and, in turn, their practice and student learning – requires professional development that is closely and explicitly tied to teachers’ ongoing work. Coaching addresses this requirement” (p. 3). Neufeld and Roper (2003) allude to the fact that instructional coaching can have a positive impact on teacher practice, and ultimately, student achievement.

Instructional coaches are sometimes referred to as “change agents” (Learning Point Associates, 2004; Tung et al., 2004), implying that the teacher leaders who take these positions are pivotal in the creation of change through professional development. Change coaches may support the development of leadership or collaboration skills (Neufeld & Roper, 2003), or they may filter new information from outside the school (such as research or achievement data), something referred to in the literature as “knowledge management” (Coggins et al., 2003, p. 16). Nevertheless, coaches today are being hired for content-specific pedagogical change (Gallucci, Boatright, Lysne, & Swinnerton, 2006; Marsh et al., 2005).

Lucy West and Fritz C. Staub (2003), leaders of New York City’s District 2’s mathematics reform efforts, refer to the value of content-focused coaching in impacting



teaching and learning. West and Staub (2003) posit that content-focused coaching, “provides structures for ongoing professional development that: help teachers design and implement lessons from which students will learn; is content specific (teachers’ plans, strategies, and methods are discussed in terms of students learning a particular subject); is based on a set of core issues of learning and teaching; foster professional habits of mind; enrich and refine teachers’ pedagogical content knowledge; and encourage teachers to communicate with each other about issues of teaching and learning in a focused and professional manner” (p.3). West and Staub (2003) contend that the coach and the teacher are jointly accountable for initiating and assisting effective student learning. The researchers posit that coaching centers on students’ learning in the lessons but is also about the teachers’ learning from the process.

Coaching can take many different shapes and forms in schools and school districts throughout the country. However, regardless of the approach to coaching in schools and school districts, all coaching programs share the same goal – to improve student achievement by building teachers’ capacity and understanding of instructional practices. In their book, Joellen Killion and Cindy Harrison (2006) define ten roles of school-based instructional coaches as well as delineate a proposed amount of time to spend in each role (please see Table 1). These roles include: resource provider; data coach; instructional specialist; curriculum specialist; school leader; catalyst for change; and learner (Killion & Harrison, 2006). As a resource provider, a coach provides materials to teachers that are not readily available to them; however, a challenge to this role is that it takes up a great deal of time. As a data coach, a coach assists teachers and teams of teachers in examining student data and then using the data to design lessons that address student

needs. A problem with the role of data coach is that it requires coaches to create a safe environment in which difficult topics can be discussed without placing blame. As an instructional specialist, the coach assists teachers in selecting appropriate instructional strategies that meet the needs of all students. As a curriculum specialist, the coach focuses on what teachers teach instead of how they teach. As a school leader, the coach facilitates school-wide or system-wide reform initiatives. As a catalyst for change, the coach exhibits discontent with the status quo and questions everyday practices. As a learner, the coach is involved in his or her own continuous development. As a classroom supporter, the coach works side by side with teachers in classrooms while student learning is occurring. As a learning facilitator, the coach plans, supports, coordinates, and facilitates learning amongst adults in the school or school system (Killion & Harrison, 2006). Killion and Harrison (2006) highlight the knowledge and skills coaches need to effectively lead in these roles as well as related challenges and useful strategies.

### **Characteristics of Effective Coaches**

There is no one agreed-upon list of characteristics of effective coaches across the nation. Nor is there a standard list of qualifications for those who are candidates for coaching positions due to the fact that there are no standardized roles and responsibilities for coaches. If schools and school districts tailor their coach expectations based on the purpose or goals of their coaching program, this inconsistency makes sense. However, there are some common areas schools and school districts might want to consider when they begin to develop job qualifications. Knight (2006) suggests that coaching requires skills in communication, relationship building, change management, and leadership for teacher professional development. Killion and Harris (2006) suggest that schools and

school districts require the following characteristics: beliefs, teaching expertise, coaching skills, relationship skills, content expertise, and leadership (please see Table 2<sup>10</sup> for more details).

According to Killion and Harris (2006), an instructional coach is a teacher leader whose chief professional responsibility is to build teacher capacity by bringing research-based practices into classrooms and assisting teachers in transforming the delivery of classroom instruction so that all students can achieve. This support will be delivered through a multitude of configurations, such as one-on-one, small group, by grade level and/or content, by department, or skill level or program. Instructional coaches support the continuous improvement of staff to develop a deep understanding of content knowledge and the use of research-based instructional strategies to improve student learning. They facilitate the analysis of classroom and learning team data to determine the impact of student achievement, teacher practice, and school culture. Instructional coaches facilitate data-driven dialogue amongst staff to examine how attitudes, perceptions, backgrounds, and culture impact teaching practices and student learning. Through the use of collaborative planning, modeling, and co-teaching, they assist staff to scaffold and differentiate instruction to meet the individual student needs. Instructional coaches guide and facilitate teachers' growth and development through in-depth, sustained, and job-embedded professional learning experiences that are aligned with the school improvement goals for student achievement. Thus, Killion and Harris (2006) propose that instructional coaches who can manage their time wisely to fulfill all of these

---

<sup>10</sup> Killion, J., & Harrison, C. (2006). *Taking the Lead: New Roles for Teacher Leaders and School-Based Staff Developers*. Oxford, OH: NSDC, 99.

roles and responsibilities will be successful in impacting teacher practice, and, ultimately, student success.

Instructional coaching programs should aim to enhance teacher quality by providing 1) meaningful professional development tied to standards, curriculum, research, and best practices; 2) follow-up support to effectively implement new learning; and, 3) scaffolding that encourages reflective practices and instruction (Killion & Harris, 2006).

Jim Knight (2007) delineates the characteristics of an effective instructional coach:

A good coach is an excellent teacher and is kind-hearted, respectful, patient, compassionate, and honest. A good coach has high expectations and provides the affirmative *and* honest feedback that helps people to realize those expectations. A good coach can see something special in you that you didn't know was there and help you to make that something special become a living part of you. That is the kind of coach we have in mind when we use the term *instructional coach*. (Knight, 2007, p. 15 -16)

According to Knight (2007), instructional coaches must communicate and establish trusting relationships with teachers who are trying to change, and their practice requires being sensitive to their dilemmas, fears, and celebrations.

The current work and research on instructional coaching points to three broad categories of skills that an effective coach should possess: pedagogical knowledge, content expertise, and interpersonal skills. The literature is nearly unanimous that coaches should be experienced teachers who have demonstrated success in the classroom. Effective coaches have a thorough understanding of how children learn and are skilled in developing and implementing instructional strategies (pedagogical knowledge) – from

questioning strategies to classroom management – to improve student learning (Feger et al., 2004; IRA, 2004). These accomplished teachers must have a large toolbox of instructional strategies to draw upon, which will assist them with building trust amongst teachers (Dole, 2004). Effective instructional coaches must have a thorough understanding of the subject they are coaching (content expertise) as well as knowledge of the curriculum the teachers are using (Feger et al., 2004). Along with pedagogical and content expertise, coaches must possess strong interpersonal skills and competencies (Dole, 2004; Neufeld & Roper, 2003; Poglinco et al., 2003; West & Staub, 2003). In a 2003 survey of 31 professional development coaches, the most frequently mentioned characteristic of an effective coach was “people skills,” including the ability to build relationships, establish trust and credibility, and tailor assistance to individual educators’ needs (Feger et al., 2004). Similarly, researchers at the Center for Research on Learning at the University of Kansas found that successful coaches possess not only strong content knowledge but also an “infectious personality” that helps them encourage and inspire teachers to improve their practices (Knight, 2004).

### **Coaching as a Vehicle for Professional Development**

In 1995, Ann Lieberman called for reform in teachers’ professional development. Lieberman contended that teachers’ professional development ignored the context of teachers’ work in schools, information about how teachers learn, the importance of support mechanisms over time, and the importance of teachers’ collaborative learning communities to support changes in teacher practice. The researcher called for new roles for teachers as teacher leaders, coaches, and teacher researchers, creating a culture that fosters investigation and inquiry, and focuses on teaching and learning.

Teachers experience a vast range of activities and interactions that can increase their knowledge and skills, improve their teaching practice, and contribute to their personal, social, and emotional growth (Cohen, McLaughlin, & Talbert, 1993). Elmore (1996) argues, “Professional development assumes that giving teachers new skills and knowledge enhances the capacity of teachers to teach more effectively. But, if professional development consists only of that, it is likely to have a modest negative effect because the teacher usually returns to a classroom and a school in which the conditions of work are exactly the same as when he or she began the professional development” (p. 24). Elmore (1996) contends that since the students are the same and the content is the same (or may be slightly altered due to the professional development), the teacher may begin to discover that the ideas that seemed plausible during the training does not seem to work in the school or classroom context. Elmore (1996) states, “The ‘real world,’ in the language of teachers, overwhelms the new idea, no matter how powerful or well demonstrated in theory” (p. 25). In situations like the one Elmore presented, instructional coaches intervene by providing the in-classroom support essential for teachers to apply the new knowledge or skills and they expand learning experiences for teachers in their classrooms. Instructional coaches facilitate teachers’ thinking, planning, adapting, and personalizing new learning. The coaches bring teachers together to share, reflect, revise, and offer feedback.

Garet et al. (2001) conducted a study using a national probability sample of 1,027 math and science teachers to empirically compare the effects of different characteristics of professional development on teachers’ learning. The researchers found three core elements of professional development that had significant impact on teachers’ self-

reported improvement in knowledge and skills as well as change in classroom practice: 1) concentration on content knowledge; 2) chances for active learning; 3) consistency with other learning activities (Garet et al., 2001). Likewise, other researchers found that professional development is most effective when it (a) is a sustained, intensive process that focuses on appropriate content; (b) gives teachers opportunities for active, engaging, hands-on learning that is integrated into the classroom instruction on a daily basis; and, (c) provides consistent follow-up through observation and feedback, dialogue with staff members, study groups, mentoring, and peer coaching (Neufeld & Roper, 2003; Darling-Hammond et. al, 2009; Knight, 2009). Instructional coaching covers all of these areas. Additionally, instructional coaches can support the professional development process by enabling teachers to build on their existing knowledge of teaching and learning to improve their instructional practices (Mraz et al., 2008).

Instructional coaching at its best fulfills the core features of what Desimone (2009) describes as the “core conceptual framework” of professional development (p. 183). The core features of this framework are:

- Content focus, whereby the coach facilitates activities in which teachers address mathematics content and pedagogy, as well as how students learn mathematics;
- Active learning, whereby the coach not only models instruction and co-teaches, but also engages with teachers in the work of teaching via co-planning, assessment design, observation, de-briefing reflections addressing pedagogy and learning, and data-driven decision making;
- Coherence, whereby a coach supports teachers’ efforts to understand, to examine ideas and relationships, and to connect prior knowledge and beliefs with new

learning as well as teachers' efforts to reconcile state, district, and school policy demands;

- Duration, whereby a coach is consistently present to provoke and sustain attention towards addressing problems of practice; and
- Collective participation, whereby a coach facilitates inquiry, reflection, and experimentation within a community of practice focused on curriculum, instructional approaches, and interpretation of student meaning.

Similarly, Neufeld and Roper (2003) identify what they deem to be characteristics of effective professional development:

- It must be grounded in inquiry, reflection, and experimentation that are participant-driven.
- It must be collaborative, involving a sharing of knowledge among educators and a focus on teachers' community of practice rather than on individual teachers.
- It must be sustained, ongoing, intensive, and supported by modeling, coaching, and the collective solving of specific problems of practice.
- It must be connected to and derived from teachers' work with their students.
- It must engage teachers in concrete tasks of teaching, assessment, observation, and reflection that illuminate the processes of teaching and development.
- It must be connected to other aspects of school change. (p. 3).

Instructional Coaching has qualities lacking in other forms of professional development that are essential for teacher learning: it is practice-based, ongoing, individualized, reflective, and intensive, and it actively supports the translation of research into practice (Annenberg Institute for School Reform, 2004; Bean & Morewood 2007; Darling-



Hammond & Richardson 2009; Knight 2009). Coaching leads to measurable changes in teachers' practice and improvements in student learning.

Susan Poglinco and Amy Bach (2004) spent a year researching coaching as a model of professional development in Philadelphia, PA. They argue that coaching programs can be beneficial; however, schools and school districts must consider the many complexities that come along with any coaching initiative. Poglinco and Bach (2004) examined coaching as a professional development tool from two aspects: the in-class support that coaches provide to individual teachers and the group-focused professional development activities that coaches lead. Both approaches seek to help teachers effectively implement new instructional strategies in their classrooms. The researchers found the following “overarching themes and nuanced insights” in regards to the coaching model of professional development for teachers:

Teachers respond particularly well to in-class coaches, and so coaches need to be proficient in a variety of techniques for providing in-class technical support... Although teachers meet regularly, these group meetings do not translate into the creation of professional learning communities or changes in instructional practices at the classroom level... Some teachers are unable to use the suggested instructional guidelines for improving instruction because they don't understand, and the materials don't define how to change their instructional practices... While the coaching model of professional development is being implemented in many schools, neither its individual nor its group component emphasizes performance standards... This professional development model greatly

emphasizes the capacity and abilities of the coach, but even the most capable coaches cannot do it alone... The ambiguity of the coaching role and the uncertainty of what coaches' relationship should be to teachers, the principal, and the leadership team can impinge on coaches' effectiveness... The importance of the role coaching plays in helping teachers change their instructional practices cannot be underscored enough... Being an effective classroom teacher is no guarantee that one will also be an effective coach... The use of different coaching strategies need not be confined to the teacher/coach relationship. (Poglinco & Bach, 2004, p. 398-400)

Adopting a coaching model without considering the many complexities that may arise may hinder the results certain schools and school districts are aiming to achieve.

However, with some advance planning and understanding of how coaching works, school leaders can make informed decisions about how to implement coaching programs that meet their teachers' professional development needs and are aligned to their school improvement plans.

As previously stated, professional development should be ongoing, job-embedded, collaborative, reflective, and relevant to the content. Instructional coaching, if implemented correctly, has the ability to meet all of these staff development requirements.

## **Research on Coaching**

### **Effectiveness of Coaching on Teacher Practice and Student Achievement**

Although the popularity of coaching has steadily increased over the past two decades, there is limited evidence that coaching is an effective strategy for improving

instruction and learning. Relatively few studies have been conducted on the effectiveness of coaching, and the research that does exist on this topic has been mostly based on observational (as opposed to controlled) designs that limit the inferences that can be drawn from the results. With this limitation in mind, most research found positive results for the influence of coaching *on teachers' practice*. However, results on the effectiveness of coaching *for improving student achievement* are mixed. The following paragraphs will describe the research found in the literature about instructional coaching and its link to changing teachers' practices and influencing student achievement.

Joyce and Showers (1996) conducted a series of studies in the 1980s investigating the influence of their peer-coaching model on teachers' instruction. They found that teachers who participated in peer coaching were more likely to apply new instructional strategies and skills in their teaching. Neufeld and Roper (2003) and Knight (2004) similarly found that teachers who participated in coaching were more likely to try out new instructional practices learned in traditional workshops than were teachers who did not participate in coaching. Teachers who participated in the Pennsylvania High School Coaching Initiative (PAHSCI) were more likely to apply instructional strategies when coaching was provided (Brown et al., 2006). The second and third year of study of the program found that coaching was a factor linked to continued instructional change (Brown et al, 2007, 2008). Kohler and Crilley (1997), who conducted two small-scale studies on coaching, found that teachers in primary grades were more effective in their use of questions and in facilitating interaction among students.

In 1985, the Ann Arbor Public Schools in Michigan implemented a peer coaching initiative in two schools (Sparks & Bruder, 1987). The teachers completed a

questionnaire before and after the peer coaching program (Sparks & Bruder, 1987). Before the peer coaching project, only 54 percent of the teachers said they regularly “tried something new;” however, after peer coaching, 70 percent of the teachers responded favorably to trying something new (Sparks & Bruder, 1987). Knight (2004) found that 85 percent of teachers who worked with a coach had already applied at least one instructional strategy they had learned during a summer workshop in comparison to 10 percent of teachers who had not worked with a coach. Similarly, Reed (2007) found that when teachers engaged in coaching conversations with the instructional coach and other teachers, they had opportunities to create new mental models and attempt new strategies and techniques they might not have otherwise attempted without support.

Moreover, research suggests that coaches can promote changes in teachers’ classroom practice when they have a thorough understanding of adult learners, mastery of successful coaching techniques, knowledge of effective instructional practices, and clear roles and responsibilities (IRA, 2004; Toll, 2005). According to Bean et al. (2008), teachers who work with coaches have improved their teaching practices by incorporating more high-level thinking questions, encouraging more active engagement from students, and increasing their ability to differentiate and adapt instructional materials and skills. Toll (2006) stated, “[C]oaching supports significant instructional change and increased teacher reflection, which contributes to the reshaping of school cultures” (p. 8). Researchers have found that instructional coaching positively impacts teacher practice not only through reflective questioning, but also in many other ways.

### **Impact on teacher practice and student achievement**

Galm and Perry (2004) studied the impact of coaching in Clark middle schools in Corpus Christi, Texas and Long Beach and San Diego, California. Content-specific instructional coaches were deployed to low-performing schools in each of these districts with large populations of underserved students. In each district, over three years, student achievement increased. At three of the traditionally lowest-performing middle schools in San Diego, California, for example, standardized test scores were up significantly. Two of the three schools more than doubled the state-set targeted increase in test scores between 2002 and 2003. Five middle schools in Corpus Christi, Texas, that participated in the initiative each increased the percentage of students passing the Texas Assessment of Academic Skills by 3% to 15% between 2001 and 2003. In 2003, students exceeded expectations for performance in the first year of the Texas Assessment of Knowledge and Skills by 2% to 40%. Between 22% and 35% of students in the cohort group at these schools increased their reading comprehension test scores more than three grade levels in three years. In the third district, Long Beach, California, schools that used coaches along with other initiatives showed improvement. As evidenced in this study, instructional coaching appeared to improve teacher practice as well as increase student achievement.

Boston Public Schools has implemented the Collaborative Coaching and Learning (CCL) program that created the roles of literacy, math, language acquisition, science, and history coaches. The district reports steady gains in student achievement on the Massachusetts Comprehensive Assessment in Skills from 1999 to 2004, suggesting that instructional coaching had a positive impact on student achievement (Schen, Rao, & Dobles, 2005). Likewise, Lovett et al. (2008) studied the effects of coaching on

preparing high school teachers to teach students with disabilities. Student outcome data indicated that classrooms in which teachers had an extra year of coaching demonstrated greater gains. Their findings suggest that coaching may be a model of professional development that can be supportive of teachers.

Ross (1992) found that middle school students whose history teachers had greater contact with their coaches showed greater gains in achievement than did those students whose teachers had less frequent contact with their coaches. Ross (1992) concluded “that all teachers, regardless of their level of efficacy, were more effective with increased contact with their coaches” (p. 62). Marsh, McCombs, Lockwood, Martorell, Gershwin, and Naftel (2008), in the study of a statewide reading coach program in middle schools, found that coaching appeared to have a small but positive effect on reading achievement in two of the four cohorts of student subjects. The researchers also found a small and significant relationship between students’ achievement and the frequency with which coaches reviewed assessment data with teachers. Sailors and Price (2010) found that elementary school teachers who received coaching in addition to participating in a two-day workshop scored higher on all measures of instruction and student learning than teachers who only participated in the two-day workshop. Similarly, results from the study of the Literacy Collaborative – a professional development program for coaches – found that teachers’ participation in coaching had a positive effect on student achievement (Biancarosa, Bryk, & Dexter, 2008). Using a value-added model, the researchers found positive effects for the model on improvements in literacy learning. Likewise, Bean et al. (2010) found that schools in which coaches spent more time on the task of coaching itself experienced a significantly greater percentage of students who

were proficient in reading achievement (as measured on the Terra Nova) in first and second grade. The results of the study suggest that there is a positive benefit for student achievement when strong coaching programs are in place.

Campbell & Malkus (2011) conducted a three-year randomized control study on mathematics coaching and found that *over time* coaches positively affected student achievement in grades three, four, and five. The researchers controlled for teacher experience, prior school academic tradition in mathematics, school size, and student demographics. The instructional coaches in this study engaged in a high degree of professional coursework addressing mathematics content, pedagogy, and coaching prior to and during at least their first year of placement. Student achievement data were measured by the standardized assessments administered in Virginia in grades 3-5. The researchers emphasize that this significant positive effect on student achievement was *not* evident at the conclusion of the first year of placement of a coach in a school but emerged as knowledgeable coaches gained experience and as a school's instructional and administrative staff members learned and worked together.

Matsumura, Garnier, Correnti, Junker, and Bickel (2010) investigated the effects of Content-Focused Coaching (CFC) on new teachers recruited in a district that suffered from a high turnover rate among its teaching staff. Matsumura et al.'s findings indicate that the CFC program potentially contributed to significantly higher school-level gains on the state standardized test for English language learners than non-CFC classrooms. Also, the quality of teachers' self-reported and observed instruction in the CFC schools exceeded that of comparison teachers. The results of this study suggest that there is a

positive benefit for student achievement when new teachers enter buildings with strong coaching programs in place.

### **Impact on student achievement**

Even though some researchers found that instructional coaching positively impacts *teacher practice*, the research on the effectiveness of coaching *for improving student achievement* is limited and has yielded mixed results.

In their review of literature related to coaching, Poglinco et al. (2003) found no studies that provided evidence of the link between coaching and student achievement. However, the researchers do contend that the America's Choice design, spearheaded by coaches, has influenced the way teachers and administrators think about teaching and learning. Poglinco et al. (2003) posit, "There is evidence that the America's Choice philosophy of standards-based reform has begun to percolate through the participating schools and that instruction in most schools looks different than it did prior to the implementation of America's Choice" (p. 24). It is vital to note that Poglinco et al. did not examine the impact of America's Choice on student achievement in this evaluation study, but focused more on teacher practice.

Similarly, The Early Reading Professional Development Interventions Study by Garet et al. (2008) for the Institute of Education Sciences studied the impact of coaching on teacher practice and student learning in early reading. The study used rigorous scientific methodologies to determine a causal relationship between coaching and student achievement (Garet et al., 2008). Two professional development programs were implemented in 90 schools in six districts with an equal number of schools being randomly assigned to professional development treatment A, B, or the control group



(Garet et al., 2008). In this study, elementary schools were randomly assigned to one of three conditions: to participate in professional development institutes aimed at increasing primary grade teachers' knowledge of scientifically-based reading instruction (treatment A), to participate in those same institutes but also receive coaching (treatment B), or to serve as a control sample. Results indicated a positive effect of both professional development interventions on teachers' knowledge of scientifically based reading instruction and their observed instruction. Neither intervention, however, resulted in higher student achievement, and no added effect was detected from the coaching intervention for teachers' instructional practice or for student achievement.

Some studies have suggested a lack of empirically sound evidence for the effects of coaching (Brown et al., 2006; Garret et al., 2008; Neufeld & Roper, 2002, 2003; Poglinco et al., 2003), while others have indicated that the possibilities of coaching are noteworthy. Therefore, more rigorous research should be conducted to determine the effects, if any, of coaching on teaching, learning, and organizations.

### **Limitations and Implications**

Schools and school districts in nearly every urban district in the country are hiring coaches to help meet ambitious reform goals for instruction and learning. Additionally, the Race to the Top applications of many states emphasizes the role of professional development to turn around low-performing schools. While specific details as to the roles of instructional coaches in these efforts regarding student data analysis and improved teacher instruction have yet to be determined, the studies and literature in this review clarify that instructional coaching is a viable and effective form of professional development for teachers. Instructional coaching, in its idealized form, intends to

develop the types of sustained, instructionally focused, collaborative interactions in schools that research and theory suggest are most effective for improving instructional quality (Darling-Hammond & McLaughlin, 1995; Hawley & Valli, 1999; Garet, Porter, Desimone, Birman, & Yoon, 2001). Despite the promise of coaching for supporting new forms of teaching, relatively few empirical studies have directly assessed the influence of instructional coaching on teacher practice and student achievement, and results from these studies yield mixed results (Garet et al., 2008; Joyce & Showers, 1996; Marsh, McCombs et al., 2008; Neufeld & Roper, 2003; Ross, 1992).

Although there are promising indications that coaching may be an effective approach for improving teachers' language and literacy practices (Poglinco & Bach, 2004), there is little empirical support for its use, especially as an independent professional development strategy. Deussen et al. (2007) posit that having a coach in an organization does not indicate how those individuals are spending their time because there is a big difference between *being* a coach and *doing* coaching. If a coaching position is not handled or monitored correctly, it could become a glorified substitute or administrative position (Coggins et al., 2003). Another argument is that coaches might coach on what they know and feel comfortable with instead of what the school or school system needs (Coggins et al., 2003). A significant obstacle is "that in order for coaches to be effective, teachers and administrators must accept the creation of the role, the person who takes it on, and the activities that person engages in as legitimate" (Coggins et al., 2003, p. 34). A coach will not be considered legitimate if he/she has not taught the content or has not had enough experience teaching the content. In addition, since

coaching does not require certification, much of a coach's training is on the job (Coggins et al., 2003).

Despite the expansion of instruction coach roles and recent calls for attention to the qualifications and professional preparation of coaches (Marsh et al, 2008), there is limited empirical literature that examines instructional coaches' professional learning experiences even though *Standards for Professional Learning*<sup>11</sup> exists. Some school districts require instructional coaches to complete particular coursework and training; however, other school districts only require particular years of experience in teaching. Acknowledging the lack of attention to the subject of coaches' professional learning overall, there are few studies that provide guidance about the professional development of coaches. Recent reports on coaching programs describe phased-in learning and ongoing training as important for coaches' success (Brown, Stroh, Fouts, & Baker, 2005; Galluci & Swanson, 2008; Knight, 2006; Marsh et al., 2008). Some of the literature suggests that coaches need training on facilitation skills (Coggins et al., 2003; Neufeld & Roper, 2002). For example, working one-on-one with teachers and guiding conversations about teachers' instructional practice is described as challenging, especially for new instructional coaches (Neufeld & Roper, 2002). Moreover, empirical studies are extremely limited and focus only peripherally on the learning of coaches or on structural supports for their work (Gibson, 2005). The descriptive literature in many books and articles treats coaches as adults who enter the position with expertise and skill. Coaches' content and pedagogical expertise are assumed as preconditions for the job. Thus, future empirical studies are needed in the area of professional learning and development of

---

<sup>11</sup> Learning Forward (formerly known as the National Staff Development Council). (2011). *Standards for Professional Learning*, retrieved from [www.learningforward.org/standards/](http://www.learningforward.org/standards/) on July 29, 2011.

instructional coaches. Furthermore, additional research could contribute greatly to the understanding of these capabilities by comparing effective and less effective coaches using reliable instruments that measure characteristics, such as intelligence, aptitude, and personality traits.

Future studies on how instructional coaches spend their time are essential for determining the consistency of coaching as a vehicle for professional development. Instructional coaches generally divide their time among many different activities due to their various roles and responsibilities, including formal work with teachers (i.e., observing and modeling instruction, planning lessons, etc.), informal coaching (i.e., lending an ear), coaching-related administrative duties (i.e. coordinating assessments, management materials and resources), data analysis, as well as non-coaching duties (i.e., lunch duty, bus duty, etc.). While one-on-one work with teachers is on the top of the list of activities on which coaches spend significant time, in one study, McCombs and Marsh (2009) found that only 15% of coaches reported spending 30% or more of their time working one-on-one with teachers. The researchers posit that in order to be productive, most states expect coaches to spend at least 50% of their time providing classroom support to teachers. McCombs and Marsh (2009) found that coaches' one-on-one work appears to matter to teachers – it is strongly associated with their perceptions of coach influence on instruction and on student motivation to read – many teachers do not get to work with the coach in this way, and many coaches do not spend the majority of their time doing this type of work.

## **Instructional Coaching and DDDM**

Even though there are current studies that highlight the various roles of instructional coaches, one prominent role that has rarely been examined is the instructional coaches' role in data-driven decision making. The research on data-driven decision making (DDDM) and instructional coaching is emerging. One mixed methods study of a statewide reading coach program in Florida middle schools examined how coaches support DDDM and how this support relates to student and teacher outcomes (Marsh, McCombs, and Martorell, 2010). Marsh, McCombs, and Martorell (2010) found that the majority of coaches reported a major focus on analyzing data to guide teacher practice. Specifically, when coaches were asked to consider all of the work they did with teachers during the 2006-2007 school year, 62% of 109 reading coaches reported placing a major emphasis on supporting the analysis of data to guide instruction. The researchers also found that the reading coaches focused on other key components of reading instruction, such as supporting comprehension, vocabulary, fluency, and differentiated instruction to meet students' needs. Coaches in all districts reported dividing their time among a wide range of activities. Marsh, McCombs, and Martorell (2010) discovered that half of all coaches spent six or more hours every two weeks analyzing and training teachers on how to analyze and use data to inform instruction.

Another finding of Marsh, McCombs, and Martorell's (2010) study was that coaches with three or more years of experience were significantly more likely than less experienced coaches (one to two years of coaching experience) to spend a large amount of time (17 or more hours every two weeks) on data analysis (32% compared with 12%, respectively). The researchers also found that the school districts and central office staff

provided monthly professional development opportunities for coaches, and more than half of the reading coaches reported that district professional development for coaches placed a major emphasis on analyzing and using student data to improve instruction. The results of the study indicate that teachers who received more frequent data support from the reading coach were significantly more likely than teachers with less frequent to no data support to attribute changes in their instruction to working with the coach. Also, the researchers found a statistically significant association between data analysis support and achievement, even though the magnitude of the association was fairly small.

Furthermore, instructional coaching is one potential avenue for providing teachers with professional development on DDDM. Thus, many schools and school systems are hiring instructional coaches to support the use of data to improve teaching practice and student achievement. Despite the widespread use of instructional coaches and DDDM, there is little research examining how coaches support DDDM in schools and the extent to which these efforts are associated with improvements in teaching practice and student achievement. With the literature on instructional coaching as well as DDDM in mind, this study is designed to examine coaching at the secondary level and to provide empirical evidence on the effects of a coach's support with data-driven decision making.

### **Conceptual Framework**

The conceptual framework for this study is adapted from Marsh, McCombs, and Martorell's (2010) conceptual framework<sup>12</sup>, which was grounded in the empirical and theoretical research on coaching, learning, and DDDM (p. 879). The basic hypothesis of the researchers' model is that increasing the expertise, knowledge, and skills of

---

<sup>12</sup> Permission to reprint the conceptual framework in this publication was granted by Julie Marsh on May 15, 2014 (see Appendix T).

instructional coaches and their availability to work with teachers at a school site will allow teachers to gain new knowledge and skills or enhance existing knowledge and skills, which in turn will improve their literacy instruction and ultimately improve student achievement and other outcomes. Marsh, McCombs, and Martorell's (2010) model recognizes that the state and district shape this process by articulating the roles and responsibilities of the instructional coach, setting hiring qualifications, providing ongoing training and support to instructional coaches, and monitoring their efforts. Other aspects of an instructional coach's actual work at the school level may also influence his or her effects on teachers, such as the amount of time spent working with teachers to support data interpretation and use as well as whether the coach works one-on-one with teachers versus working with a group of teachers.

Marsh, McCombs, and Martorell (2010) argue, "Theoretical notions of DDDM and organizational improvement (Deming, 1986) indicate that when properly examined, interpreted and acted upon, certain types of data can assist in improving individual practice and organizational outcomes. Learning theory also suggests that the quality of coach-teacher interactions (e.g., how information is introduced, new practices are modeled, and teachers are provided opportunities for application and reflection) are likely to influence instructional responses" (p. 879). Marsh, McCombs, and Martorell's (2010) framework also posits that coaching can affect student learning through various other intermediate outcomes, such as building school leadership capacity and enhancing school culture, which in turn might either directly affect student achievement or indirectly affect student achievement through changes in teacher practice. Lastly, Marsh, McCombs, and Martorell's (2010) framework for the study recognizes that coaching programs are

embedded in a broader state, district, and local context that can influence coaching practice and its impact, and includes such factors as principal leadership, school size, and other state and district policies.

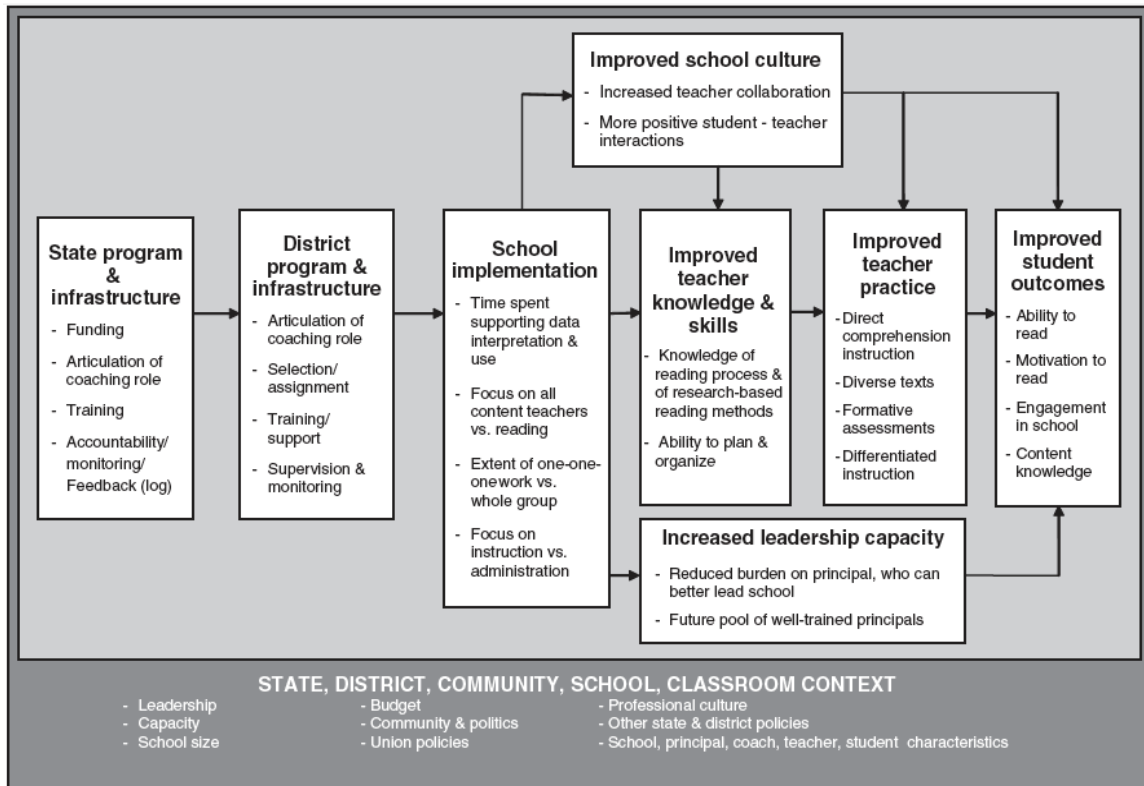


Figure 2: Marsh, McCombs, and Martorell's (2010) Conceptual Framework

For this study, I modified Marsh, McCombs, and Martorell's (2010) conceptual framework to align to the research site's structure and processes. The modified conceptual framework begins with school implementation of DDDM and Instructional Coaching instead of the State Program and Infrastructure. Even though the funding for the school's programs is through the state and district, the charter school's executive leaders created the instructional coaching program. Most charter school leaders are able to use their schools' funds to create various programs as long as the programs are



continuously monitored and aim to achieve improved teacher quality and improved student outcomes. In this charter school, the school administrators influence the coaching process by directing coaches' attention to certain priorities as well as providing coaches with training opportunities. In this school, instructional coaching is geared around not only assisting teachers with analyzing student data, but also working with teachers to use the data to determine the most appropriate instructional strategies to teach the low-performing students, which *may* enhance teachers' instructional practices. Moreover, the conceptual framework for this study posits that the instructional coach's knowledge and skills (which was not in the original conceptual framework) can affect teachers' knowledge and skills, which can in turn affect teacher practice and student outcomes through various other intermediate outcomes, such as building school leadership capacity and enhancing the school's "data use" culture.

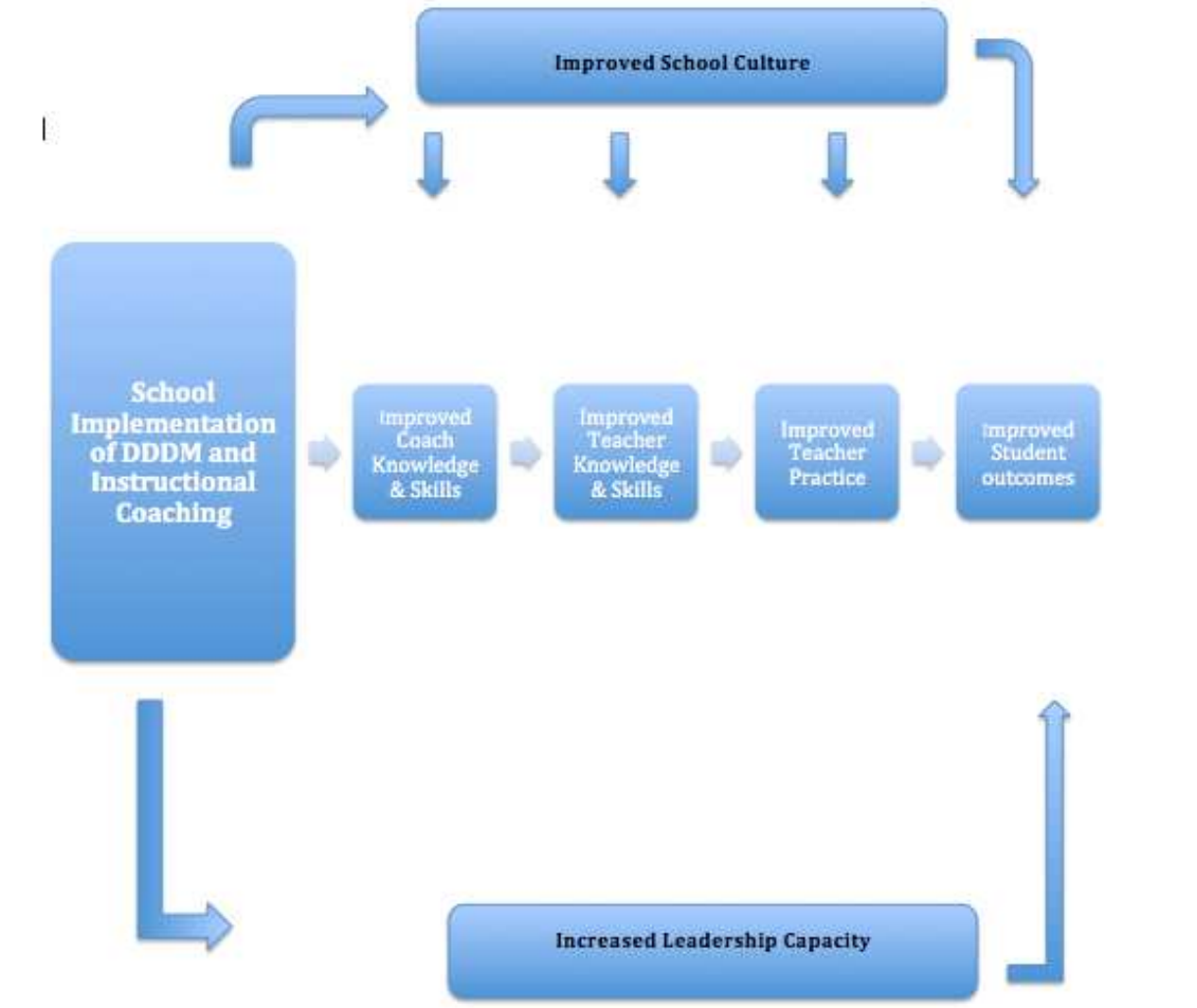


Figure 3: Conceptual Framework for the Study

## CHAPTER 3: RESEARCH METHODOLOGY

### **Overview**

This study examines the convergence of two popular school improvement policies: instructional coaching and data-driven decision making (DDDM). Even though instructional coaches perform many roles and coaching activities, spending time helping teachers analyze student data to guide instruction is a key role that has rarely been examined in research. Drawing on the large-scale research studies on DDDM as well as instructional coaching, one purpose of this study is to add to the knowledge base of how an instructional coach in an urban, high-poverty, middle school supports DDDM and how this support relates to teacher outcomes. Specifically, this study is designed to provide insights into the instructional coach's role in the data-driven decision making process and how it may or may not impact teacher practice, as well as how a coach's professional learning experiences impact his or her data-support activities with teachers.

This chapter presents the research methodology and processes used to answer the research questions. Specifically, it describes the context, participants in the study, interviews, observations, and document analysis processes and outlines the analysis that was used to interpret the data. In addition, the role of the researcher was delineated. Finally, ways to address the validity and reliability issues were also described.

### **Research Questions**

The research study is guided by one overarching research question with subsidiary questions:

Overarching Research Question:

2) What is the role of the instructional coach in the data-driven decision making process (data analysis and support) in an urban, low-performing, public charter middle school?

Subsidiary Questions:

- a) How does the instructional coach in an urban, low-performing, public charter middle school encourage and support teachers in using data to inform their instruction and improve student learning?
  - i) How does the instructional coach encourage and support the use of data to inform instruction?
  - ii) What challenges are encountered by the instructional coach in supporting teachers' use of data to inform instruction? How are these challenges managed?
  - iii) What structures are in place, if any, that assist the instructional coach with facilitating the use of data to inform decision-making regarding instruction?

### **Case Study Methodology**

This study is a descriptive, analytic qualitative case study of one instructional literacy coach's support with teachers' data-driven decision making processes in a single high-poverty, low-performing, public charter middle school that has implemented formal structures for the analysis of assessment data through the *Data Wise Improvement Process*. A case study is an in-depth analysis of one or more events, settings, programs, social groups, communities, individuals, or other 'bounded systems'" (McMillan, 2004, p. 271). The case study allows the researcher to explore a great number of variables through multiple sources of evidence that can provide data on both the phenomenon

under investigation and its underlying context. The case study approach is particularly suitable because the topic is relatively unexplored. An organizational case study of a single site allows for an in-depth exploration and thick description of the role of the instructional coach in supporting teachers' use of data for instructional decision-making as well as his professional development experiences.

Yin (2009) states that the case study method is most appropriate for investigating “a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between the phenomenon and context are not clearly evident” (p. 18). The case study method was selected for this research study because the research study investigates the instructional coach's support of DDDM in order to provide insight on the extent of the coach's professional learning experiences and support to teachers, and how teachers perceive the impact of that support on their practice. The case study method is also appropriate when “how” or “why” research questions form the basis of the investigation and when the study focuses on contemporary events that the researcher has no ability to control (Yin, 2009). As the literature review for this study indicates, the influence of data analysis on instructional practice and the impact of the instructional coach's support in this process is likely to be a complex phenomenon with a variety of factors commingling to shape the nature and character of the instructional response.

Qualitative studies can help the researcher to “[understand] the *meaning*, for participants in the study, of the events, situations, experiences, and actions they are involved with or engage in... [understand] the particular *context* within which the participants act, and the influence that this context has on their actions... [understand] the process by which events and actions take place” (Maxwell, 2005, p. 22-23). These useful

aspects of qualitative research match the research goal of this study, which is to understand how the participants see the role of the instructional coach in the data-driven decision making process, and how the coach's support of DDDM influences teachers' practices (attitudes, behavior, knowledge, skills, and understanding). These data can then be triangulated to develop more thorough and valid interpretations. Thus, this study examines and describes one case of an instructional coach's support with the DDDM process.

### **Critical Case Study**

The school (in a particular school district) selected for this study was chosen because it forms a critical case (Miles & Huberman, 1994; Yin, 2009). The critical case exemplifies the problem being studied, and, as such, is of strategic importance (Flyvbjerg, 2006). The conclusions drawn from a critical case have potential applicability to other schools seeking to use data to inform instructional processes through the support of instructional coaches as well as the potential to inform future research in this area. Because the contextual circumstances of the critical case can encompass a number of diverse, pertinent issues, it can make it highly representative of schools undergoing initiatives (Yin, 2009). As a result, researchers consider a critical case one whose findings and conclusions can have more potential for generalizability than typical case studies.

### **DDDM and Critical Case**

As a school that has taken stringent steps to become data-driven, there are three characteristics that particularly render the school site as a critical case: 1) partnering with an assessment company, The Achievement Network (ANet); 2) investing in a data

warehouse; and, 3) having an instructional coach facilitate the data-driven decision making process, whom receives ongoing professional development in DDDM throughout the school year. Over the past six years, the school has made substantial investments in improving its ability to respond to data as part of its efforts to improve student achievement. One outgrowth of these efforts has been a partnership with an assessment company, The Achievement Network (ANet)<sup>1</sup>, which creates standards-based interim assessments and generates the data from those assessments. Moreover, Great Schools Academy has also invested in a data warehouse system that greatly improved access to student achievement data. The school has also trained instructional coaches to guide teachers' discussions around data and to implement a structured protocol for analyzing and using data to inform teacher practice, which is aligned to the aforementioned *Data Wise* improvement process. The school has scheduled data meetings each quarter where the instructional coaches meet with teachers to discuss student data and student work. The overarching rationale behind this approach is that data should drive instructional decision-making, and the instructional coach should facilitate and support this process. These initiatives appear to extend well beyond the efforts of most schools. The robust and comprehensive approach the school has taken to implement instructional coaching to support the use of data to improve student achievement makes it a potential model for data use.

Furthermore, at the time of this study, the instructional literacy coach at Great Schools Academy was receiving ongoing professional development in effectively supporting the DDDM process by participating in the New Leaders for New Schools Emerging Leader program<sup>2</sup>. The Emerging Leader program is a professional learning

opportunity that not only builds the coach's own capacity to use data, but also builds his capacity to lead a team of teachers to use data to enhance their instructional practice. In order to be an Emerging Leader, one must have a strong belief that all students will achieve college success, have a demonstrated ability to lead adults effectively, and have a proven track record of achieving student gains. Emerging Leaders must also have a strong desire to increase their impact beyond the classroom and demonstrate enthusiasm to learn and grow their leadership skills. Through the program, Emerging Leaders practice, reflect, and build skills to drive results and gains with a team of adults. Specifically, during the year-long program, Emerging Leaders will lead a team of teachers through data-driven instruction cycles; engage in content designed to enhance leadership skills; and, work and reflect with a local facilitator to receive specific and actionable feedback. Emerging Leaders are expected to learn powerful mindsets and skill sets to make improvements in teacher practice and student achievement ([www.newleaders.org](http://www.newleaders.org)).

Moreover, many of the initiatives the school has employed such as instructional coaching, structured data meetings, scheduling that promotes collaboration between teachers and instructional coaches, and an investment in an assessment organization are congruent with best practice research (Datnow, Park, & Wolhstetter, 2007; Lachat & Smith, 2005; Wayman & Stringfield, 2006). Because Great Schools Academy is a typical low-achieving urban school that implemented an instructional coaching program to support DDDM, this study may yield conclusions applicable to other public charter schools that have undertaken similar measures to improve student achievement through the analysis of assessment data guided and supported by an instructional coach.



## **Achievement History and Critical Case**

The recent history of the school site has also made it suitable as a critical case. As a school that historically has been deemed underperforming, Great Schools Academy has been a primary focus of the district's efforts to substantially enhance and sustain student achievement. While student achievement has fluctuated at times, Great Schools Academy made incremental progress in 2010. In 2010, the percentage of students reaching proficiency in reading and math represented a two-fold increase over a period of three years. However, the school experienced a sharp drop in student achievement on the administration of the state assessment in 2012, resulting in the school receiving the state's lowest accountability rating. As a result, Great Schools Academy was being targeted for state intervention in the form of increased monitoring and the provision of additional personnel to facilitate the improvement process. The instructional literacy coach was hired in July of 2011, and was in his second year as a coach when this study began (in April 2013).

Great Schools Academy's current context actually enhances rather than diminishes the school's suitability as a critical case. Great Schools Academy is a high poverty, one-hundred percent minority school that struggles to improve and sustain student achievement levels. It is, in many ways, reflective of many schools throughout the country that are currently embracing a more data-driven approach. A great degree of improvement has coincided with the implementation of structured data analysis as well as the implementation of coaching to support the DDDM process, but, as recent assessment data indicate, there have been setbacks. Therefore, this case presents an opportunity to explore how the strong emphasis the school is placing on data use and coaching is

influencing the instructional program. Even though this is a high-risk student population, it is not the purpose of this study to examine the relationship between the instructional coach and students. The insights gained from this case study have the potential to inform how teachers, coaches, school leaders, and district leaders should approach data-driven instructional improvement.

### **Site Description**

The study was conducted at Great Schools Academy, a school in a high-poverty, urban community. The school was initially formed in 1998 by a foundation initially created as a program for teens involved in the juvenile justice system. The program offered youth opportunities to earn money, learn marketable skills, and participate in an academic environment that offered small class sizes and individualized instruction from highly qualified teachers. Great Schools Academy was established as a middle school campus in 2007, and it was accredited by the Middle States Association of Colleges and Schools Commission on Secondary Schools through 2013. As of May 2013, the status of the school's accreditation was under review and cannot be verified. The school serves 210 students in grades six through eight. Approximately 99.5% of the student population is African American and 0.5% of the student population is Hispanic/Latino. Ninety-four percent of the students receive free and reduced meals, and 24.5% of the students are identified as students with disabilities, who are taught via an inclusion model. There are four classes in each grade level, and the average class size is 20 students.

Great Schools Academy students face significant challenges in their lives. Twenty-two percent are involved in the foster care system or abused, and twenty-one percent are involved in the juvenile justice system. Great Schools Academy's

comprehensive school program is designed to be transformational through four key components: an engaging and relevant academic program that is integrated with a robust socio-emotional learning program; extended day/extended year activities, and their future focus and post-secondary programming that enables students to plan for success after middle and high school. Since Great Schools Academy is a neighborhood school, the student re-enrollment rate is eighty-four percent. However, there is high teacher turnover. Approximately seventy-four percent of the teachers (including fifty-seven percent of teachers rate “ineffective”<sup>13</sup>) were planning to leave Great School Academy within the next one to two years.

Over the past five years, Great Schools Academy has made large investments in building its data-use capacity. These investments include the purchase of a data warehousing program that stores a large variety of the student data to which all teachers have access. Teachers, coaches, and school leaders are able to use the software to access a wide variety of reports that can be disaggregated based on user preference. This data warehousing program provides teachers, coaches, and school leaders access to the results of past standardized test data, periodic diagnostic tests, various reading inventories, attendance, and discipline records. To facilitate analysis of these data for the purpose of informing instructional decision-making, in 2011, the school implemented an instructional coaching program, in which they hired an instructional literacy coach (to support the English/language arts and social studies teachers) and an instructional mathematics coach (to support the mathematics and science teachers). The instructional coaches perform many roles including meeting with teachers weekly to either provide

---

<sup>13</sup> According to The New Teacher Project (TNTP) Instructional Culture Insight Survey, the scale of teachers is ineffective, minimally effective, effective, and highly effective.

feedback on an observation, support the teacher with planning a lesson, or facilitate analyses of student work and data.

### **Sample/Participant Selection**

Participants for this study included the instructional literacy coach at Great Schools Academy, the principal, and the English/language arts (ELA) and social studies teachers for grades six through eight. Each teacher was a full-time employee who worked at the school for the entire school year, regularly participated in data meetings, and worked with the instructional coach to analyze and use data to inform instruction. There was one ELA teacher and one social studies teacher on each grade-level, totaling six teachers. One teacher, the seventh grade social studies teacher was replaced by a long-term substitute teacher; therefore, I was unable to interview her. As the instructional leader of the school as well as the instructional literacy coach's supervisor, the principal was selected as a key participant. Lastly, the instructional literacy coach himself was selected as a participant to gather insight on his own perception of his support with DDDM. The instructional mathematics coach was not selected as a key participant due to her focus on the mathematics content area.

On March 26, 2013, University of Maryland's Institutional Review Board (IRB) approved this study, Project # (434867-1), and I was granted an extension for one year on February 24, 2014 (see Appendix R for IRB Approval Letter). Furthermore, the researcher also secured a written agreement from the Executive Director of the school to conduct research at the school site. To attain informed consent from participants, the researcher presented them with an informed consent form prior to the first meeting via email (see Appendices F-I). This provided participants with an opportunity to review the

form prior to the first meeting, and they were able to ask the researcher questions about the study and their participation. Prior to the interview, the researcher had a face-to-face meeting with the participants individually to discuss the informed consent in detail. At that time, they had the opportunity to ask questions, clarify any unclear language in the document, sign the form, and/or refuse to participate if they chose.

### **Data Collection**

A particular benefit of the case study strategy is the flexibility to employ multiple methods of data collection. Multiple sources of evidence allow the researcher to investigate a wider range of issues related to specific research questions. While these sources may be distinct and limited in isolation, the converging conclusions that may emerge from these data have the potential to address issues of construct validity (Yin, 2009). To address potential validity concerns, this study employed multiple data collection techniques.

Data collection methods included one semi-structured interview with the principal, teachers, and the instructional coach, individually, regarding the extent to which the instructional coach focuses his work with teachers on data analysis and support, and how this influences teachers' instructional practices, if at all. The interviews also gathered information on the kinds of support and professional learning the instructional coach received that promoted his data-support activities. Please see the Appendices C-E for the interview protocols<sup>14</sup> for teachers, the principal, and the coach.

---

<sup>14</sup> The interview protocols were adopted and modified from teacher protocols and coach protocols shared by Julie Marsh, Associate Professor at the Rossier School of Education at the University of Southern California, on March 12, 2013.

Semi-structured interview questions are “open-ended” yet specific in intent, allowing individual responses, ... and allow[ing] for probing, follow-up, and clarification” (McMillan, 2004, p. 168). A semi-structured interview “has the advantage of providing reasonably standard data across respondents, but of greater depth than can be obtained from a structured interview” (Gall, Borg, & Gall, 1996, p. 310), which uses closed answers and does not allow for the freedom of follow-up and clarification for the interviewer. Using semi-structured interviews was suitable for this study because this technique allowed room for participants to respond openly while ensuring that the responses were not overly wide-ranged due to a list of prepared questions and probes. Semi-structured interviews also allow for in-depth examinations of participants’ experiences since their descriptions of their feelings and thoughts can be further probed, followed-up, and clarified by the interviewer.

The interviews took place in participants’ classrooms or offices at the school site. All participants, except the principal, were able to have face-to-face interviews in May 2013. The principal’s interview was conducted via telephone due to constraints with his schedule. During the audiotaped interviews, the researcher took descriptive and reflective fieldnotes. After each interview session, the researcher expanded the notes and added more reflection, or “researcher speculations, feelings, interpretations, ideas, hunches, and impressions” (McMillan, 2004, p. 264). The post-interview fieldnotes also included “observer comments,” or “thoughts about emerging themes and patterns, thoughts about methodological problems or issues, considerations of ethical concerns, and introspective discussions about researcher opinions, attitudes, and prejudices” (McMillan, 2004, p. 264). The latter was recorded and analyzed separately from the

descriptive fieldnotes. Transcripts of each interview were shared with participants so that they could check their responses in written form. Participants could also request a copy of sections of the write-ups of findings and discussions that included their responses.

Observations of one and a half data analysis meetings were conducted to corroborate data obtained via the interviews. The researcher took fieldnotes during her observations to record instances of the instructional coach's support with data-driven instruction that stood out as important to the focus of the study. Additionally, the researcher kept post-observation analytic memos to note anything that should be discussed or referenced in the interviews. Finally, the researcher collected documents and artifacts including data printouts, data displays, data analysis meeting minutes, and other materials participants used in regards to data-driven instruction that they wanted to share. Data printouts and data displays were on a class-level and school-level and not on a student-level. Excerpts from these artifacts were used as prompts during interviews. Document (artifact) analysis also served as an additional means of corroborating interview and observation data.

The varied methods of data collection made possible through the case study approach had the potential to yield greater validity because they allowed for triangulation<sup>3</sup> of data sources. Each of the data sources was compared to each other for the purpose of determining consistency, conflict, and thematic categories. Thus, the case study method is a rich strategy for generating the greatest insight into the research questions posed by this study.

Table 1

*Summary of Methods*

<b>Method</b>	<b>Source</b>	<b>Purpose</b>
Interviews	Teachers, Principal, and Instructional Literacy Coach	<ul style="list-style-type: none"> <li>• Determine coach’s support in DDDM</li> <li>• Determine teachers’, principal’s, and coach’s perceptions of the coach’s role in instructional change</li> <li>• Determine coach’s professional learning experiences</li> </ul>
Observations	Data Team Meeting	<ul style="list-style-type: none"> <li>• Provide a source of comparison with teacher, principal, and coach interviews</li> <li>• Provide an understanding of the coach’s role in data analysis and practice</li> </ul>
Document/Artifact Analysis	Data analysis meeting minutes, data printouts, teachers’ item analysis sheets, teachers’ re-teaching plans	<ul style="list-style-type: none"> <li>• Triangulate interview and observation data</li> <li>• Provide an understanding of the data protocol used for data analysis</li> <li>• Analyze the results of data analysis meetings</li> </ul>

**Confidentiality**

To protect the participants’ identities, they each selected pseudonyms. The name and location of their school will also be pseudonyms in any reports or publications that



might result from the study. The researcher reviewed each write-up several times to ensure that the school and personnel are kept anonymous. The researcher also allowed the participants to review portions of the write-ups that pertained to them to ensure they felt comfortable with the wording and the anonymity of the school and personnel.

All materials, including audio segments, were edited such that no participant's name was revealed. Audio-recordings will not be published in any form, and the data shall be used exclusively for educational research in professional settings: closed research meetings, seminars, and professional conferences. Participants were informed of the intention of the researcher to audio-record and were given the opportunity to review the transcribed segments. Transcribed segments from the audio-recordings, with participants identified by pseudonym, may be used in published forms (e.g. journal articles and book chapters). The faculty supervisor for this research project may see data without pseudonyms at various points in the data collection and analysis process.

Data with identifying names of participants were stored in password-protected files for digitally-collected forms (audio-recorded observations and meetings, digitized interview audio files), or a private, home file cabinet for non-digitized correspondence, notes, or forms. Because this is research data, the researcher requests to store the data for up to a 10-year period. When the data is no longer needed, it will be destroyed. Transcribed segments from the audio-recordings may be used in published forms (e.g. journal articles and book chapters). In the case of publication, pseudonyms will be used.

### **Data Analysis**

Preliminary analysis started during each interview. As participants answered questions, I took field notes on my observations of their gestures as well as my feelings.

By taking notes on my feelings, I constantly ensured I was distancing myself from the data so that it would not prevent me from seeing new possibilities in the data. Having been a teacher and an instructional coach previously, I also wanted to make sure I was avoiding standard ways of thinking about teaching and learning as well as thinking about my own coaching experiences. I also took notes during the actual interviews, capturing moments of silence or striking statements, or simply jotting down questions I wanted to be sure to address. During the one-on-one semi-structured interviews, I allowed participants to talk freely, letting the conversation go where participants took them unless they got far off topic, at which point, I would bring the interview back to focus by repeating the question or asking a new question. During each interview, I made sure to have a chance to ask the questions I had designated as definitely needing answering in order for me to answer the overarching research question and subsidiary questions.

The data analysis process included six stages. First, transcription began after the first interview. I transcribed one interview on my own, and the other interviews were transcribed by a professional transcription service. However, when I received the transcripts, I listened to the audio recordings of each transcript to confirm accuracy, and I found that there were many errors. Therefore, I listened and re-listened to each audio-recorded interview and transcribed each interview myself to ensure accuracy.

Second, data generated for this study were analyzed using an inductive coding process (Glaser & Strauss, 1967; Miles & Huberman, 1994). This approach is a particularly useful method because of the emergent nature of the data. Since the topic has not been extensively studied, an inductive approach allowed the researcher to develop conclusions that were derived directly from data. Furthermore, codes created through

inductive coding illuminated concepts that may have been overlooked by codes derived through more deductive approaches (Miles & Huberman, 1994). As a result, inductive coding had the potential to provide a more accurate explanatory framework for the research questions. This framework was derived from theoretical categories that illuminated the relationships between different concepts that emerged from the data (Charmaz, 2000).

Third, the analysis began through a process of microanalysis of transcribed data as part of the open coding process. Microanalysis involved the careful examination of data, including interviews, fieldnotes, and documents, at the level of the line and paragraph. Initially, especially pertinent sections of data was identified and assigned conceptual codes (Strauss & Corbin, 1998), such as “being supportive.” The purpose of microanalysis of data, according to Strauss and Corbin (1998) is to “mine the data” and “compels the analyst to listen to what the interviewee is saying *and* how they are saying it” (p. 65). Charmaz (2000) asserts microanalysis serves as a means of hindering the imposition of “extant theories or our own beliefs on the data” (p. 515). The purpose of the open coding process was to break down data into smaller components and then compare for similarities and differences. This process of disassembly led to the identification of discrete concepts labeled with codes. Concepts that were found to be similar were grouped into categories. Categories represented a phenomenon, which is a “problem, an issue, or an event, or a happening that is defined as being significant to respondents” (Strauss & Corbin, 1998, p. 124).

Fourth, subsequent to the initial coding process was the processes of axial and selective coding. Benaquisito (2008) defines axial coding as “the phase where concepts

and categories that begin to stand out are refined and relationships among them are pursued systematically” (p. 51). It can also be viewed as the process of explicating the relationship between an identified category and its subcategories. Whereas categories represented a phenomenon, subcategories expounded upon and provide a greater degree of insight into a phenomenon. They provided details about the conditions, actions, and consequences (who, when, where, why, how, and what result) associated with a category. Thus, subcategories, through the axial coding process, provided an explanatory framework for each category that was derived directly from the data. Axial coding, in effect, was used to reassemble the discrete units of data created during open coding and made connections between different types of categories (Strauss & Corbin, 1998). The coding process was aided through the use of NVivo, a software program that is widely used for qualitative data analysis. Transcribed interview and fieldnote data was entered into the program and assigned codes that were referenced for future use. However, during this phase, I printed out my transcripts and highlighted codes in different colors by hand due to my discomfort with using the program. Key words and phrases that emerged from the data were grouped and coded, and the most dominant codes were found to be aligned with three of the ten roles of coaches identified by Killion and Harrison (2006). Key words, such as *planning, lessons, standard, objectives, pacing, lesson plans, best practices, rigor, and courses*, were highlighted in orange and aligned to the curriculum and instruction specialist role. Key words, such as *support, supportive, teaching, instructional strategies, classroom observation, feedback, small groups, model, differentiated instruction, organize, share, co-teach, helping students, demonstration lessons, and resources*, were highlighted in pink and aligned to the classroom supporter

role. Key words, such as *data, analyze, assessment, assessment notebook, standards, indicators, strengths, weaknesses, re-assess, score, tests, common assessments, student achievement, and student grouping*, were highlighted in green and aligned to the data coach role. Phrases including key words that indicated the three roles overlapped at times were highlighted in yellow.

The fifth phase of the analysis process was selected or focused coding. This process involved the identification of central categories or themes, which represented the major themes of the research and that served as a basis for theory development. It was, in a sense, a summation of all analytical processes that were previously employed. Central categories were constructed through a synthesis of all data sources. The development of central categories followed criteria outlined by Strauss and Corbin (1998, p. 147). These include the following:

1. Centrality to all major categories
2. Frequency with which central categories appear in data
3. Extent to which central categories yield a logical explanation for the data
4. Sufficiently abstract and applicable to other areas of research
5. Explanatory power
6. Validity of explanation under changing conditions

Four central categories or major themes emerged from the analysis of the color-coded highlighted categories, and those were highlighted in blue.

Finally, a major component of the data analysis process was the constant comparative method, the sixth phase. The strength of the constant comparative method lies in its ability to ensure there is always a good fit between new data and an emerging

theory. As new data are obtained, they were compared to previous data to constantly refine interpretations. Therefore, the analysis process began with coding and the construction of conceptual categories for a single interview. These categories were later compared to data from additional sources to determine the degree of coherence or difference that emerged in the coding and categorization process (Boeije, 2002). Based on these comparisons, categories were refined to better accommodate the data.

Throughout the coding process, analytic memos were written to record emergent themes from coding and to facilitate discovery of concepts and categories. Memos reflected the purpose of each phase of the analytical process. Therefore, during open coding, memos reflected on concepts and categories. During axial coding, memos sought to explain the relationships between categories. During selective coding, memos reflected central categories and themes (Strauss & Corbin, 1998).

### **Validity**

A process of triangulation and theoretical sampling was utilized to attend to issues of validity. For this study, data triangulation addressed issues of construct validity through the use of multiple measures of the same phenomenon (Yin, 2009).

Comparisons between teachers were made to understand similarities and differences between their instructional responses to data analysis with the support of the instructional coach. Furthermore, the data obtained from the administrator interview and the coach interview were also compared with information from the teacher interviews to determine the similarities and differences between these groups of participants. Observation and archival data were also compared to interview data to further test validity. This process of triangulation was an essential component of the data analysis process because the

perspectives of teachers and the administrator and the coach may vary greatly, which has the potential to result in widely divergent findings. Furthermore, there could be substantial variation between the comments of these groups and their actual practice, which is why direct observation of a data analysis meeting and document analysis was included. By cross-checking these various sources of data, gaps and inconsistencies were identified and explored through the process of theoretical sampling (Strauss & Corbin, 1998).

Another means of ensuring validity is member checks. The researcher met with all participants to discuss the analysis of their responses. Participants were emailed relevant sections of draft findings and allowed to respond via email or phone. None of the participants contacted the researcher thereafter to discuss findings. Not only do member checks enhance validity, they also ensure the study expresses the voice, values, and beliefs of the participants as accurately as possible, which is a major purpose of this study and research in general.

### **Positionality**

I am currently a school leader who is participating in the New Leader Emerging Leader program along with the instructional coach at Great Schools Academy. Therefore, I am entering the research with a strong preference for the level of instructional coach support necessary for teachers to use data to inform their instruction. I have never worked at Great Schools Academy; however, I work in a school less than two miles away from the school site. When analyzing the data, I attempted to locate myself in the data by identifying my emotional response to a participant or concept and examined how this may be influencing my interpretation. If I found that my background was unduly

affecting my interpretation, I was prepared to reanalyze the data with the specific intention of minimizing my own voice and amplifying that of the interviewee. For example, one teacher stated, “You know how boys in this area behave.” I immediately took anecdotal notes to ensure I would not include any bias in the analysis of the findings. While this may not have completely eliminated bias, it did much to ensure a more valid interpretation (Mauthner & Doucet, 1998). Another example is when the instructional coach mentioned that he told teachers to “look up” a strategy on their own because time did not permit him to. I took anecdotal notes to ensure I did not include bias (having been an instructional mathematics coach previously).

### **Delimitations and Limitations of the Study**

Due to the small sample size, study results are not generalizable beyond the specific populations from which the sample was drawn. This study is delimited to the support of one instructional literacy coach with teachers’ data-driven decision making processes. It limits the ability to make generalizations that are applicable to other schools and school districts that may not share its particular demographics.

Interviews are limited to the principal, the instructional coach, and teachers. The limited number of responders hinders the researcher from making generalizations that apply to all staff throughout the school or even all staff within a district. The researcher must also be cognizant of the possibility that teachers responding to the interview questions share similar characteristics and represent a particular subgroup (African American), thus providing a set of perceptions and views that are not representative of all staff members. Also, the researcher was in the New Leaders Emerging Leaders program, which can cause potential biases.



Since the questions are designed to determine individuals' perceptions of the instructional coach's support with the data-driven decision making process, the validity of the results is limited by the accuracy and dependability of their responses.

Table 2

*Overview of the Research Process*

<b>Timeframe:</b>	<b>Research Process:</b>
April 29, 2013	Defended Dissertation Proposal
April – May 2013	Observed data meetings
May 2013	Met with teachers and scheduled interviews
May 2013	Interviewed all participants
May – July 2013	Transcribed audio recordings and entered data into NVivo
July 2013 – March 2014	Analyzed findings and write findings and discussions
April 2014 – May 2014	Wrote findings and discussions
May 2014	Defend Dissertation

**Summary**

This study is designed to provide insights into how instructional coaches build teacher capacity in data-use and how that support impacts instructional improvements in teacher practice. In order to gather data for this study, five teachers (3 ELA teachers and 2 social studies teachers), one instructional literacy coach, and one principal participated in semi-structured interviews. The researcher observed one and a half data meetings. Also, document analysis was utilized to provide information on the instructional coach's

role with DDDM and as a form of triangulation by which multiple sources of data were compared to provide a fuller description of the extent of the instructional improvements.

## CHAPTER 4: RESULTS

### Overview

The purpose of this study is to add to the knowledge base of instructional coaching and data-driven decision making in secondary schools by specifically providing insights into an instructional literacy coach's role in the data-driven decision making process *and how it may or may not impact teacher practice*. This chapter presents findings regarding the role of the instructional literacy coach in the data-driven decision making process. The findings are organized in four major sections that are based on the overarching research question that forms the basis for this study: "What is the role of the instructional coach in the data-driven decision making process in an urban, low-performing, public charter middle school?" Each section represents one of the four themes that emerged from the analysis of data from this study: 1) providing differentiated support to teachers; 2) building trusting relationships and teachers' confidence in data use; 3) creating a culture of collaboration for data use; and, 4) developing capacity of teachers as reflective practitioners. In addition, the themes are aligned to three prominent roles of the instructional literacy coach (nodes) that initially emerged from the analysis of data: 1) *Curriculum and Instruction Specialist*, 2) *Classroom Supporter*, and, 3) *Data Coach*.

### Three Prominent Roles

#### Curriculum and Instruction Specialist

The purpose of the instructional coach as a curriculum and instruction specialist is to ensure implementation of the curriculum and to make sure teachers align instruction

with curriculum to meet the needs of all students through effective, research-based instructional strategies (Killion & Harrison, 2006). The interview and observation data indicated that Mr. Joe<sup>15</sup>, the instructional literacy coach, served as a curriculum and instruction specialist by helping teachers to use the curriculum guides and materials to develop pacing guides, prepare unit and lesson plans, develop assessments, and design accommodations for various learners. As a curriculum writer in summer of 2012, Mr. Joe revised the English/Language Arts (ELA) and social studies curriculum guides in order to align them to the Common Core State Standards<sup>4</sup>. The principal states,

During the summer, [the coach] was instrumental in rewriting the curriculum to be aligned with the Common Core State Standards. He also developed pacing guides for the first quarter, and he was really adamant about creating pacing guides for the rest of the school year so that teachers were covering the appropriate standards at the right times in between interim assessments... He works closely with first year teachers one-on-one after school to help them develop lesson plans.

According to Mr. Joe, increasing teachers' understanding and implementation of the written curriculum was a major focus of his work with teachers because, along with instruction, he learned that consistency in and alignment of curriculum led to increased student learning. Mr. Joe affirms,

I am the chair of the English and social studies departments. I usually work with teachers during their planning period. The planning period is usually forty-five minutes. Once a week, we have a 45-minute department meeting – one for social

---

<sup>15</sup> All names in this document are pseudonyms.

studies and one for ELA. I also meet with both departments once a week after school... During planning time, I sit with them to plan lesson activities and determine the most effective practices.

The principal asserted that it is vital for Mr. Joe to have great facilitation skills because much of his support with planning occurs in small groups of teachers. Mr. Joe reports that during the department meetings, he helps teachers think about and learn the process of planning rather than actually doing the unit planning for them. He maintains that by doing this, he ensures the learning for teachers is in the process not necessarily just the outcome of the unit map or pacing map. Mr. Joe states that asking the right questions to move teams of teachers ahead in the planning process is key to his work with teachers.

Mr. Joe contends,

One of the strategies I use a lot when meeting with my teacher teams is *inquiry* in order to help them respond or act on what we learn from student data. By questioning teachers, I see where they want to go and then I help them to get there by guiding their thinking.

Furthermore, Mr. Joe assisted teachers with using the curriculum to plan instruction that was more focused on the priority standards (foundational standards upon which others depend) to ensure all students achieve mastery of those standards. Teachers reported that while planning instruction, Mr. Joe also helped them select and implement the most appropriate instructional and assessment strategies to impact student achievement. Ms. Hillary expresses,

The lesson plan feedback that I receive from [Mr. Joe] is very important to me. I shoot him a lesson plan and even if I am late with my lesson plans, he will still get

me specific feedback that will tell me what to improve... This feedback is more useful for me improving my teaching than when we are meeting with the social studies department... One time [Mr. Joe] helped me to develop a re-teach plan on poetry and figurative language because that was the standard my students performed the lowest on. It made sense though because I don't like poetry, so I know I didn't teach it as well as I should have. So, [Mr. Joe] gave me an idea of using popular songs to get students engaged with learning the different components of poetry, like stanzas.

The interview and observation data indicated that the role of curriculum and instruction specialist is often combined with the role of classroom supporter. Mr. Joe often planned with teachers and then modeled lessons, co-taught, or observed teachers in order to provide them with targeted feedback on their instruction. One of Mr. Joe's major responsibilities was to assist teachers in differentiating instruction<sup>16</sup> and selecting the best strategies for learning. The principal reported that in order for Mr. Joe to be successful as a coach, it was imperative for him to have a deep understanding of the research on effective instructional strategies and know how to align instruction with content. In his interview, Mr. Joe notes that Ms. Hillary, the sixth grade ELA teacher, comes to him the most for advice or troubleshooting with instructional concerns. Mr. Joe states, "She usually wants support with differentiating her instruction to ensure she is meeting the needs of all students. Also, she wants to discuss effective literacy practices."

---

<sup>16</sup> To differentiate instruction is to recognize students' varying background knowledge, readiness, language, preferences in learning and interests; and to react responsively. Differentiated instruction is a process to teaching and learning for students of differing abilities in the same class. The intent of differentiating instruction is to maximize each student's growth and individual success by meeting each student where he or she is and assisting in the learning process ([http://aim.cast.org/learn/historyarchive/backgroundpapers/differentiated\\_instruction\\_udl#.U1MCMcboinw](http://aim.cast.org/learn/historyarchive/backgroundpapers/differentiated_instruction_udl#.U1MCMcboinw)).

According to the principal, the role of an instructional coach as a curriculum and instruction specialist can be challenging since it entails such a large amount of knowledge about a variety of effective strategies. He states that it is often difficult for a coach to be versed in all of the content, so knowing where to get assistance or ideas to ensure learning for different kinds of students in the classroom is an essential skill. Also, Mr. Joe expressed that gathering enough information about individual students in a classroom to assist a teacher in designing appropriate instruction is often very time consuming for a coach. Knowing which strategies to use with a particular student often takes a lot of time, as the specific issue may be different from any other that the coach has encountered. The principal asserts,

[Mr. Joe] must be a continuous learner and be willing to step back and critique his own practice as a model for all teachers in the building. Preparing lessons to teach in other teacher's classrooms takes a great deal of time and persistence if the lesson is to meet teacher and student needs.

The principal declares that not only must the instructional literacy coach be a curriculum and instruction specialist, but also he has to have a wide repertoire of instructional strategies in his back pocket in order to successfully support teachers with their classroom instruction.

### **Classroom Supporter**

By far, the most prevalent response to questions regarding the instructional literacy coach's role in the data-driven decision making process were geared around classroom observations and targeted feedback. The purpose of the classroom supporter is to increase the quality and effectiveness of classroom instruction by spending a great deal

of time working directly with teachers in their classrooms by either modeling lessons, co-teaching, or observing and giving feedback on instruction or management (Killion & Harrison, 2006). The principal reported that Mr. Joe had the highest amount of observations conducted by school leaders and teacher leaders, stating that Mr. Joe averages about twelve observations a week. According to Mr. Joe, he spent approximately sixty percent of his time working directly with teachers in their classrooms: either modeling lessons, co-teaching, observing teachers to provide them with targeted feedback on their instruction, and/or providing resources. Mr. Joe spent a huge amount of time working directly with teachers in their classrooms and claimed that he conducted at least one or two teacher observations a day. When explaining his most prominent role and responsibility, Mr. Joe states,

I do a lot of observations. The principal made it very clear to the coaches that he likes us to conduct a lot of observations and provide a lot of feedback to teachers, which I think is great. Because I do so many observations, I can always gauge where each teacher needs support in order to grow in their teaching practice.

In the role of classroom supporter, Mr. Joe reports that he chooses from a continuum of possible support options depending upon the needs of each of the teachers on his caseload: model/demonstrate, co-teach, and observe and give feedback on instruction or classroom management. When an instructional strategy or content is new to the teacher or the teacher is uncertain about how to implement a new practice, Mr. Joe states that he chooses to model for the teacher. He mentions that once the teacher becomes more comfortable with the strategy or content, he moves along the continuum by co-teaching and then observing and providing feedback. Mr. Joe asserts that when he



is preparing to model a lesson, he will work with the teacher to co-plan in advance as well as determine the specific kind of data to collect about the lesson (look-fors). The instructional coach's demonstration of an instructional strategy or teaching of a particular concept requires the classroom teacher to take an active role in observing the lesson and to focus the observation on those behaviors of the coach and students that are most relevant to the demonstration lesson. Mr. Bill states,

[Mr. Joe] has worked with me extensively on improving my teaching practice, especially with regards to classroom management. I was having difficulty actually delivering instruction because I haven't had that many models. So one thing [Mr. Joe] did was actually do a number of demonstration lessons using effective classroom management strategies, and then we worked on establishing and setting routines that we were going to keep in the classroom – strategies that would be beneficial and that would sort of go off of my strengths – things I could eventually do all on my own. He modeled it for me, we co-taught, and then he watched me implement the same strategies during observations and provided me with specific feedback on how to keep improving.

Mr. Joe expressed that, when working with new teachers, he often operates from the stance of an expert, someone who has considerable knowledge and skill in a particular area; thus, after his observations, he offers feedback to help his teachers improve their practice by helping them to hone their instructional skills and implement effective strategies.

The participants emphasized how important it was for Mr. Joe to know the elements of effective instruction as well as to know how to collect and analyze data from

a classroom observation and how to structure a productive feedback session focused on the area the teacher needs. The principal maintains,

I gave my coaches a training on Paul Bambrick-Santoyo's six P's<sup>17</sup> for providing effective feedback. You have to provide teachers with praise, then you should ask a probing question and state the problem of practice. After that, you want to provide teachers with a bite-size targeted action step and have them practice that action step in the moment. Then, the coach has to set up a plan with a timeline. For example, use at least three methods of checking for understanding, such as show by sign, use of white boards, and fist to five, in your next lesson, and I will come in and observe that lesson. Let's practice for that lesson now. Then the teacher and the coach know what the expectations are.

Based on the interview data and the coach's weekly schedule (see Appendix M), it is evident that Mr. Joe spends a majority of his time working with teachers one-on-one to discuss his observation feedback. Mr. Joe reports that his observation feedback is always geared around how many students mastered particular standards, skills, and/or lesson objectives. According to the participants and based on observations, even his targeted action steps for each teacher on his caseload are based on observation data and student mastery data. In addition to instruction, the participants all stated that Mr. Joe is knowledgeable and assists them with implementing sound classroom management, higher-order thinking skills, and high-level student engagement strategies. According to

---

<sup>17</sup> In his book, **Leverage Leadership**, Paul Bambrick-Santoyo (2012) provides the six steps to effective feedback using six P's: 1) Provide precise praise; 2) Probe by asking targeted open-ended question about the core issue; 3) Identify the Problem and concrete action step; 4) Practice the targeted action step by role-playing or simulating how the teacher could have improved class; 5) Plan ahead by designing or revising upcoming lesson plan to implement the action step; and, 6) Set timeline by determining the time by which the action will be accomplished (p. 78).

experts, when coaches understand how to differentiate instruction for all students, including non- or limited English speaking, special needs, gifted, low-achieving, male, female, and/or minority students, they will be better able to assist their colleagues improve their instruction (Guskey, 2008).

### **Data Coach**

The primary task of the instructional coach in the data coach role is to ensure that student achievement data drives instructional decisions at the classroom level and school level by assisting teachers and leaders look at a variety of data (Bernhardt, 2004; Killion & Harrison, 2006). When asked what his main role and responsibility was, Mr. Joe states, “I show teachers best practices. I sit down with them to determine the most effective practices. We look at the data that is provided, and from that data, we discuss and identify specific areas in which students need additional support.” It is evident from the interviews and the observations that Mr. Joe engaged teachers in discussions about how to use the data in order to help teachers use data most effectively and to facilitate their understanding of data. During the observation of the data meeting, Mr. Joe helped his teachers examine data, understand their students’ strengths and weaknesses, and determine which standards to re-teach.

Mr. Joe frequently facilitated data meetings<sup>18</sup> with the ELA team, the social studies team, and both teams together. The principal states,

Analyzing school data and department- or grade-level trends in the data is only the first step towards designing and adjusting classroom instruction to address the identified needs of students. Too often, the data dialogue stops here – patterns are

---

<sup>18</sup> The terms data dialogues and data meetings will be used interchangeably.

identified along with student strengths and weaknesses but there is rarely collaboration or discussion of next steps for instruction. One of our focuses this year has been for the ELA and social studies departments to meet with each other and for the science and math departments to work with each other to ensure student mastery of priority standards.

Mr. Joe reports that prior to the data dialogues, he met with the Academic Dean and the principal to identify which data to examine and how to display the data so that the analysis process with teachers was effective and efficient. Both Mr. Joe and the principal, Mr. Carlton, indicated that Mr. Joe has a *high* level of expertise in interpreting data, practical coaching experience, coordinating of data analysis and action planning between teachers and administrators, and working with adults (see Appendix F for the Coach Expertise Card).

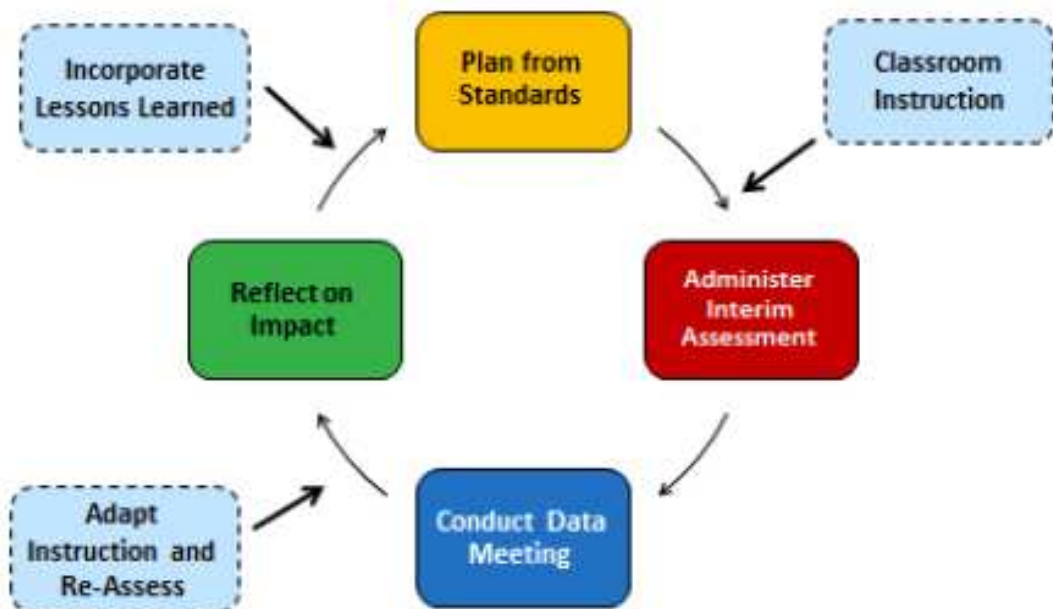


Figure 4: Data Inquiry Cycle for Data Meetings

During the data meetings observed, Mr. Joe led teachers through the components of the data inquiry cycle for data meetings (see Figure 4 above) adapted from the *Data Wise Improvement Process* (see Figure 1) to help teachers make sense of data in order to use the data to inform instruction. He reported that he was trained to use this model during professional learning sessions offered by Achievement Network. It is evident from the interviews, observations, and document analysis, that teachers backwards plan from priority standards (which are the foundational standards as well as standards that are frequently assessed on the interim assessments), and then they analyze the student data from ANet's interim assessments and/or common formative assessments<sup>19</sup> with the test-in-hand to determine the specific misconceptions students had on specific questions, which is called item analysis. All interviewees expressed that teachers were expected to plan to correct their instruction by re-teaching specific areas where students need more help (in a different way than previously taught) based on the item analysis (which is also called corrective instruction action planning). The principal explained that corrective instruction is when teachers adapt their instruction by targeting prioritized skills and student subgroups in instruction to increase student learning.

During an observation of a data meeting, I observed the sixth grade ELA teacher, special education teacher, and social studies teacher conducting a passage and item analysis with the sixth grade ELA test-in-hand. The teachers were working together to analyze the passages and the answer choices to determine their students' misconceptions

---

<sup>19</sup> Common formative assessments are used interchangeably with short cycle assessments.

with Mr. Joe's guidance. As they were conducting the analysis, Mr. Joe probed them to think critically. He queries,

How did students perform on this passage? What genre of texts did students read in the last unit and what are they reading in the future? What is high priority? Let's determine... Hhm... You have to think, 'Based on my students' performance on the assessment and where I am focusing my instruction, I am going to direct my attention to the passage, *Montana*, since this was the lowest scoring by far, and I saw my students struggling while taking this portion of the exam... As a reader, we use multiple strategies and skills to understand and analyze a text that are often hard to isolate. In trying to analyze how a student is approaching a text, we need to ensure we are thinking about two things: 1) what we want them to understand about a text, and, 2) what information can we gather about what they understand when we look at their responses to items about this text. This will allow us to think about how we can use the text as both a resource and a means to support building students' knowledge and skills. Think about it. What are we teaching *through* and *with* a text to build students' knowledge and skills in independently reading and analyzing a complex text? The Common Core reading standards place equal emphasis on the sophistication of what students read and the skill with which they read... Whatever the students are reading, they must show a steadily growing ability to discern more from and make fuller use of text. And, it is our duty to help them with doing this.

During the observation, the teachers examined the text complexity, focusing on the purpose, structure (organization, text features, and use of graphics), language

(conventionality and clarity), and knowledge demands (subject matter knowledge and intertextuality) of the *Montana* passage. The teachers discussed their hypotheses about where students struggled the most when reading and then looked at the specific questions the students got wrong. Ms. Hillary posits,

Based on these results, I am going to prioritize my focus to determine what my hypothesis is about gaps in students' reading strategies and skills. I can see that I have one domain in the standards that is pretty low, craft and structure. I am going to focus on this area because of my knowledge about this text – that the purpose and structure make this complex. I know that these standards, RI.6.4 (question 7), RI.6.5 (question 4), RI.6.6 (question 1), and R.CCR.5 (question 9), ask students to determine how words, sentences, and paragraphs, are used in a text, how they develop ideas in the text, and how they convey the author's purpose. I believe that this is revealing a gap about student ability to deeply understand the choices the author made when writing the text, whereas if I look at #6, I think that this might be the result of a knowledge gap, and it is not a priority with only one question... Now, I am going to look more deeply at questions 1, 4, 7, and 9. I am going to focus on question 7 first because this is where students score the lowest, with an average of 20% on that question.

The teachers reviewed question 7 together, which asks students to identify the purpose of a paragraph or phrase within a specific paragraph. They analyzed the student responses, which revealed that 5% of the students chose answer choice A, 40% chose answer choice B (the correct answer), 20% chose answer choice C, and 35% chose answer choice D. As the teachers were discussing the item (question) analysis, Ms. Jen states,

It is very revealing. Students are selecting answer choices that confirm they understood the beginning of the passage and the main ideas presented. However, I am noticing that this most likely reflects that they didn't understand that the purpose of the passage shifted from describing the natural features of Montana to detailing the negative impact of humans on the environment. I believe this is because they understood this informational text as a scientific description of Montana's beauties and most likely struggled to understand how words and phrases change the tone of the passage and contributes to a different purpose of the passage as a whole.

Mr. Joe adds, "There is also a hint that the language of this phrase appears positive to them, confirming suspicions about understanding of paragraphs 6-9." The teachers then wrote down the names of students who had challenges with this particular question as well as the specific misconception those students had. The teachers performed this type of analysis for the other three questions they identified, and then they developed their corrective instruction action plans (after going through the passage and item analysis process together). During the observation, Mr. Joe declared that the action plans were supposed to have a clear focus related to teachers' hypotheses as well as specify which students need re-teaching (whole group or small group). He also told teachers to identify dates in which the re-teaching would take place. During the observation, Mr. Joe showed the teachers an example of a sample corrective instruction action plan and delineated how teachers were to incorporate instructional strategies that were different from what was initially used. During the last part of the observation, Mr. Joe told teachers that he would provide them with feedback on their action plans within twenty-four to forty-eight hours.



In the interviews, the three ELA teachers mentioned that Mr. Joe assisted them with creating common formative assessments using the Achievement Network website so that they could re-assess students after they re-taught particular standards in which students did not perform well. The principal reported that during data dialogues, Mr. Joe facilitated interactions about what types of data were being examined, what the data meant, and what the next steps would be by asking probing questions to guide the data analysis. The principal also asserted that Mr. Joe encouraged teachers to use more than one source of data during their data dialogues (such as short cycle assessment data, exit ticket data, reading data, etc.). During an observation of the data analysis meeting of the common formative assessments, Mr. Joe helped teachers find root causes – the factors that contribute to what the data indicate. It was evident that Mr. Joe and his teachers generated theories about how the root causes impacted student learning. Mr. Joe asserts,

When we looked at potential root causes in order to create an action plan, we looked at the curriculum, asking, ‘Did we teach it? In enough depth? Placed in the right sequence? Frequently enough?’ Looking at instruction, ‘Did we clearly communicate the objective and criteria for success? Did we use a variety of research-based instructional approaches and strategies? Are we sharing successful practices? Did we reteach using a different approach to individuals or groups who didn’t get it yet? Did we align re-teaching to errors and misconceptions?’ Looking at assessment, ‘Did we use ongoing formative assessments to explore student thinking and build on it during our instruction? Communicate to students how to improve? Help them self-assess?’ Looking at equity, ‘Did we examine attitudes or practices that might contribute to

achievement/relationship/teaching gaps?’ Looking at individual assistance ‘Did we identify students who need additional help and provide them with it?’

Looking at teacher preparation, ‘Do we have what they need in order to be successful with our students?’

Mr. Joe reported that he assisted teachers with planning and taking specific actions based on the identified root causes. The principal asserted that during the second data meeting (when they were analyzing the data from the first interim assessment and the first short cycle assessment), the principal, Academic Dean, instructional coach, and teachers recognized that students were not performing well on Brief Constructed Responses (BCRs), which required students to write. The principal expressed that they attributed this to a lack of teachers’ direct instruction on writing, teachers rarely allowing students to practice writing, and teachers not providing students with writing rubrics. The principal recounted that when the root cause was identified, Mr. Joe and his teachers worked together to create an instructional plan to address this root cause, and teachers chose to integrate writing across the content areas, even in science and mathematics classes. The principal informed that teachers were then expected to implement the plan and assess student achievement on an ongoing basis through the use of BCRs (in reading and social studies classes) and Problems of the Week (in math and science classes) in order to determine if the instructional plan was working, and then they were to identify what adjustments they needed to make to improve the plan. The principal states,

We prioritized writing this year because we found writing to be a weakness across every grade level. [Mr. Joe] went over the writing standards, and each content area started giving students writing prompts each day. [Mr. Joe] trained each

teacher on how to use the RACES strategy in their classes. The RACES strategy stands for restating the question, answering the question, citing evidence to support an answer, expanding or explaining, and summing it up in a closing statement. Every other week, students were assessed on writing and we used the same rubric across each content area. This helped us to track students' progress on writing.

The principal reported that Mr. Joe monitored the progress of this school-wide writing initiative while still monitoring each of his teacher's instructional practice and student achievement.

### **Summary**

Three prominent roles emerged from the analysis of data on the instructional literacy coach's role in the data-driven decision making process: curriculum and instruction specialist, classroom supporter, and data coach. Evidence from observations and interviews revealed that Mr. Joe possessed an understanding of the language arts content, was knowledgeable about the structure of curriculum, and knew how to create pacing plans. It is evident from interviews and document analysis that Mr. Joe observed teacher practice on a consistent basis in order to provide targeted feedback to teachers on how to improve their instruction to increase student mastery of standards and student achievement. Findings from the interviews and document analysis indicate that Mr. Joe facilitated teachers' collection, analysis, and use of varied data to identify student-learning needs, plan instruction to address the identified needs, and assess student progress toward the expected outcomes.

Furthermore, it is evident from the interviews, observations, and document analysis (of the coach's weekly schedule) that these three prominent roles overlap at times (see Figure 5). According to Mr. Joe's typical weekly schedule (see Appendix M), he spends approximately 30% of his time during a typical forty-hour workweek conducting classroom observations (as a classroom supporter), in which he analyzes instructional strategies being used by teachers as well as analyzes student outcomes and students mastery towards the learning goals. All three prominent roles may be evident as he spends 8.75% of his time facilitating professional development sessions for his ELA and social studies teachers because these sessions may be centered around lesson planning, creating common assessments, practicing instructional strategies, or all of the above. Furthermore, Mr. Joe spends approximately 17.5% of his time working with teachers one-on-one to either debrief lessons (in the classroom supporter role), assist with planning lessons (in the curriculum and instruction specialist role), or reviewing student outcomes from formative assessment data, such as exit ticket data (in the data coach role). Mr. Joe also spends approximately 11.25% of his time meeting with either the ELA team, social studies team, or both teams together to either analyze data, create common assessments, or plan corrective instruction plans (in the data coach role and curriculum and instruction specialist role).

<b>Activity</b>	<b>Approx. Hours</b>	<b>% of Time</b>
Conducting classroom observations	12.0	30.0%
Coach's planning time: analyzing data, writing up observations, preparing PDs, and planning for the next week	7.0	17.5%
Working with teachers one-on-one to debrief lessons, assist with planning lessons, or reviewing student outcomes from formative assessment data	7.0	17.5%
Facilitating ELA department meetings	2.0	5.0%
Facilitating social studies department meetings	1.0	2.5%
Attend leadership team meetings	2.0	5.0%
Facilitating professional development sessions	3.5	8.75%
Performing non-coaching administrative duties: Breakfast, lunch, dismissal	1.5	3.75%
Facilitating Data Meetings with ELA and social studies teams	1.5	3.75%
Attend coaches meeting with Academic Dean	1.5	3.75%
Attend a one-on-one meeting with the principal	1.0	2.5%
<b>Total Hours:</b>	<b>40.0</b>	<b>100.0%</b>

Figure 5: *Time Coach Spends on Activities During a Typical 40-Hour Workweek*

The analysis of the data on the three prominent roles form the basis of the four themes that emerged when analyzing the data on the instructional literacy coach's role in the data-driven decision process: 1) providing differentiated support to teachers; 2) building trusting relationships and teachers' confidence in data use; 3) creating a culture of collaboration for data use; and, 4) developing capacity of teachers as reflective practitioners.

Table 3

*Interviewee Demographics*

<b>Interviewee (Pseudonyms)</b>	<b>Position (Grade/Content Area)</b>	<b>Gender</b>	<b>Race</b>	<b>June 2012 Teacher Evaluation Rating (I, NQE, E, HE)</b>	<b>Years Teaching</b>	<b>Years at Great Schools Academy</b>	<b>Self-Report of Experience with Data (N, A, E)</b>
<b>Mr. Joe</b>	<b><i>Literacy Coach</i></b>	Male	Black	N/A	9 years (coaching for 2 years)	2 years as Literacy Coach	Expert
<b>Mr. Carlton</b>	<b><i>Principal</i></b>	Male	Black	N/A	10 years of teaching; 5 years as Assistant Principal	5 years as Principal	Expert
<b>Ms. Keisha</b>	<b><i>7/ELA</i></b>	Female	Black	Not Quite Effective	12 years	1 year	Apprentice
<b>Ms. Jen</b>	<b><i>6/S.S.</i></b>	Female	Black	Effective	6 years	3 years	Apprentice
<b>Ms. Suzan</b>	<b><i>8/ELA</i></b>	Female	Black	Effective	16 years	3 years	Expert
<b>Ms. Hillary</b>	<b><i>6/ELA</i></b>	Female	Black	Ineffective	5 years	3 years	Novice
<b>Mr. Bill</b>	<b><i>8/S.S.</i></b>	Male	Black	Not Quite Effective	3 years	3 years	Novice

\*ELA = English/Language Arts, S.S. = Social Studies

\*I = Ineffective, NQE = Not Quite Effective, E = Effective, HE = Highly Effective

\*N = Novice, A = Apprentice, E = Expert

\*Performance Series from Scantron is a computer-adaptive test that lets you quickly pinpoint the proficiency level of your students across a range of subjects.

\*Scholastic Reading Inventory (SRI) is an objective research-based assessment of reading comprehension skills for universal screening, instructional placement, and benchmarking progress

## **Providing Differentiated Support to Teachers**

The theme of providing differentiated support to teachers refers to the instructional literacy coach tailoring his assistance based on the *data-driven* instructional needs of each teacher and his/her students (Tomlinson & Moon, 2013). Even though there are many commonalities among classrooms, each is unique because of the make-up of students and the relationship between students and teacher. Similar to the way teachers must provide differentiated instruction to meet the needs of students at various levels, the instructional literacy coach has to use different strategies to meet the needs of his teachers who are also at various levels of using data to drive instruction (from novice to expert). Mr. Carlton, the principal, asserts, “[Mr. Joe] stays after school a lot with our first year literacy teachers. So, he gives them a little more personal attention than the teachers who have been here for at least two years or more.” Similarly, Mr. Joe states,

Teachers need to be differentiated for. So, rather than trying to paint everything with the broad brush, you can be really specific on a particular teacher’s classroom or a particular teacher’s students and a particular teacher’s practices, the tools they use. If you’re using a broad brush, then that might not be as effective... It is really important to my teachers to have one-on-one time with me. And, I know my work with each of my teachers has to be differentiated to meet their individual needs.

By focusing on the unique needs of each teacher, Mr. Joe was able to adapt his services to align with each teacher’s learning and instructional style, to work side by side within each teacher’s classroom, and to tailor support to be based on what was occurring in each teacher’s classroom. One teacher, Mr. Bill, mentioned that the individual support he

received from Mr. Joe was beneficial to improving his teaching practice. Mr. Bill, the eighth grade social studies teacher, contends,

So when we met one-on-one, outside of sitting to discuss the ANet data, he would give me specific feedback on the number of students who were engaged, the number of students who mastered the learning objectives, and so on and so forth. One time, our Director of Academics from Central Office wanted all social studies teachers to focus on reading, prior to the [state test]. So, me and [Mr. Joe] decided on the book, **The Giver**, by Lois Lowry. We met on the weekend at a coffee shop to plan the lessons for the entire week. We determined the essential questions, lesson objectives, and learning activities. He also helped me to develop higher-order thinking questions for the lessons. And, when he observed those lessons, [Mr. Joe] gave me feedback on my questioning and whether they were rigorous enough because I was struggling with that.

Similarly, Ms. Jen, the sixth grade social studies teacher, asserts, “I expect my literacy coach to support me with my professional growth, especially in the areas in which I need to improve. Mr. Joe gives me feedback on my lesson plans each week, and I always expect him to tell me how to enrich them and make them more engaging because he has always done that.” Mr. Joe expresses that the confidentiality of his work with his teachers provided safety for individual teachers to openly identify areas for improvement as well as ensured they were receptive to his feedback.

Moreover, Mr. Joe considered the level of sophistication of each of his teachers in analyzing and interpreting data, thereby, displaying the data in user-friendly formats and adjusting the data displays to accommodate variations in teachers’ understanding of data.



He helped the more novice teachers make sense of the data by displaying the data in charts with bar graphs delineating the standards that had the highest and lowest student proficiency, and teachers reported that using these charts helped them understand the data more easily (see Appendix S, *Figure S2*, for an example of a data chart). Mr. Joe met with Ms. Keisha, who is a novice teacher with data use, more often than he met with his more expert teachers. Ms. Keisha states,

I met with my literacy coach about twice a week to discuss data, to discuss future plans, curriculum, to discuss ways to improve my craft, and even to get resources... Mr. Joe has been quite supportive when it comes to analyzing, interpreting, and using my students' data to improve my instructional practice. When the ANet scores came back, [Mr. Joe] would print out the different spreadsheets that have all of the students' names on them and each of their scores. I could see exactly what my students got wrong and what they got right. He would also provide me with charts he created that would show the standards the students did well on and the standards that they didn't do well on. I could also see a comparison of how my students did on the same standards from previous interim assessments. Sitting with him to break down the data in that way was always very helpful.

On the other hand, this was also the first year that Mr. Joe helped some of the more expert teachers take a different approach to analyzing data – looking at text complexity. Ms. Suzan, who is a more expert teacher with data use, asserts, “We took a different approach this year. When Mr. Joe worked with me one-on-one, we didn't just look at the questions and standards students got wrong. We analyzed the text to determine the rigor

of the text, and then he would help me to develop re-assessments using texts that were just as rigorous – texts with the same lexile level.” In his interview, Mr. Joe stated that he did not analyze text complexity with the teachers who were novices with data analysis. He discussed the importance of meeting each teacher where they were to provide the targeted support and intervention he or she needs in order to be successful with using data to drive instruction.

Mr. Joe and the principal both reported that one of the biggest challenges Mr. Joe faced with providing differentiated support to teachers on using data to inform their practice was time. Mr. Joe admitted that he usually does not meet with his teachers prior to observing their lessons to determine the area of focus for his observations (due to time constraints), which he thinks would be beneficial for improving teacher practice. Mr. Joe declares,

Sometimes it’s slow getting around to all teachers to meet prior to an observation, and sometimes it’s even hard to take the time to debrief an observation and then trying to observe the action steps you all had discussed. It takes time to meet with each teacher for a specific amount of time. And you can’t just observe one teacher’s class for five minutes or so. You have to make sure you spend a sufficient amount of time, at least fifteen to twenty minutes. Also, you don’t want to just look at the same class all the time, so you have to visit that teacher’s class several times throughout the day. All in all, each teacher has one-on-one time scheduled with me every week – a lot of that time is after school though.

Similarly, the principal expresses the need for the coach to have more one-on-one time with teachers. The principal, Mr. Carlton, declares,

There are other duties and responsibilities that get in the way of [Mr. Joe] working with his teachers. Since we are a small school, many times he is often used in an administrator role to assist with management of the school. He has to support cafeteria duty. He sometimes has a pullout group, like when we realized our seventh graders' scores dropped after the second interim exam. Also, sometimes when a teacher is absent, he provides coverage for that teacher if we do not get a substitute teacher to come in. I wish I could just change his schedule to give him more time to work with teachers in the classroom. It would be great if I could pay him to work with teachers on the weekend to help them prepare.

The principal emphasizes that there is not enough time in a typical workweek for the coach to meet the individual needs of all teachers. When asked if the teachers have adequate knowledge and skills to analyze data and use it in ways to improve instruction, the principal answers,

Some of them do, and some of them are still developing that data literacy knowledge. That's why the coaching role is so important. Teachers are still developing in predicting and making accurate instructional decisions based on the data that they are receiving. Many times, our teachers like to blame the data on the standards or they'll make the excuse that they did not get a chance to cover particular standards due to the fact that it didn't come up in their pacing guide yet. Ultimately, some teachers are just going through the motions. They create these action plans, but then they really go and teach in the same way they are comfortable teaching.

In his interview, Mr. Joe mentions,

Teachers definitely need some support with using specific instructional strategies. It's hard to get deep into instructional strategies at times due to the time constraints. Some teachers need you to introduce a strategy, practice it with them, and model it for them. I sometimes don't have enough time to do all of that, so I'll just tell them the strategy and sometimes I tell them to go look it up on their own. If I could add more hours into my workweek, I would spend more time in classrooms, more time speaking with teachers, and way more time helping them to find and implement effective practices for their classes.

Mr. Joe expresses that he wants to be available to meet the needs of all of his teachers, but at times, they have to learn things on their own. Mr. Joe also expresses that he would like for teachers to receive more professional development with data use. He argues, "A lot of our professional development time is taken up by central office or faculty meetings. Our teachers need more time for professional development. Some of them need to attend the PD sessions offered by ANet also. Those could be really beneficial." Similarly, the principal contends, "In order to build teachers capacity in literacy as well as in using data to improve their instruction, they need to be more involved in the trainings and PD sessions offered by the Achievement Network. Those meetings take place after school hours, so a lot of them don't attend, but they need to. I also think they would get a better understanding for how questions are selected for the assessments, and so they won't complain about the questions being too hard or too long for our students. If they are there, they could feel as if they are a part of the decision-making process, especially when they vet the exams." It is evident, from the interviews with both the principal and Mr. Joe, that teachers need more professional development opportunities to build their capacity in

using data to improve instruction even outside of the coaching support they receive from Mr. Joe.

### **Building Trusting Relationships and Teachers' Confidence in Data Use**

Mr. Joe was transparent about having a challenge with balancing warm (positive) and cool (constructive) feedback at times during debrief conversations: helping his teachers clearly know the areas for improvement while not overwhelming them with too much information. However, in all interviews, the teachers stated that Mr. Joe is very personable and professional in his support to them. Each interviewee mentioned how effortless it was working with Mr. Joe because he took the time to build trusting relationships with each of them, and he was very objective when providing critical feedback. Mr. Joe discussed how important actively listening and being clear and concise was for building relationships with teachers, which he deemed to be vital for effectively coaching teachers. Mr. Joe declared,

Teachers have to know that you are listening to them – their needs, their concerns – all of that stuff. When I'm providing feedback, I always demonstrate that I have respect for my teachers. When I am providing corrective feedback, I try to be as clear and concise as possible. I also make sure I support my claims with evidence from my literal notes.

In the interviews, all teachers expressed that Mr. Joe developed positive relationships with them and knew the content area very well, which made it easier to receive feedback from him. Ms. Keisha mentions,

Whenever my coach comes to meet with me after school, we have casual conversations on a professional level. I know it's kind of like an oxymoron, but

it's a casual, professional conversation, and I am able to receive the support or even the correction in a way that doesn't make me feel like I am not a professional.

Similarly, Ms. Suzan asserts, "It's great to get professional feedback even when it's feedback that you don't want to hear. It's good for someone else to give you an objective viewpoint. [Mr. Joe] is also good with giving you a different perspective and fresh ideas because he really knows the English content area well."

Furthermore, Ms. Hillary states the ease in which Mr. Joe delivered feedback, "He would always be sure to point out what we did well even if – gosh – even when my scores dropped five points. One time, I was like, 'What the heck?' He still made sure to show me what I did well, which was very important because he didn't want me sitting there feeling like a failure. So he's really good at encouraging me." Ms. Hillary further affirms,

I just feel like I personally would not be as confident as a teacher as I currently am if it hadn't been for a competent literacy coach. You know, because of course you have administration doing their pop-ups and they are giving you their feedback, but that's not really beneficial. I mean, they have to do observations of the whole school. I don't really think the principal taught specifically English, so it's just like it's nice having someone whose feedback I can trust. When other people come and do walk-throughs in your classroom, you're like, 'Who are you? What are your credentials?' So it's good to have someone who has this long list of experience who can give you sound feedback based on actual evidence and

data from your classroom. And, I appreciate my literacy coach's feedback tremendously.

Likewise, Ms. Jen states,

I gained more confidence working with [Mr. Joe]. I would not have been as confident if I did not have his support. We didn't have an instructional coach during my first year at [Great Schools Academy]. I felt like my teaching was all over the place. And then when [Mr. Joe] came, I felt like things were more structured, and I felt it also was important for a literacy coach to be easy to talk to, easy to work with so that you are comfortable. And so, working with him, I would say, made me more confident because I felt like I knew what I was doing more and where I was going with my instruction, and it was based on hard facts and data-driven... I definitely can say that I don't know how successful I would feel at [Great Schools Academy] if he wasn't here.

Moreover, the principal asserts, "I have always heard favorable things about our literacy coach from our central office personnel and teachers. The teachers on [Mr. Joe's] caseload were collectively happier than other departments based on the results of the TNTTP Instructional Culture Insight Survey<sup>5</sup>, and they all made reference to appreciating the support they got from their coach with using data to plan and execute instruction." It was evident from interviews that Mr. Joe was able to instill confidence in his teachers by providing them with the resources, knowledge, and skills they needed to use data to drive instructional improvement on a continuous basis. Furthermore, Mr. Joe also used protocols during his data meetings to increase the trust between teachers, as well as

between teachers and administrators, so that the school could move towards increasing student achievement through candid data conversations.

### **Creating a Culture of Collaboration for Data Use**

The principal made it clear that Mr. Joe is the one who drives the literacy vision in the school. One of Mr. Joe's responsibilities was to ensure the social studies teachers (non-core teachers) knew instructional strategies they could use to contribute to students' learning and mastery of the standards in ELA (the core content area). During one of the first weekly ELA and social studies department meetings, Mr. Joe had his teachers set long-term and short-term goals for student achievement collectively, and ensured his teachers monitored their progress and held each other accountable to meeting those goals throughout the school year. The principal states, "Last year, [Mr. Joe] did not support the social studies teachers. This year, with the shift to Common Core, we thought it was important for the social studies teachers to reinforce the core standards taught in ELA." It was evident in all interviews that Mr. Joe's facilitation of department meetings and cross-department team meetings (with ELA and S.S. teachers) increased collegiality among teachers while they were analyzing data and planning for re-teaching. Teachers were able to build on one another's expertise and problem solve together as they developed their re-teaching action plans with the support of the instructional literacy coach. Collaborating to analyze data and plan re-teaching plans was also time-efficient for the instructional literacy coach to have an impact on a greater number of teachers at the same time.

While in most interviews, the teachers asserted that Mr. Joe did a great job with creating a culture of collaboration for data use, one teacher, Ms. Hillary, the sixth grade



ELA teacher, found it least helpful to meet with the social studies teachers to create re-teaching plans. She argues,

I would say it wasn't very helpful doing re-teaching plans from the data with the social studies department. When we did our re-teaching and we met in our grade-level groups, we met with the co-teacher and the social studies teacher. And, in my opinion, I don't think that was too helpful because the social studies teacher is focusing really on social studies, and I am the English teacher. And, if I am teaching main idea or author's purpose, she can help out with that, but she may not be skilled enough to teach the English standards. So, it sometimes got kind of confusing. [Mr. Joe] always worked with us during our meetings, pushing us to talk about how we would make sure we were speaking the same language, teaching and reinforcing the same skill even though we are teaching different subject areas. So, to me, that was not the most helpful.

In contrast, Ms. Jen, the sixth grade social studies teacher, affirms,

I can recall my very first year here, three years ago – one of the math teachers was always talking about data, and the school really hadn't gotten to that point where everybody was talking about data. And, I can admit, I really wasn't making the connection with data back then also. So, each year, I can clearly see that data has been becoming more and more a part of the school culture. [Mr. Joe] played an integral role in my understanding of how to use data to improve my instruction and making connections to the ELA standards. Even though sixth graders aren't tested on social studies or Geography standards, [Mr. Joe] helped me to see how I can still support the ELA teachers. Students have to know to cite textual evidence

and make inferences, amongst other things. So, there is a lot I can incorporate from the English standards into my class. And so, [Mr. Joe] helps me to make those connections. At first, I felt disconnected because the students weren't being tested on social studies, but he has helped me to feel like I am a part of why the sixth grade ELA scores are increasing. It's just so helpful to be able to look at the data and analyze the specific details in terms of what questions they may have gotten wrong and why. You get to see students' misconceptions and then plan instruction to make sure you meet those students' needs.

According to Ms. Jen, being able to collaborate to analyze the ELA data and plan instruction to meet the students' needs was beneficial because Ms. Jen was able to teach students the standards and skills that were areas of weaknesses, and the students' performance increased in those areas. Similarly, Ms. Suzan, the eighth grade ELA teacher, asserts, "I see the main role of the instructional literacy coach as the bridge-maker, making sure there is continuity between the ELA department and the social studies department. He makes sure we are on the same page with our strategies and skills, and making sure we are using the data to drive our instruction. He makes sure we let our students know where they are and the growth we want them to make for each interim." It is evident from the interview and observations that Mr. Joe is an advocate for students monitoring their own achievement and growth.

It is evident from the interviews that Mr. Joe promotes teacher and student efficacy, believing that all teachers and students have potential to succeed. During his interview, the principal declares,

To work effectively with teachers, instructional coaches must demonstrate an unrelenting belief that all students can learn. They have to work to help teachers believe that the achievement gap between groups of students, whether ethnicity, poverty, or gender gaps, is not acceptable... Mr. Joe definitely believes in all of his teachers. Last year, I had to stop him from spending all of his energy working with one teacher who just wasn't growing. She eventually got fired, but prior to that, [Mr. Joe] refused to allow her to give up and fail, and he met with her several times a week after school. That's just the type of coach [Mr. Joe] is. He believes that one hundred percent of his teachers and his students can and will achieve. I should have had him work with my special education teachers more often, instead of just during the afterschool cross-content meetings. Those SPED teachers really need support with literacy instruction to meet the needs of their students.

Mr. Joe also discusses the need for special education (SPED) teachers to be aligned with the general education ELA and social studies teachers. He states, "The SPED teachers do not have off during the same periods as the ELA and social studies teachers, so the only meeting they attend is after school when I meet with both the ELA and social studies departments together... That's if they come. It's sad, but they are like the stepchildren in the school. They really don't receive the support they need." Moreover, for his ELA and social studies teachers, Mr. Joe worked to ensure they had the tools to set their students up for success.

Ms. Hillary states,

Before the test, [Mr. Joe] was big on having all of the English teachers take the test together and annotate the questions in order to figure out what would be

difficult for our students or to see what the challenges would be for our students. That way, we can better prepare our students and figure out how we can help them do their best on the test. We could help them to understand the questions better and switch up different types of texts when necessary. So, if the test has more non-fiction, then we'll incorporate more non-fiction text in our instruction.

Once the interim assessment data was published, Mr. Joe facilitated the data conversations and ensured teachers did not make excuses for some of the data being the way it was. Mr. Joe also helped teachers move beyond what the data meant to what actions they needed to take to close the gaps between where their students were and where they wanted them to be. The principal states, “[Mr. Joe] was always willing to push the difficult conversations to ensure all inequities in the data were addressed.” During his interview, Mr. Joe mentioned how he tried his best to focus the conversation on data about student learning in a positive and productive way so that the data-dialogues empowered teachers rather than threatened them.

According to Mr. Joe, he established a risk-free and blame-free environment for his data meetings that allowed teachers to feel safe. He mentioned that an essential part of creating this environment was building effective norms for these discussions. During his interview, Mr. Joe recounted, for every data dialogue and data team meeting, Mr. Joe and his team used the Seven Norms of Collaboration (adapted from Garmston & Wellman, 1999) and the Four Agreements for Courageous Conversations (Singleton & Linton, 2006). In all interviews, the participants mentioned the use of the Norms of Collaboration. The Seven Norms of Collaboration are drawn from the work of Robert Garmston and Bruce Wellman (1999):

1. Pausing: Pausing before responding or asking a question allows time for thinking and enhances dialogue.
2. Paraphrasing: Using a paraphrase of another team member's statements allows members of the group to hear and understand each other better as they consider ideas and formulate decisions.
3. Probing for specificity: Using gentle, open-ended probes or inquiries, such as "I'm curious about..." or "I'd like to hear more about..." increases the clarity and precision of the group's thinking.
4. Putting ideas on the table and pulling them off: Ideas are the heart of a meaningful dialogue. Label the intention of your comments by saying, for example, "One thought I have is..." or "Here is a possible approach..." It is equally important to know when an idea may be blocking dialogue or "derailing" the process and therefore should be taken off the table.
5. Paying attention to self and others: Meaningful dialogue is facilitated when each group member is conscious of self and of others and is aware not only of what he or she is saying but of how it is said and how others are responding.
6. Presuming positive intentions: Assuming that others' intentions are positive promotes and facilitates meaningful dialogue and eliminates unintentional put-downs. Using positive presuppositions in your speech is one manifestation of this norm.
7. Pursuing a balance between advocacy and inquiry: Pursuing and maintaining a balance between advocating for a position and inquiring about the positions

held by others helps create a genuine learning community. (Love et. al, 2008, p. 54-55)

At the end of every data meeting, teachers rated themselves and the team on the Norms of Collaboration Inventory (see Figure 6 and Appendix K). By doing this, each team member was reminded to adhere to them and to be actively engaged during every data meeting.

<b>Norms of Collaboration</b>	Rarely	Occasionally	Frequently
<b>Pausing</b>			
Listens attentively to others' ideas with mind and body			
Allows time for thought after asking a question			
Rewords in own mind what others are saying to further understand their communications			
Waits until others have finished before entering the conversation			
<b>Paraphrasing</b>			
Uses paraphrases that acknowledge and clarify content and emotions			
Uses paraphrases that summarize and organize			
Uses paraphrases that shift a conversation to different levels of abstraction			
<b>Probing</b>			
Seeks agreement on what words mean			
Asks questions to clarify facts, ideas, and stories			
Asks questions to clarify explanations, implications, and consequences			
Asks questions to surface assumptions, points of view, beliefs, and values			
<b>Putting ideas on the table and pulling them off</b>			
States intentions of communication			
Reveals all relevant information			
Considers intended communication for relevance and appropriateness before speaking			
Provides facts, inferences, ideas, opinions, and suggestions			
Explains reasons behind statements, questions, and actions			
Removes, or announces the modification of, own ideas, opinions, and points of view			
<b>Paying attention to self and others</b>			
Maintains awareness of own thoughts and feelings while having them			
Maintains awareness of others' voice patterns, nonverbal communications, and use of physical space			
Maintains awareness of the group's tasks, mood, and relevance of own and others' contributions			
<b>Presuming positive intentions</b>			
Acts as if others mean well			
Restrains impulsivity triggered by own emotional responses			
Uses positive presuppositions when responding to and inquiring of others			
<b>Pursuing a balance between advocacy and inquiry</b>			
Advocates for own ideas and inquires into the ideas of others			
Acts to provide equitable opportunities for participation			
Presents rationale for positions, including assumptions, facts, and feelings			
Disagrees respectfully and openly with ideas and offers rationale for disagreement			
Inquires of others about their reasons for reaching and occupying a position			

Figure 6: Norms of Collaboration Inventory<sup>20</sup>

<sup>20</sup> The Norms of Collaboration Inventory is based off of Garmston's and Wellman's (1999) *Seven Norms of Collaboration*.

During his interview, Mr. Joe, pulled out the book *Courageous Conversations About Race* from Glenn Singleton and Curtis Linton (2006). Mr. Joe stated,

We got our standing norms from this book. Singleton and Linton offer another approach to collaborative norms, which are especially relevant for conversations about race. The four agreements of courageous conversations are staying engaged, experiencing discomfort, speaking your truth, and expect and accept non-closure. Basically, staying engaged is pretty straightforward. Experiencing discomfort is making sure we bring issues out into the open honestly and trying to deal with them with an open mind. Speaking your truth is voicing your thoughts and feelings and not just saying what you think people want to hear. Expecting non-closure is not brushing past issues and rushing to make quick decisions that are not necessarily based on the data. We have to make sure we allow enough time for our difficult discussions even though we hardly ever have the time.

Through interviews and observations, it is evident that Mr. Joe actively uses the norms to support teachers with sharing data on what and how well their students are learning with one another rather than feeling competitive or threatened by their peers.

### **Developing Capacity of Teachers as Reflective Practitioners**

An important theme that emerged from the interview and observation data is that the instructional coach seeks to influence change for improvement by questioning current practice and developing teachers' capacity to reflect on their teaching practice. Mr. Joe states,



To get teachers to reflect on their practice, I always ask standard reflection questions, such as, ‘How many of your students mastered the learning objective? How do you know? To what extent did you clearly identify and explain the purpose of the lesson? How will your lesson help individual students growth in literacy abilities? To what extent were students engaged in higher-level thinking during discussions or by writing about text? To what extent are you teaching reading strategies in addition to reading skills? To what extent are your students engaged in activities like reading, writing, manipulating, and orally responding with a partner, versus passive responding, like listening, reading turn-taking, oral turn-taking, during your lesson? If you could teach that lesson again, what would you do differently?’

Mr. Joe asserts that he supports teachers in becoming reflective practitioners who regularly examine their own practice. During one-on-one observation debrief meetings, Mr. Joe questions teachers to stimulate their self-analysis of the lesson rather than offering expert feedback, especially for his teachers who have at least two or more years of experience. Mr. Joe states,

I model my coaching after Steve Barkley’s ‘*Coaching with the End in Mind.*’ I went to a professional development series with Steve Barkley, and I learned different ways of questioning. So, when I am working with teachers one-on-one, I ask them questions to get them to realize what they want and how that actually translates. For example, if a teacher wants absolute silence in her class, nine times out of ten, that is not going to happen. So, I help that teacher to realize that her expectations are not realistic.

Mr. Joe not only promotes reflective practice during one-on-one meetings with his teachers, but he also engages teachers in looking critically and analytically at their practice during their department meetings and data meetings. Teachers are required to discover what is working and what is not working to refine their instruction to improve results. Mr. Joe states, “Teachers are expected to change their instruction based on the results of the data... Especially if students are performing poorly on a particular standard or skill, something has to change so that the students perform better.” Similarly, Mr. Carlton, the principal, states,

If you didn’t teach the right objectives and/or students didn’t get it right the first time, then you’ve got to re-teach them. And, you can’t just re-teach it to them the same way if they are not getting it. The data should give them the basis for re-teaching. It has to be more than just saying different words. When you realize that students did not grasp a particular concept, you have to revisit it. You have to come at it from a different angle and so re-teaching plans are a part of the expectation for our teachers to hand into their coaches.

Ms. Keisha states,

When we look at the data, it’s a continuous process of reflection. We have to ask ourselves how we taught this standard before and how will we teach it differently. Then, after you teach it differently, you have to look back at the data and then see what might we have to do differently again in order to make sure every student masters that particular standard. There is a lot of reflection, and after we’ve analyzed it ourselves and we come back and analyze it again as a whole group to see where we can improve... In the past, I don’t even think we really sat down

enough to really reflect as much as we have this school year with [Mr. Joe]. I learned so much this year being coached by him, and I am grateful.

In their interviews, all teachers indicated that Mr. Joe supports them with using data to improve their practice on a consistent basis. Furthermore, Mr. Joe facilitates a reflection meeting with English and Social Studies departments together four times a year (after the re-teach week that follows interim assessments), in which he uses a protocol that forces teachers to reflect on the execution and results of their re-teaching (see Appendix L). Ms. Suzan states that the reflection and discussion are beneficial in order to determine if the lessons that were re-taught actually improved student achievement.

When teachers were asked to reflect on the most useful source of data to inform their instruction, two teachers, Mr. Bill and Ms. Suzan, state that the Achievement Network (ANet) interim assessments were a good measure of students' skills. One of those two teachers, Ms. Suzan, states,

Even though the interim is a good measure of our students' skill-levels, the interim is not really aligned to our curriculum all the time. And, then it is also not aligned to the rigor because the interim assessments are actually more rigorous... We've only been using ANet for a year, so maybe after another year or two, we may be able to better determine whether ANet assessments are a good measure of our students' skills.

Another teacher, Ms. Jen, argues,

ANet interims are somewhat a good measure of students' skills, but I was informed that the ANet assessments aren't even on grade level. They are almost two to three grade levels above what the students are on. And, I have a serious

problem with that because at least seventy percent of the students that we serve are reading below grade level. So, that doesn't measure up... So, the assessments just reinforce what they need to know, but then again, that's not that helpful because there are so many gaps that are preventing them from getting to proficiency. So, we still end up spending a whole lot of time going over information that they should have mastered in elementary school.

Two teachers, Ms. Keisha and Ms. Hillary, believe that daily formative assessment data retrieved from classroom instruction is the best measure for determining students' knowledge, skills, and growth. Ms. Hillary states,

I sometimes create my own quizzes from the Achievement Network website or sometimes I'll choose a story from there and then create my own questions. What I think is truly valuable is doing random checks for understanding with my students to gauge their understanding and progress. My students will give me a thumbs down if they are confused, thumbs up if they are all clear, and a thumb in the middle if they are so-so or just okay. That's just one example. But, I do lots of simple checks for understanding several times during the class period, and I instantly know whether I have to go back and clarify something on the spot. So, for me, it doesn't always have to be a written test.

Mr. Joe and Mr. Carlton both believe that ANet is a good measure of what students know and the skills they have. However, Mr. Carlton mentions that grades are an even better measure of students' progress. Mr. Carlton states, "We use ANet quarterly, but the teachers enter in their grades on a daily basis into PowerSchool, a database and data platform we use at our school. I have been encouraging teachers to enter in at least three

grades a week, and I have also done a big push to have parents check their children's grades in PowerSchool."

It is evident from the principal interview that Mr. Joe has been a key player in developing reflective practitioners school-wide, even with the school leaders and administrators. The principal reported that Mr. Joe takes the leaders through a similar reflection protocol quarterly after the data is published from each interim assessment. One way the school has attempted to address low student achievement on these interim assessments is through grade-level student data talk assemblies. Each grade-level team would have an assembly where teachers and the instructional coach presented the overall student data and then set a goal with the group of students. The hope was that by having students reflect on their data, it would create some intrinsic motivation and urgency for them to thrive to improve. When students got back to their classes after the assembly, they were tasked with conferencing with each of their students to set individual student goals so that students could track their own progress. However, the principal reported that all teachers did not carry out this initiative with fidelity. Only two teachers mentioned this in their interview. The other three teachers stated that students did not monitor their own progress towards the mastery of standards or student achievement.

The principal states,

When we have a student data talk assembly, it's about the grade level. We share the overall data of the grade level. So, we'll say there are seventy sixth-graders and out of the seventy sixth-graders, twenty of you all have A's in English, thirty of you all have B's in English, and twenty of you all are failing English. You know, something like that. And, then we'll say, thirty percent of you scored

proficient on the last interim. So, we try to give them comparative data. Right at the end of the assembly, students get a data sheet with their specific data on it. And, when they get to their English classes, their teacher is expected to set up conferences with them to help them to understand where they fall in order to help them set goals for growth and improvement.

Ms. Suzan shares,

I share the data with each of my students. When we get our data back, I tell each student his or her score and how it relates to proficiency. For example, I'll tell Johnny, you were only two points away from sixty percent. So, for the next test, let's try to move up like five percentage points. So each of my students gets to set a growth goal and track their progress towards that goal.

Ms. Suzan was the only interviewee who mentioned the need for individualized instruction for students who need more support while reflecting on her practice. It is evident that Great Schools Academy does not have a tiered intervention system, such as Response to Intervention (RtI)<sup>6</sup>. Ms. Suzan contends,

Time doesn't permit me to provide my struggling students with individualized instruction. Not to say that we haven't done that with some of the small group instruction, but when you have kids that are so far behind, I think you have to look at individual students' needs as opposed to the needs of a small group of students. So, even though all of the students in a small group may have gotten the questions for citing textual evidence wrong, Julie may be on a fourth grade reading level, while Charlie may be on a sixth grade reading level. And, it's just like the teacher's duty to bridge the gap, especially with text complexity. I have

to make sure all of my students are able to read and understand the questions they are being asked to answer. So, that's definitely something that's a challenge for me that I am going to do better with. Every year, Mr. Joe asks me what I will work on during the following school year to improve my instruction, so that's the one thing I think I want to focus on more next school year.

Not only does Mr. Joe develop the capacity of teachers as reflective practitioners, but he also supports teachers with sharing the data with their students so that their students can track, monitor, and reflect on their student achievement, growth, and areas in need of improvement. During his interview, Mr. Joe asserts, "Middle school students should be able to explicitly state here is where I was on interim one and this is what I did to make sure that I improved on interim two. Now, I am working on so and so, so that I can improve even more for interim three." Moreover, the two teachers that were deemed effective on their June 2012 teacher evaluation both stated that the majority of their time spent with Mr. Joe was on analyzing data and deciding on how to adjust instruction based on the data.

## CHAPTER 5: DISCUSSION AND IMPLICATIONS

### Overview

This chapter begins with an overview of major findings from this study on the instructional literacy coach's role in the data-driven decision-making process in an urban, public charter, middle school in an underserved community. The relationship of these findings to the overarching research question is also detailed. The next section, titled "Discussion," presents *three* major conclusions drawn from the analysis of data, which was interpreted through the use of the conceptual framework (see Figure 3): 1) coaching improved school culture through the collaborative use of data; 2) coaching enhanced teachers' knowledge and skills of using data to drive instruction; and, 3) coaching increased leadership's capacity to analyze and reflect on data. The discussion then focuses on implications for practice, policy, and future scholarly research. The chapter concludes with a discussion of the limitations of the study as well as some concluding remarks.

### Discussion

During the last thirty years, the educational landscape has faced a growing national movement to hold schools and educators accountable for student achievement. The No Child Left Behind Act of 2001 added to that pressure at the federal, state, and local levels. With the adoption of the Common Core State Standards by forty-four states (as of May 2014), the District of Columbia, four territories, and the Department of Defense Education Activity (DoDEA) <sup>7</sup>, schools and educators face accountability systems based on high-stakes testing and followed by a series of consequences: school



transfer options (where parents have the opportunity to transfer their children to schools that are not considered to be “in need of improvement”); supplemental services (which requires that schools provide tutoring programs to their children); corrective action (replace school staff, implement new curriculum, decrease authority of school-level administration, appoint outside experts to advise school, and restructure the internal organization or the school), and restructuring (replace all or most of the school staff and arrange for the state to take over operation of the school)<sup>8</sup>. Purposeful use of data not only helps schools to comply with state and federal guidelines and requirements, but also facilitates schools being able to meet Adequate Yearly Progress (AYP) and student performance goals by providing valuable information that educators may use to guide classroom instruction to meet students’ needs.

The use of data is a central aspect of school reform, and many schools are hiring instructional coaches to support the data-driven decision-making process. Instructional coaches are able to support teachers and leaders with evaluating school programs and monitoring student growth by collecting, analyzing, and using data to improve teacher practices that lead to student learning (Bernhardt, 2004; Walpole & McKenna, 2008). In order to create a school culture that understands the value of data and embraces its meaningful use, it is necessary for an instructional coach to establish a collaborative environment with structures in place that encourage teachers to engage in data use for planning instruction.

The overarching research question guiding this study asked: What is the role of the instructional literacy coach in the data-driven decision making process in an urban, low-performing, public charter middle school? The findings of this study, interpreted

through the use of the conceptual framework, indicate that the instructional literacy coach impacted the data-driven decision making process in three primary ways: 1) coaching improved school culture through the collaborative use of data; 2) coaching enhanced teachers' knowledge and skills of using data to drive instruction; and, 3) coaching increased leadership's capacity to analyze and reflect on data. The data from interviews, observations, and artifacts suggest that support from the instructional literacy coach may be associated with improved teacher practice and higher student achievement. However, this particular study's focus centered around "Improved Coach Knowledge & Skills" and "Improved Teacher Knowledge & Skills."

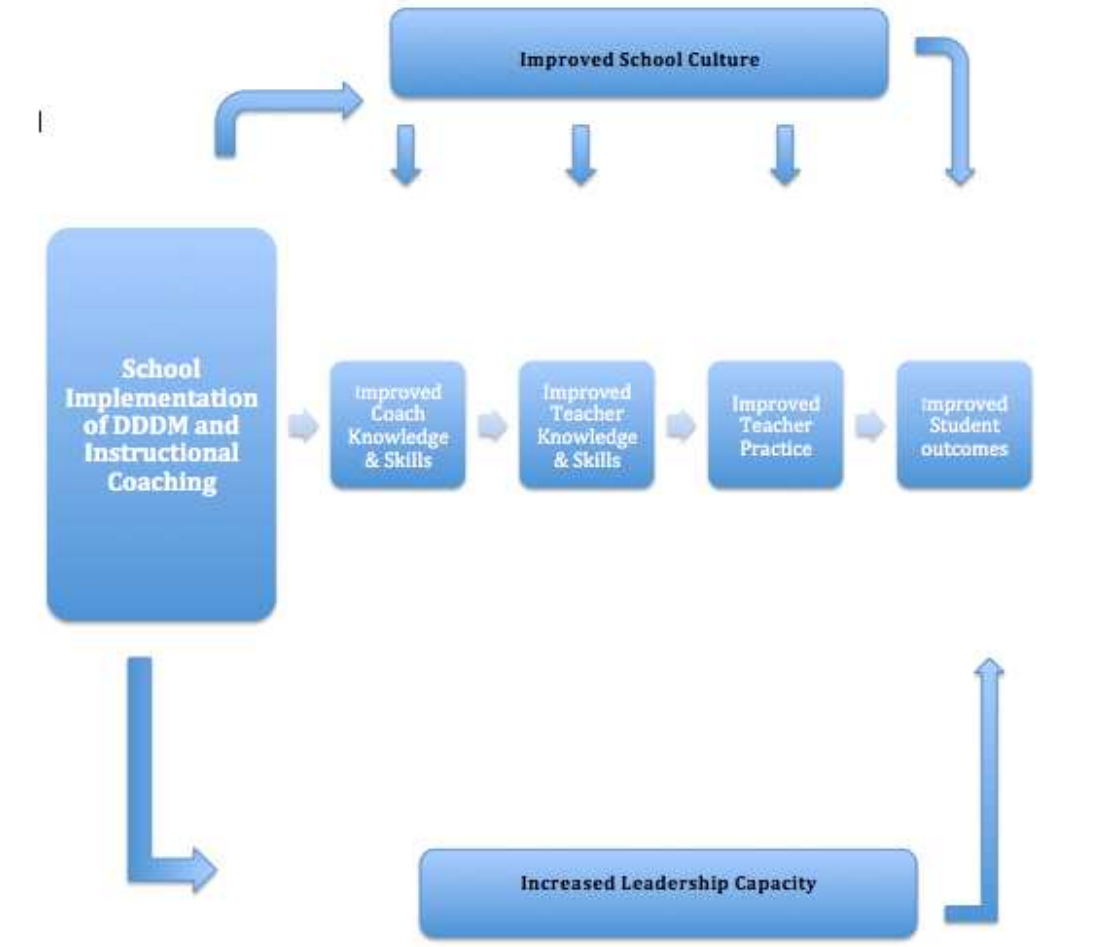


Figure 3: Conceptual Framework

### Coaching Improved School Culture Through the Collaborative Use of Data

In order to for schools to experience success with data-driven decision making processes, educational leaders must foster a culture of continuous inquiry that values and routinely utilizes data to inform decisions (Abbott & McKnight, 2010; Boudett et al., 2006; DuFour, 2002; Park & Datnow, 2009; Schmoker, 2004). The findings of this study provide evidence that the instructional literacy coach plays a vital role when implementing data-driven decision making processes within schools. Sharing data, developing strategies for its effective and continuous use in making instructional and

organizational decisions, and creating an environment of collaboration and teamwork are at the heart of the instructional literacy coach's support to ensure a school's ongoing systemic improvement and increased student learning (Schmoker, 2003). Schmoker (2003) argues, "Data should be an essential feature of how schools do business... To overcome the fear of what the data will indicate and how the data will be used, staff members must collaborate in the collection and analysis so that the resulting information is trusted to be an accurate signpost of current performance" (p. 22). Furthermore, building the capacity of teachers to engage in efforts centered on the enhancement of instruction creates a common purpose among educators (Abbott & McKnight, 2010). Data from interviews, observations of data meetings, and document analysis indicate that the instructional literacy coach helped to build teachers' capacity for data use as well as develop a culture of collaborative use of data.

Furthermore, the instructional literacy coach created a structure for data use by scheduling and facilitating quarterly school-wide data meetings, in which the whole school was involved in the data-driven decision-making process. He also held weekly data meetings with the ELA department, the social studies department, and both departments together. The principal and the teachers affirmed the instrumental role of the instructional literacy coach as the facilitator of data analysis in the content area meetings as well as the data meetings. Furthermore, the instructional literacy coach trained and supported teachers with the use of a data management system, offered by the Achievement Network, so that teachers could access their school-level, class-level, and student-level data as well as create common formative assessments.

*Value of Data Use Collaboration*

The principal made it clear that Mr. Joe was the one who drove the literacy vision and the collaborative use of data in the school. One of Mr. Joe's responsibilities was to ensure the social studies teachers (non-core teachers) knew instructional strategies they could use to contribute to students' learning and mastery of the standards in English Language Arts (ELA), which is the core content area. During one of the first weekly ELA and social studies department meetings, Mr. Joe had his teachers set long-term and short-term goals for student achievement collectively, and the teachers and the principal reported that Mr. Joe ensured his teachers monitored their progress and held each other accountable to meeting those goals throughout the school year.

All but one teacher reported that the data meetings, in which the ELA and social studies departments collaboratively analyzed the data, were beneficial. Ms. Hillary, the sixth grade ELA teacher, reported that she did not think it was beneficial for the social studies teacher to explicitly teach ELA standards due to the fact that she was not knowledgeable about the ELA content. In contrast, Ms. Jen, the sixth grade social studies teacher, mentioned that collaborating to analyze the ELA data and plan instruction to meet the students' needs was beneficial because she was able to teach students the standards and skills that were areas of weaknesses, and the students' performance increased in those areas.

#### *Possible Influence on Teacher Practice and Student Achievement*

Ms. Suzan, the eighth grade ELA teacher, also reported that the instructional literacy coach facilitated data meetings that were beneficial for enhancing her teaching

practice. She also mentioned that the instructional literacy coach influenced student achievement by assisting her with having student conferences, in which she would meet with students to review their data. Ms. Suzan asserts, “I see the main role of the instructional literacy coach as the bridge-maker, making sure there is continuity between the ELA department and the social studies department. He makes sure we are on the same page with our strategies and skills, and making sure we are using the data to drive our instruction. He makes sure we let our students know where they are and the growth we want them to make for each interim.” Student proficiency on the interim assessments increased overall from 35% proficient on interim 1 to 56% proficient on interim 4, with proficiency set at 50% (see Figure S3). It is evident from the interviews, observations, and document analysis that the instructional coach’s support to teachers with DDDM may influence teacher practice as well as student achievement (albeit small in magnitude) by assisting teachers with planning small group instruction, ensuring teachers show students their individual scores and proficiency levels, and assisting students with monitoring their progress from the first interim to the fourth interim.

Moreover, both the principal and the instructional coach mention that the instructional coach should have worked with the special education teachers more often, instead of just during the afterschool cross-content meetings because they really need support with literacy instruction to meet the needs of their students. At Great Schools Academy, the special education teachers did not receive direct support from either the instructional literacy coach or the instructional mathematics coach. In turn, it can be inferred that the special education students’ achievement was stymied due to the lack of

support to the special education teachers from the instructional coach. Only ten percent of the special education students scored proficiently on the state assessment.

### *Interim Assessments versus Formative Assessments*

From the interviews, it is evident that the focus of data analysis has been on interim assessments and common formative assessments. All teachers reported that the data from interim assessments were the most valid useful source of data to inform their instruction; however, two teachers argued that the data from the ANet interim assessments may not be the best measure of students' skills and in fact their own formative assessments were more useful. Those two teachers' arguments confirm researchers' findings that even though the analysis of the interim assessments and common formative assessments are useful for determining student misconceptions (errors in understanding) as well as the standards and skills that teachers need to re-teach to meet the needs of students, the assessments that are best suited to guide improvements in student learning are the quizzes, writing assignments, exit tickets, and other formative assessments that teachers administer on a daily basis in their classrooms (Guskey, 2003). Similarly, Carol Ann Tomlinson contends,

I see formative assessment as an ongoing exchange between a teacher and his or her students designed to help students grow as vigorously as possible and to help teachers contribute to that growth as fully as possible... Formative assessment is – or should be – the bridge or causeway between today's lesson and tomorrow's. Both its alignment with current content goals and its immediacy in providing insight about student understanding are crucial to helping teacher and student see how

to make near-term adjustments so the progression of learning can proceed as it should. (Tomlinson, 2014, p. 11)

Carol Ann Tomlinson (2014) argues that teachers should plan instruction around student needs. She contends, “There is little point in spending time on formative assessment unless it leads to the modification of teaching and learning plans” (p. 14). Formative assessment should be a means to design instruction that is a better fit for student needs and not an end in itself. Tomlinson claims that formative assessment is more habitual than occasional in classrooms where maximizing each student’s growth is a central goal. Thus, students will reap benefits if assessments becomes less about numbers and more about discerning where students are in their learning and then planning lessons accordingly (Darling-Hammond, 2013). It is evident that besides the two teachers that mentioned formative assessments, there was an absence of focus on formative assessments at Great Schools Academy. A focus on formative assessments and support from the instructional literacy coach on this area may be the shift that teachers need in order to actually change their teaching practices to meet students’ needs.

Moreover, responses to the interviews indicated that the principal and the teachers believe that the instructional literacy coach effectively established structural elements of a data-driven culture such as scheduling data meetings, granting teachers access to data, and emphasizing student progress. While all teachers reported that their teaching practice was improved due to the support of the instructional literacy coach, the principal and the coach reported that teachers’ actual instructional practice was often just tweaked instead of totally changed because of the lack of professional learning on instructional strategies. In his interview, the principal reported, “Many times, our teachers like to blame the data



on the standards or they'll make the excuse that they did not get a chance to cover particular standards due to the fact that it didn't come up in their pacing guide yet. Ultimately, some teachers are just going through the motions. They create these action plans, but then they really go and teach in the same way they are comfortable teaching." Similarly, Mr. Joe declared, "Teachers definitely need some support with using specific instructional strategies. It's hard to get deep into instructional strategies at times due to time constraints. Some teachers need you to introduce a strategy, practice it with them, and model it for them. I sometimes don't have enough time to do all of that..."

### **Coaching Enhanced Teacher Knowledge and Skills of Using Data to Drive Instruction**

All teachers interviewed reported that the coach helped to build their knowledge of data analysis and data use to drive their teaching practices. All teachers indicated that their instructional practices were adjusted to provide more targeted instruction to students based on identified needs. However, only two teachers specifically described how they actually adjusted their instruction to meet the needs of their students. It is evident from the interviews and observations that teachers were aware of the instructional needs and challenges of their individual students as well as their entire class. Where teachers struggled was in planning different strategies for re-teaching as well as addressing the needs of their low-performing students. Interview data revealed that the school did not develop a system of targeted interventions to improve the skills of low-performing students. An intervention program was not implemented until mid-February 2013, which was about seven weeks before the administration of the state-wide assessments in April

2013. Also, only two teachers mentioned conferencing with individual students and providing differentiated and individualized instruction.

*Interventions and Differentiated/Individualized Instructional Strategies*

The role of an effective instructional coach is to utilize data to monitor trends and patterns of student misconceptions early (Guskey 2003). The practice of assessing and analyzing data with teachers is not enough to address the achievement gap that occurs between students with a variance of backgrounds and processing abilities. According to Guskey (1997), assessment must be followed by high-quality, corrective instruction designed to remedy whatever learning errors the assessment identified. The practice of Corrective Instruction focuses on providing specific instructional strategies and learning interventions to meet the needs of students. “Teachers must follow their assessments with instructional alternatives that present those concepts in new ways and engage students in different and more appropriate learning experiences” (Guskey, 2003, p. 8). An instructional coach must lead the charge to provide the resources and support needed to meet the learning needs of every student. Findings from this study indicate that the instructional coach provided some teachers with support by suggesting instructional strategies and interventions for students; however, this was not consistent across all interviews. The instructional coach argued that he often did not have enough time to model or explain instructional strategies for all teachers. The findings from the interviews and observations indicate that the coach often released teachers on their own while they were writing their Corrective Instruction Action Plans, which is where they would delineate their intended small group or individual student interventions.

Corrective Instruction Action Plans need to be driven by data that is linked to the root causes of continued patterns of student misconceptions and teacher underperformance (Guskey, 2003). Conducting an effective root-cause analysis will inform the instructional literacy coach's ability to accurately plan for Corrective Instruction. Successful facilitation of a root cause analysis meeting will be dependent on the instructional coach's ability to lead a team toward prioritizing/verifying root causes based on importance to student learning and teacher instruction and the schools' ability to address the issue. The Corrective Instruction Action plan provides a strategic approach toward addressing student misconceptions and improving instructional practice. The plan provides an agreed upon approach between teachers and the instructional literacy coach that is based upon strong evidence from various data trends over a reasonable length of time. It is the responsibility of the instructional literacy coach to continually monitor the implementation of the plan through daily classroom observation and feedback to teachers, providing feedback to students and teachers through regular formative assessments, and assuring that data is acted upon and plans are adjusted during regularly scheduled data meetings throughout the school year (Guskey, 2003).

The evidence gathered in this study indicates that while the principal, coach, and teachers value insights gained from data analysis, Corrective Instruction is less evident across all classes. As a result, data analysis is not leading to tangible, coherent instructional practice. The school has grown very proficient in determining student misconceptions (Boudett, City, & Murname, 2005). However, the school is not sufficiently defining the problems of practice. For instructional change to occur, student misconceptions have to be reframed as a problem of practice. Thus, the emphasis for

improvement shifts from the student to the teacher. When teachers define a problem of practice, they link learning to teaching by analyzing the effectiveness of their instruction and using the results of the analysis as a basis for discussion about improvement with the eventual outcome being the development of a shared understanding of effective teaching (Boudett, City, & Murname, 2005). The data from this study indicated that the instructional literacy coach had an integral role in facilitating a laser-like focus on data analysis; however, he used less time assisting teachers with Corrective Instruction Action planning. Even though the principal, coach, and teachers mention that he observed teachers' practice and provided feedback to teachers on an ongoing basis, only two of five teachers specifically stated how their teaching practice actually changed.

#### *Need for Professional Development*

In their interviews, the teachers, principal, and instructional coach all reported that teachers needed more professional development on the instructional strategies and differentiated instruction in order to effectively change teacher practice. The importance of knowing how to use assessment data to improve teacher practice and student learning cannot be overestimated. A growing body of research suggests that the use of high-quality assessment data, in the hands of teachers trained how to use it effectively, can improve instruction (Protheroe, 2001; Guskey, 2003; Fullan et al., 2006; Guskey, 2007). Fullan et al., 2006). Fullan, Hill, and Crevola (2006) contend that in order to improve the effectiveness of classroom instruction so that it more precisely responds to the needs of students, teachers need to become proficient in using assessment data to monitor and manage student learning.

Protheroe (2001) asserts, “Finding good data and using it effectively is actually a complex process – one that schools are just beginning to address” (p. 5). The data from the observation, interviews, and document analysis indicate that teachers need professional learning on making informed decisions about how to change instruction based on effective complex data analysis. Specifically, after determining the academic needs of individual students through the analysis of data, teachers need training on how to respond to those needs by targeting instruction, support, and resources accordingly. Even though the instructional coach provided teachers with observation feedback on a continuous basis, it is evident that teachers need further targeted strategies for improving instruction.

### **Coaching Increased Leadership’s Capacity to Analyze and Reflect on Data**

At the time of the study, the principal and the instructional literacy coach reported that the coach was receiving ongoing professional development in effectively supporting the DDDM process by participating in the New Leaders for New Schools Emerging Leader program. The focus of the Emerging Leader program was on building the coach’s own capacity to use data as well as building his capacity to lead a team of teachers to use data to enhance their instructional practice. In order to be accepted into the Emerging Leader program, the instructional coach had to demonstrate a strong belief that all students can achieve college success, the ability to lead adults effectively, and have a proven track record of achieving student gains. The instructional coach also reported that Emerging Leaders must also have a strong desire to increase their impact beyond the classroom and demonstrate enthusiasm to learn and grow their leadership skills. Through the program, Emerging Leaders practice, reflect, and build skills to drive results and

gains with a team of adults. Specifically, during the year-long program, Emerging Leaders are expected to lead a team of teachers through data-driven instruction cycles; engage in content designed to enhance leadership skills; and, work and reflect with their school leaders to receive specific and actionable feedback.

By receiving this form of ongoing professional development geared specifically around DDDM, the instructional literacy coach was able to build the capacity of not only teachers, but also leaders in data-driven decision making. Lachat and Smith (2005) assert, “School leaders need to view and champion data use as integral to school reform processes” (p. 345). It is evident from the principal interview that Mr. Joe has been a key player in developing reflective practitioners school-wide, even with the school leaders and administrators. The principal reported that the instructional coach facilitated data meetings with the leadership team on a quarterly basis, in which he assisted them with setting student achievement goals, presented data charts, and used a reflection protocol in order for the school leaders to reflect on their progress towards the student achievement goals as well as make adjustments to the action steps necessary to improve student achievement. The school-wide writing initiative, the grade-level academy data meetings, as well as teacher-student data talks were all initiatives that emerged from the data team meetings the instructional coach facilitated with the school’s leadership team.

### **Implications for Practice**

The findings of this study, through the lens of the conceptual framework, provide empirical evidence that an *effective* instructional coach who facilitates the data-driven decision making process can potentially improve school culture, improve the data-use capacity of school leaders, enhance teachers’ knowledge and skills with data use, teacher

practice, and possibly student achievement. Given the increase, among schools and school districts, in using data to guide school improvement as well as using instructional coaches to assist teachers in this process, it is critical to understand how coaches perform this data support role and how to do it effectively.

This is especially relevant since there is no one agreed-upon list of characteristics of effective coaches across the nation. Nor is there a standard list of qualifications for those who are candidates for coaching positions due to the fact that there are no standardized roles and responsibilities for coaches.

Knight (2006) suggests that coaching requires skills in communication, relationship building, change management, and leadership for teacher professional development. Killion and Harris (2006) suggest that schools and school districts require the following characteristics: beliefs, teaching expertise, coaching skills, relationship skills, content expertise, and leadership. Some researchers posit that along with pedagogical and content expertise, coaches must possess strong interpersonal skills and competencies (Dole, 2004; Neufeld & Roper, 2003; Poglinco et al., 2003; West & Staub, 2003). It is evident from the interview responses that one way the instructional coach was able to build a culture of data was through building trusting relationships with his teachers. All teachers reported having a strong working relationship with the instructional coach. Findings indicated that the coach was wholly committed to improving student achievement, skilled in curriculum and instructional planning, understood adult learning and effective communication, understood and employed a specific reflection process, is respected by peers and has patience for the learning process, as well as possesses and applies in-depth content knowledge.

Moreover, the findings of this study and evidence from other research (Marsh et al., 2010) suggest that what makes the instructional coach's practice effective is not just helping teachers interpret the data, but also helping them identify instructional strategies in response to these data. Analyzing data and taking action based on data are two different tasks. Taking action is often more challenging and requires more creativity than analysis. However, according to the finding of this study and evidence from other research (Marsh et al., 2006; Marsh et al., 2010), taking action generally receives less attention, particularly in the professional development provided to teachers. Research confirms the importance of providing training on how to use data and to connect them to practice (Wayman & Stringfield, 2006). Thus, instructional coaches may be bridging this important divide for teachers, helping them identify students' strengths and weaknesses and providing them with specific instructional strategies aligned with their needs. The findings of this study underscore the need for schools to hire instructional coaches to support the data-driven decision making process as well as the importance of instructional coaches receiving professional development on a vast repertoire of instructional strategies.

It is evident that the instructional literacy coach facilitated data meetings on a regular basis, assisted teachers with planning lessons, and monitored the implementation of teachers' corrective instruction plans through daily classroom observations and feedback to teachers – assuring that data was acted upon and lesson plans were adjusted during regularly scheduled data meetings throughout the school year. However, the findings emphasize the instructional coach's and teachers' need for further professional



development on various instructional strategies and interventions to meet the needs of students with misconceptions.

I suggest that schools consider implementing a response-to-intervention (RtI) framework. Abbot and Wills (2012) claim, “The goal of RtI is to create and maintain an ongoing process that uses student performance to guide implementation of high-quality instruction and intervention that is matched to student needs” (p. 37). In an RtI system, it is ideal for 80% of the students to meet academic expectations with 20% of the student body requiring intervention (Abbot & Wills, 2012). However, the reality for urban schools or those in high-poverty areas is much different. In Great Schools Academy, only 36.5% of the students scored proficient or advanced on the 2013 state assessment, which is a 7.7% increase from the 2012 state assessment. Furthermore, it may also be beneficial for the school to analyze other data points, such as students’ grades, behavior referrals, suspensions, and attendance.

The findings of this study emphasize the need for schools to focus on formative assessment data and not just interim assessment data. Research shows that transforming data into useful knowledge and practice to improve student learning and instructional decision making is a complex undertaking, and that the use of high-quality assessment data, in the hands of teachers trained on how to use it effectively, can improve instruction (Protheroe, 2001). Moreover, Stiggins (2002) reveals that teachers must create quality, formative assessments that include a clear purpose for the assessment and a clear achievement target for what needs to be assessed, and, which accurately reflect the target and satisfy the purpose. Thus, instructional coaches and teachers should be trained on how to create and use formative assessments on a daily basis to gauge student progress

towards mastery on the Common Core State Standards. Research over the last decade (Hattie, 2009) has shown that gathering evidence of student learning during instruction can lead to improved student achievement. School leaders, instructional coaches, and teachers need to build a shared knowledge base surrounding assessments and ensure alignment of curriculum, instruction, and assessment.

Additionally, in Great Schools Academy, the special education teachers did not receive direct support from the instructional literacy coach, which may have impacted the achievement of the special education students. Special education students at Great Schools Academy make up 24.5% of the student population and are taught via an inclusion model. Therefore, an additional implication of this study for instructional coaching would be for schools to assign instructional coaches to special education teachers so that they can also receive the support necessary for them to enhance their knowledge, skills, and teaching practice.

### **Implications for Policy**

The increased emphasis on data-driven decision-making is driven by education policy that demands higher student achievement and provides increasingly severe sanctions for schools that fail to meet those demands. The findings of this study indicate the need for instructional coaches to shift their focus from an outcome-oriented approach that almost exclusively relies on assessment results to one that provides greater emphasis on the instructional practices that lead to those outcomes, which affirms current findings on coaches (Marsh et al, 2010). Currently, school improvement policy emphasizes structural reforms such as closing underperforming schools and increasing school choice (as a part of the No Child Left Behind Act of 2001). However, for the vast majority of

students, these efforts will not necessarily result in a substantially better educational experience. To improve learning for all students, state and federal policies must first create conditions that improve the quality of the instruction that students receive. Professional development policy is an area that can have immediate impact. The school in this study had some difficulty translating the results of data analysis into tangible improvements in instructional practice even though the instructional literacy coach supported the data-driven decision making process. There is a great need for state and federal policies that provide assistance and training to schools in developing instructional responses based on assessment data. This includes the provision of professional development that increases coaches' and teachers' content and pedagogical content knowledge and also facilitates collaboration that is both efficient and enables the development of effective improvement strategies. A focus on instructional improvement is likely to have a much more substantial, sustainable, and widespread effect on student achievement than the current, mostly punitive orientation that characterizes school improvement policy.

### **Implications for Research**

As legislators and state and federal level school officials demands for improved student achievement intensify, a growing number of schools will begin to invest in and implement increasingly sophisticated systems for using data to inform instructional practice. However, as the research in this study indicates, enhancing teaching practice is not as clear-cut as policymakers suggest. During data collection, it became apparent that teachers were implementing strategies they knew as well as the strategies the instructional coach shared with them. One possible reason for why there was not much

variation in teaching was that teachers may not have known of or were not comfortable implementing alternatives to their current pedagogical paradigm. Effective data analysis demands innovation. When data shows that students are not performing well, there should be some modification of instructional practices as a result. However, this demands that the instructional coach provide a deep enough pool of instructional resources that educators can use to adapt their instructional approach. In this case, it appears that this pool was not very extensive, and it is likely that the same happens in schools with similar contexts. In essence, when teachers do not have access to new instructional methods that they can use to address achievement challenges, they tend to draw upon the instructional strategies they possess (Guskey, 2003). The findings indicate that the instructional coach assisted teachers with planning instructional strategies; however, in order to be more effective, the instructional coach would need to deepen his pool of instructional strategies.

The findings of this study indicate that there needs to be more research into the development of coordinated systems that link the outcomes of data analysis to content-specific professional learning opportunities that are targeted to the identified concepts or skills. In order to improve teaching practices, the instructional coaches must have access to a comprehensive system of targeted professional development that is directly linked to the content issues identified by data. Therefore, when learning problems emerge from the data, coaches will be equipped to engage teachers in learning experiences that will enable them to critically reflect on their practice and facilitate the implementation of new instructional methods and teaching practices. However, the manner in which such a system should be ideally structured and organized requires additional research.

Furthermore, additional research could contribute greatly to the understanding of these capabilities by comparing effective and less effective coaches using reliable instruments that measure characteristics, such as intelligence, aptitude, and personality traits.

Even though this particular research study has set the stage for examining the role of coaches in data-driven decision making, future studies are needed to identify how an individual coach's perceived effectiveness changes as he or she gains professional learning experiences through various professional development opportunities as well as how teachers' effectiveness changes as they work with a coach over a period of time. Also, future research should include direct observational measures of teacher practice, which will add depth to the understanding of how coaches may influence instruction.

### **Limitations**

The small-scale nature of this study as well as the timeframe in which it was conducted are limitations. Therefore, an area for further research would be to conduct large scale studies that examine a greater number of schools that are implementing coaching programs in which the instructional coaches support the data-driven decision making process over a longer period of time. Such research would allow researchers to gain a more robust understanding of the instructional coach's role in data-driven decision making over several data cycles and would also provide a better understanding of how schools in varying contexts use the instructional coaches to support teachers in using data to improve instruction. If the effect of coaching on student achievement grows over time, a longitudinal analysis would be more sensitive to determining the relationship between coaches' activities and student outcomes. Such longitudinal studies could focus at the coach level (examining how an individual coach's effectiveness changes as he or she

gains experience), at the teacher level (examining how teachers' effectiveness changes as they work with a coach), and at the student level (examining the cumulative effects of students' exposure to teachers who have benefited from coaching). Furthermore, this study relied on participants' reports of teachers' adaptation to their instruction.

Additional research that employs direct observation of teacher practice before and after data analysis would provide much richer insight and add depth to our understanding of how coaches influence instruction.

One of the limitations of a single case study is its relatively small scale and lack of contextual diversity. Yin (2009) states, "A common concern about case studies is that they provide little basis for scientific generalization" (p. 15). This study sought to maximize the transferability of the findings of this study through the selection of a critical case and the implementation of diverse data sources for the purpose of triangulation. However, even these measures may not be sufficient to enhance the transferability of the findings to all contexts. There are a number of factors that may yet limit the ability to generalize broadly. These include the fairly isolated geographical location of the research site, which may influence the lack of diversity of teachers who choose to work at the school and the demographics of the school and community, which are heavily poor and minority and reflective of many urban schools, yet not reflective of the country as a whole. However, while these may be considered limitations of the study, they may alternatively be considered strengths because the unique circumstances of the school may be used as the basis for the building of a theory that can be further tested and expanded in the future with similar populations (Strauss & Corbin, 1998).

Another significant limitation of this study is that it relies heavily on teachers' reported perceptions of changes in instruction. Although teachers may report changes in instructional practice, it cannot be verified that these changes actually took place to the extent that teachers report them, if at all. As a result, it cannot be determined for certain that teachers are actually changing their practice in light of assessment information. This issue was addressed in the interview protocol through questions that asked teachers to provide specific examples of changes in practice as well as an observation of a data analysis meeting. However, without observing practice before and after data analysis meetings, changes in practice cannot be specifically validated.

Time is also a limitation of the study. This study was conducted over a sixteen-week period. Due to time constraints, it was not possible to extend the duration of the study. As a result, I was only able to observe a full-day data meeting and a half-day data meeting, which may have hindered my ability to gather a fully developed sense of how the instructional coach fully supports DDDM at the school. Insights gained from additional sources of data helped to address this issue, such as data charts, examples of corrective instruction action plans, data tools such as the reflection protocol, meeting agendas, the coach's weekly schedule, and the coach's job description.

Finally, my personal background may have also influenced the outcome of the study. As an Emerging Leader, the instructional coach and I are colleagues. Also, as a school leader in the same community, I am very familiar with the context of the school, the district, and the community. Therefore, I entered the research with strong connections to the topic and the community, which may manifest as biases that may affect my interpretation of the research. As I stated in the section on positionality, I

included steps to identify potential bias in the data analysis process. However, it may not be possible to identify all potential manifestations of bias, and, thus, this is a limitation of the study.

### **Concluding Remarks**

The findings of this study emphasize a need for school leaders and policymakers to ensure the improvement of instructional practices is the primary focus of decision-making and school reform efforts. Very often, school improvement initiatives center on sweeping structural changes such as a curriculum program, scheduling, or data analysis. However, these programs in isolation will not likely result in much improvement in student achievement. Their effectiveness will depend on the extent to which they impact the quality of instructional delivery. The implementation of coaching programs, as demonstrated in this study, to support a schools' data-driven decision making processes has great potential to close the student achievement gap and end the epidemic of low-student performance in urban schools. Implementing a coaching program, with a highly effective coach, also has the potential to provide teachers and administrators with insight into the quality of teaching, which should lead to efforts to adapt instructional practices.

However, it is very tempting and very common, unfortunately, for educators and policymakers alike to approach reform initiatives as if they were a panacea for school improvement. When implementing such programs, they often adopt a 'set it and forget it' approach. That is, they implement the initiative, neglect to develop the instructional processes that should accompany the program, and check back for results. When student achievement does not increase at a sufficient rate, the program is deemed ineffective. However, it is not possible to gauge if school improvement efforts are actually effective



if teachers' instructional practices essentially remain the same. The major implication of this study is that the instructional coach's potential impact on teaching practice and student achievement, through the DDDM process, should not be taken for granted, regardless of the size of the investment the school, state, or district has made in implementing other aspects of a school improvement program. In fact, it should be the centerpiece of any school improvement effort. Great Schools Academy made considerable investments in implementing a coaching program to improve the ability of their teachers to obtain, organize, and analyze data. However, despite these efforts, findings from the interviews, observations, and document analysis indicate that teachers only made minimal changes to their teaching practices. Even with those slight changes to teaching practice, student achievement on the state-wide assessment still increased by 7.7% (see Appendix S, *Figure S4*). While we cannot, in this research design, argue that the test score increase was directly due to the instructional coaching, the rise in scores is still impactful and worthy of more research. If schools and districts seek to maximize the considerable investments they make in improving the academic achievement of students by hiring instructional coaches to support DDDM, it will likely serve them well to ensure they develop sufficient capacity of teachers, coaches, and administrators to substantively improve the quality of the instructional programs and teaching practices.

## APPENDICES

### Appendix A

**Table 1: Roles of Instructional Coaches**

<b>Roles of Instructional Coaches</b>	<b>Purpose</b>
Resource Provider	To expand teachers' use of a variety of resources to improve instruction.
Data Coach	To ensure that student achievement data drives instructional decisions at the classroom and school level.
Curriculum Specialist	To increase ensure implementation of adopted curriculum.
Instructional Specialist	To align instruction with curriculum to meet the needs of all students.
Classroom Supporter	To increase the quality and effectiveness of classroom instruction.
Mentor	To increase instructional skills of the novice teacher and support school-wide induction activities.
Learning Facilitator	To design collaborative, job-embedded, standards-based professional learning.
School Leader	To work collaboratively with the school's formal leadership to design, implement, and assess change initiatives to ensure alignment and focus on intended results.
Catalyst for Change	To create disequilibrium with the current state as an impetus to explore alternatives to current practice.
Learner	To model continuous learning, to keep current, and to be a thought leader in the school.

## Appendix B

**Table 2: Characteristics of Effective Coaches**

<b>CHARACTERISTICS OF EFFECTIVE COACHES (Killion &amp; Harris, 2006)</b>
<b>Beliefs</b> <ul style="list-style-type: none"><li>• Is willing to learn</li><li>• Has a passion for ongoing development and learning</li><li>• Holds the attitude that everyone is important</li><li>• Believes in the capacity of others to grow and develop</li><li>• Does not presume to have “The Answer”</li><li>• Is committed to continuous improvement</li><li>• Has moral purpose</li><li>• Can let go of being responsible for another person’s behaviors</li></ul>
<b>Teaching Expertise</b> <ul style="list-style-type: none"><li>• Is skilled in instructional planning</li><li>• Has strong classroom organization and management</li><li>• Has fluency with multiple methods of delivering instruction</li><li>• Uses multiple methods for student assessment</li><li>• Demonstrates success in their work as classroom teachers</li><li>• Articulates their practice</li><li>• Reflects on their own practice</li><li>• Understands and uses national, state, and local content standards and curriculum</li></ul>
<b>Coaching Skills</b> <ul style="list-style-type: none"><li>• Understands and applies knowledge about adult development</li><li>• Listens skillfully</li><li>• Communicates effectively</li><li>• Uses effective questioning skills</li><li>• Understands and employs a specific reflection process</li><li>• Diagnoses the needs of teachers</li><li>• Aligns support to the identified needs of teachers</li></ul>
<b>Relationship Skills</b> <ul style="list-style-type: none"><li>• Desires to be a part of a team</li><li>• Works effectively with teachers and principals</li><li>• Builds trusting relationships</li><li>• Is respected by peers</li><li>• Has patience for the learning process</li></ul>
<b>Content Expertise</b>

- Possesses and applies appropriate, in-depth content knowledge

**Leadership Skills**

- Understands and applies the knowledge about change
- Communicates the vision of the school
- Aligns work with school goals
- Uses data to drive decisions
- Engages others in developing plans for improvement
- Maintains a productive culture

## Appendix C

### Teacher Interview Protocol

Transition:

- Greet the participant and thank him or her for allowing the interview.
- Inform him or her about confidentiality. He/she is not required to participate in the interview. He/she may choose not to answer a certain question or all questions. He/she may stop the interview at any time.
- Explain that the purpose of the interview is to discuss how an instructional coach supports Data-Driven Decision Making (DDDM) and how this support impacts teachers' instructional practice.
- Let's begin by discussing your background.

### Background

- 1) Can you please start by briefly telling me about your background:
  - a. How long have you been teaching, and what do you teach?
  - b. How long have you worked in a middle school setting?
  - c. How long have you been at this school in particular?

### Understanding/Knowledge

- 2) In developing your lessons and plans for instruction, what generally guides the choices you make about what to teach and how to teach it?
- 3) Are there any types of data that regularly help you decide what and how to teach? [Show teacher the data type card]. And remember, we are defining data broadly to include not only interim assessment results, but also your own assessments, student work, etc.
  - a. Can you please describe how they inform your practice? Can you give an example?
- 4) Thinking back to last week, what informed your lesson plans and the approach you used?
  - a. Did you prepare your lesson plans alone or with others? Does your coach have a role in planning the lessons that you then teach? If so, how?
  - b. Did you refer to any types of data to help develop the lessons or your teaching strategies or maybe make adjustments during the course of the week? If so, how?
- 5) If you had a question or problem related to literacy instruction, who would you ask for assistance? Why?
  - a. [Probes: Another teacher? Instructional Coach? Department Chair? Assistant Principal? Others?]
  - b. [For each person mentioned] What kind of advice do you get from this person?

- 6) If you had a question or problem related to interpreting or using data, whom would you ask for assistance? Why?
  - a. [Probes: Another teacher? Instructional Coach? Department Chair? Assistant Principal? Others?]
  - b. [For each person mentioned] What kind of advice do you get from this person?

**Role and Responsibilities of the Coach & Nature of Interactions**

- 7) Please tell me about your work with the coach:
  - a. How did you first start working with the coach? [Probe: Did you approach him/her? Did he/she or the principal approach you?]
  - b. What were your expectations specifically around what you would be doing together?
  - c. What do you see as the coach's role in the school?
  
- 8) Can you please recall the last time you and the coach met? Can you describe it to me? Where did you meet? What kinds of things did you do during that meeting? Was that meeting typical of how you usually spend your time together?
  - a. [Probes: Assistance in accessing data, interpreting data, giving expert advice, providing instructional support, observing with feedback, modeling, providing instructional support, observing with feedback, modeling, providing resources, etc.]
  - b. How often do you meet with the coach?
  - c. How long does each meeting last, on average? How much of that time is spent on analyzing data and/or deciding how to adjust your instruction based on data? What kind of data?
  - d. What do you gain from working with a coach that you wouldn't be able to accomplish on your own? What value does the coach add to your practice?
    - i. Do you think that these data are a good measure of student skills?
    - ii. Are they helpful to you? How? If not, why not?
    - iii. Would you change your instruction based on results from this data? If so, how? If not, why not?
    - iv. [Probe on other aspects of the data if not already covered in other interviews]
  
- 9) In your work with the coach, what strategies or activities have been most helpful to you to know how to *make sense of data*? Least helpful?
  
- 10) What do you gain from working with a coach that you wouldn't be able to accomplish on your own? What value does the coach add to your practice?
  
- 11) If relevant: Beyond your work with your coach, do you meet to plan instruction or review data with other teachers?
  - a. Can you describe that meeting to me? Is the coach involved in these meetings? If so, how?
  - b. What kinds of things do you do during these meetings?

- 12) Is the work you are doing with the coach around data new to you, or have you done this kind of work in the past? If yes, how is it new?
  - a. [If not new]: Do you have a lot of prior experience analyzing data? Did you have supports for this kind of work in the past from other individuals at this school or previous schools?
  - b. Is there anything that makes this different?
- 13) How do your experiences this year compare to the first year that you worked with a coach?
  - a. Why?
  - b. What has changed?

**Types and Characteristics of Data**

- 14) What types of data have you been focusing on in your work with the coach in the past month? [For each type mentioned, ask follow-up questions below]
  - a. What is the content assessed?
  - b. How is this assessment administered?
  - c. When do you get results back?
  - d. Do you think that these data are a good measure of student skills?
  - e. Is it helpful to you? How?
  - f. Would you change your instruction based on results from this data? If so, how? If not, why not?
  - g. If applicable: Who developed the tools for this data collection? Do you use a rubric?

**POSSIBLE DATA TYPES TO PROBE ON:**

- a. District benchmark assessments
  - b. Diagnostic assessments
  - c. Common grade-level assessment (teacher-developed)
  - d. Common grade-level assessment (externally developed)
  - e. Classroom assessment (teacher developed)
  - f. Classroom assessment (externally developed)
- 15) What do you see as the most valid, useful source of data to inform your instruction?
  - 16) What kinds of data do you personally have access to? How do you access them?
    - a. Are there data that you do not have access to, data that the coach, AP, or principal accesses and then presents to you?
    - b. Is there a district or school-level data management system? [e.g., Data Director, Achievement Network, etc.]
      - i. If yes, do you have access to that system?

- ii. If yes, how frequently do you use the system? How easy is it to use?
- iii. Do you have a copy of a report from the data management system? May I have a copy?

- 17) Do you share any of these forms of data with individual students? If so, how?
- a. [Probes: Do you also provide guidance about what they can do to improve? How? Do students participate in self-assessment? Peer assessment?]

### **Perceived Enablers and Constraints/Other Data Influencers**

- 18) Is there ever any discomfort, tension, or conflict in the process of working with the coach? If so, how did you work through it? Can you give an example?
- 19) Have you had any other specific training, PD, or support on how to interpret and use these data? Where/when? [Probe: district/school PD]

### **School Climate & Leadership**

- 20) I am trying to get a sense of the school climate. How would you characterize the nature of teachers' interactions with each other?
- a. How about interactions between teachers and students?
  - b. Teachers and administrators?
  - c. Do you think that the coach has contributed at all to the climate that you've described?

### **CONCLUSIONS:**

- 21) Do you have any final thoughts or comments that you would like to share with me? Is there something else you think I should be asking you about?
- 22) In our interview, you mentioned different documents and materials that you've created or used to analyze data. Would you be willing to provide me with copies?
- a. Collect documents:
    - i. Assessment print outs
    - ii. Results, data displays
    - iii. Materials they use with coach, e.g., guiding questions, rubrics, etc.



## Appendix D

### Principal Interview Protocol

Transition:

- Greet the participant and thank him or her for allowing the interview.
- Inform him or her about confidentiality. He/she is not required to participate in the interview. He/she may choose not to answer a certain question or all questions. He/she may stop the interview at any time.
- Explain that the purpose of the interview is to discuss how an instructional coach supports Data-Driven Decision Making (DDDM) and how this support impacts teachers' instructional practice.
- Let's begin by discussing your background.

### Background

- 1) Can you please start by telling me about your background:
  - a. How did you decide to become a principal?
  - b. Did you have any previous experience working with adult learners? Leading a school? Leading professional development?
  - c. Did you have any previous experience with interpreting and using data to inform practice?
  - d. Have you had any preparation for becoming a principal?
- 2) I'm trying to get a sense of where you think your coach's expertise lies. [Present the principal with the instructional coach expertise interview card] Here are some of the types of expertise that are associated with a coach. On a continuum can you make an "X" where you see your instructional coach?
  - a. [After they noted an X on the continuums]: Can you say why you position your instructional coach here? Synthesizing, interpreting, and analyzing data? Working with adults? Technological knowledge? His practical experience? Coordinating/translating between teachers and administrators?

### Leadership

- 3) To what extent do you support the instructional coach's work with teachers around literacy and data use? Is there anything you do in particular that supports or hinders the instructional coach's work?

### Role & Responsibilities of Coach

- 4) What do you understand to be the main role and responsibilities of your instructional coach?
  - a. Are the parameters of his job pretty clear to you?
  - b. Do teachers generally understand his role?
  - c. What messages have given the instructional coach about his role at the school?

- d. What messages have you received from the school's central office about the instructional coach's role at the school?
  - e. Do you feel that everyone – the teachers, the instructional coach, central office leaders, you – shares the same expectations about what the instructional coach's role is here at the school?
- 5) What are your instructional coach's priorities or goals this year?
- a. Is there a certain aspect of literacy or data-use that he is targeting?
  - b. Who decided on those priorities (e.g., you, the instructional coach, the central office leaders)?
  - c. Why were these priorities selected? [Probes: data, teacher requests, coach's assessment of needs]
  - d. Are these different from his priorities last year?
- 6) To what extent are your coach's goals aligned with larger improvement goals and priorities of the school? Of the district?

### **Coach Work with Teachers**

- 7) Who among the staff most frequently comes to the instructional coach for advice or trouble-shooting for literacy instruction issues? [Probes: Case-load teachers? Other teachers? Department chair? Assistant principal? You?]
- a. [For each person mentioned] What kind of advice does he offer them?
- 8) Who among the staff most frequently comes to the instructional coach for advice or trouble-shooting for data use issues? [Probe: Caseload teachers? Other teachers? Department chair? Assistant principal? You?]
- a. [For each person mentioned] What kind of advice does he offer them?
- 9) Are there a certain set of teachers that your coach are working with?
- a. Who decided that he should focus on those teachers?
  - b. How were these teachers selected? Can you describe the process for me? What were the criteria used? [Probes: New Teachers, by department, by grade]
  - c. Does the instructional coach generally approach teachers or wait for them to approach you?
  - d. How does he assess different teachers' needs?
  - e. When does he typically work with teachers and for how long?
  - f. Are these the same teachers he worked with last year?
    - i. Is there a particular strategy, model, framework that guides his coaching? [Probes: Modeling, scaffolding, observing, providing feedback, dialogue, brokering, using tools, establishing norms]
- 10) Can you tell me a little bit about Teacher A?
- a. Can you talk to me about the process the instructional coach uses to work with Teacher A?

- b. How did the instructional coach first start working with this teacher and why? Did he approach him/her or did she/he approach him?
- c. What were your expectations for the work the instructional coach and teacher would be doing together specifically?
- d. At the start of the year, did you get a sense of or measure the teacher's prior skills around using data?

*Repeat questions for all teachers on the instructional coach's case-load.*

### **Types and Characteristics of Data**

- 11) [Show data use card] What types of data has your instructional coach been focusing on in his work with teachers this month? [For each type mentioned, ask follow-up questions below]
- a. How often does he use data of this type?
  - b. What is the content assessed?
  - c. How is this assessment administered?
  - d. When does he get the results back?
  - e. Do you think that these data are a good measure of student skills?
  - f. Is it helpful to you as a principal? How? Is it helpful to teachers? How? Is it helpful to the instructional coach? How?
  - g. Are teachers expected to change their instruction based on results from this data? If so, how? If not, why not?
  - h. If applicable: Who developed the tools for this data collection? Do you use a rubric?

#### **POSSIBLE DATA TYPES TO PROBE ON:**

- a. District benchmark assessments
- b. Diagnostic assessments
- c. Common grade-level assessment (teacher-developed)
- d. Common grade-level assessment (externally developed)
- e. Classroom assessment (teacher developed)
- f. Classroom assessment (externally developed)

12) What do you see as the most valid, useful source of data to improve literacy instruction?

13) How do you access these different types of data?

- a. Is there a district or school-level data management system? [e.g., Data Director, Achievement Network, etc.]
  - i. If yes, who can access this system?
  - ii. Can teachers access the data system? If not, how does your instructional coach make it available to teachers?
  - iii. How frequently do you use the system? How easy is it to use?

- iv. Do you have a copy of a report from the data management system?  
May I have a copy?
- 14) Do you encourage the teachers to share data with individual students, along with specific guidelines about what they can do to improve?
    - a. Do students participate in self-assessment? Peer assessment?
  - 15) What are the benefits of the instructional coach's work with teachers to interpret and act upon data?
  - 16) What do you think are the drawbacks?
  - 17) How do you characterize the working relationship that the instructional coach has with each of his teachers? Do they work well?
  - 18) What factors facilitate the instructional coach's relationship with each of his teachers? What factors get in the way and make it difficult? [Probes: Level of commitment? Standards of behavior? Sustained interaction over time? Personal relationship between coach and teacher? Level of congruence between the data-use and real-world practice?]

**Perceived Enablers and Constraints**

- 19) Can you think of a time where you felt the coach was successful or effective in helping a teacher use data to guide his/her literacy instruction? What do you think contributed to the coach's success?
  - a. Was it related to the strategies or approach the coach took?
  - b. Was there something about the teacher that made it easy or contributed to the coach's success? Possible probes?
    - i. How engaged or motivated he/she was?
    - ii. How receptive he/she was to new ideas?
    - iii. His/her prior knowledge about data use?
    - iv. Prior knowledge about literacy instruction?
    - v. Personal values, experiences, and expectations?
    - vi. How close the data use strategies were to his/her personal goals?
  - c. Were there any other factors that made it easy?
- 20) And vice-versa – can you think of a time when it was particularly difficult for the coach to help a teacher use data to guide his/her literacy instruction? What do you think contributed to the difficulty?
  - d. Was it related to the strategies or approach the coach took?
  - e. Was there something about the teacher that made it difficult? Possible probes:
    - i. How engaged or motivated he/she was?
    - ii. How receptive he/she was to new ideas?
    - iii. His/her prior knowledge about data use?
    - iv. Prior knowledge about literacy instruction?

- v. Personal values, experiences, and expectations?
- vi. How close the data use strategies were to his/her personal goals?
- f. Were there any other factors that made it difficult?

21) Beyond what we've already discussed, are there other factors at the school that constrain or enable the coach's work with teachers?

- g. [Probes: Adequate funding, time, and space? Strategically selecting whom the coach works with? Heavy or light involvement by school administrators? Clear school or district leadership?]

22) If you could change the coach's typical week, how would the coach spend his time? Beyond these constraints that we've talked about so far, is there anything else that gets in the coach's way?

### **Training/Support for Coach**

23) What support does your central office and/or school provide to the instructional coach?

- a. What is the content and frequency of that support?
  - i. Has the instructional coach been given guidance on how to support teachers with interpreting and acting on data? Are there particular frameworks, models, theories, or readings given to him?
- b. To what extent is it helpful to him? To what extent is it helpful to you?
- c. Is there any additional support that the instructional coach needs?
- d. Is he expected or required to participate in a certain amount of professional development each year?
  - i. If so, how much/how often?

### **School Climate & Leadership**

24) I am trying to get a sense of the school climate. How would you characterize the nature of the coach's interaction with administrators? How would you characterize the nature of the coach's interaction with teachers? How would you characterize the nature of teachers' interactions with each other?

- a. How about interactions between teachers and students?
- b. Teachers and administrators?

25) To what extent do you support the coach's work with teachers around literacy and data use? Is there anything you do in particular that supports or hinders the coach's work?

### **CONCLUSIONS:**

26) Overall, do you think the coach and teachers in this school have adequate knowledge and skills to analyze data and use it in ways to improve their instruction? If not...

- a. What are the specific data literacy knowledge and skills that are lacking?
- b. What more could be done to build their capacity in these areas?

- c. If you could restructure the coaching position to better support teachers with data use, what would you do or change?
- d. What more could be done beyond coaching to improve teacher capacity to use data in ways that inform and improve instruction?
- e. Do you think it is worth investing in data use support, or should we focus somewhere else to bring about improvement in teaching and learning?

27) Do you have any final thoughts or comments that you would like to share with me? Is there something else you think I should be asking you about?

28) In our interview, you mentioned different documents and materials that you've created or used to analyze data. Would you be willing to provide me with copies?

- f. Collect documents:
  - i. Assessment print outs
  - ii. Results, data displays
  - iii. Materials they use with coach, e.g., guiding questions, rubrics, etc.

## Appendix E

### Coach Interview Protocol

Transition:

- Greet the participant and thank him or her for allowing the interview.
- Inform him or her about confidentiality. He/she is not required to participate in the interview. He/she may choose not to answer a certain question or all questions. He/she may stop the interview at any time.
- Explain that the purpose of the interview is to discuss how an instructional coach supports Data-Driven Decision Making (DDDM) and how this support impacts teachers' instructional practice.
- Let's begin by discussing your background.

### Background

- 1) Can you please start by telling me about your background:
  - a. How did you decide to become an instructional coach?
  - b. Did you have any previous experience working with adult learners? Leading professional development?
  - c. Did you have any previous experience with interpreting and using data to inform practice?
  - d. Have you had any preparation for becoming a coach?
- 2) I'm trying to get a sense of where you think your expertise lies. [Present the instructional coach with the expertise interview card] Here are some of the types of expertise that are associated with a coach. On a continuum, can you make an "X" where you see yourself?
  - a. [After they noted an X on the continuums]: Can you say why you position yourself for literacy instruction here? Synthesizing, interpreting, and analyzing data? Working with adults? Technological knowledge? Your own practical experience? Coordinating/translating between teachers and administrators?

### Role & Responsibilities of Coach

- 3) What do you understand to be your main role and responsibilities as an instructional coach?
  - a. Are the parameters of your job pretty clear to you?
  - b. Do teachers generally understand your role?
  - c. What messages have you received from the principal about your role at the school?
  - d. What messages have you received from the school's central office about your role at the school?
  - e. Do you feel that everyone – the teachers, principal, central office leaders, you – shares the same expectations about what your role is here at the school?

- 4) What are your priorities or goals for your work this year?
  - a. Is there a certain aspect of literacy or data-use that you are targeting?
  - b. Who decided on those priorities (e.g., you, the principal, the central office leaders)?
  - c. Why were these priorities selected? [Probes: data, teacher requests, coach's assessment of needs]
  - d. Are these different from your priorities last year?
  
- 5) To what extent are your coach goals aligned with larger improvement goals and priorities of the school? Of the district?

### **Coach Work with Teachers**

- 6) Who among the staff most frequently comes to you for advice or trouble-shooting for literacy instruction issues? [Probes: Caseload teachers? Other teachers? Department chair? Assistant principal? Principal?]
  - a. [For each person mentioned] What kind of advice do you offer them?
  
- 7) Who among the staff most frequently comes to you for advice or trouble-shooting for data use issues? [Probe: Caseload teachers? Other teachers? Department chair? Assistant principal? Principal?]
  - a. [For each person mentioned] What kind of advice do you offer them?
  
- 8) Is there a certain set of teachers that you are working with?
  - a. Who decided that you should focus on those teachers?
  - b. How were these teachers selected? Can you describe the process for me? What were the criteria you used? [Probes: New Teachers, by department, by grade]
  - c. Do you generally approach teachers or wait for them to approach you?
  - d. How do you assess different teachers' needs?
  - e. When do you typically work with teachers and for how long?
  - f. Are these the same teachers you worked with last year?
    - i. Is there a particular strategy, model, framework that guides your coaching? [Probes: Modeling, scaffolding, observing, providing feedback, dialogue, brokering, using tools, establishing norms]
  
- 9) Can you tell me a little bit about Teacher A?
  - a. Can you talk to me about the process of working with Teacher A?
  - b. How did you first start working with this teacher and why? Did he/she approach you or you him/her?
  - c. What were your expectations for what you would be doing together specifically?
  - d. At the start of the year, did you get a sense of or measure his/her prior skills around using data?
  
- 10) Can you please recall the last time you met with Teacher A?



- a. Can you describe it to me? Where did you meet? What kinds of things did you do during that meeting? Was that meeting typical of how you usually spend your time together? [Probes: Assistance in accessing data, interpreting data, giving expert advice, providing instructional support, observing with feedback, modeling, providing, resources, etc.]
- b. How often do you meet with this teacher?
- c. How long does each meeting last, on average? Out of this time, how much has been focused on analyzing data? What kind of data?
- d. How would you describe your coaching approach with this teacher?
- e. What strategies seem to work best for helping this teacher respond and act on what you learn from the data?

*Repeat questions for all teachers.*

- 11) What strategies or activities seem to work best for helping teachers make sense of data?
- 12) What strategies or activities seem to work best for helping teachers know how to respond and act on what is learned from the data?

### **Types and Characteristics of Data**

- 13) What types of data have you been focusing on in your work this month? [For each type mentioned, ask follow-up questions below]
  - a. How often do you use data of this type?
  - b. What is the content assessed?
  - c. How is this assessment administered?
  - d. When do you get results back?
  - e. Do you think that these data are a good measure of student skills?
  - f. Is it helpful to you? How?
  - g. Would you change your instruction based on results from this data? If so, how? If not, why not?
  - h. If applicable: Who developed the tools for this data collection? Do you use a rubric?

#### **POSSIBLE DATA TYPES TO PROBE ON:**

- a. District benchmark assessments
- b. Diagnostic assessments
- c. Common grade-level assessment (teacher-developed)
- d. Common grade-level assessment (externally developed)
- e. Classroom assessment (teacher developed)
- f. Classroom assessment (externally developed)

- 14) What do you see as the most valid, useful source of data to improve literacy instruction?

- 15) How do you access these different types of data?
- a. Is there a district or school-level data management system? [e.g., Data Director, Achievement Network, etc.]
    - i. If yes, who can access this system?
    - ii. Can teachers access the data system? If not, how do you make it available to teachers?
    - iii. How frequently do you use the system? How easy is it to use?
    - iv. Do you have a copy of a report from the data management system? May I have a copy?
- 16) Do you encourage the teachers to share data with individual students, along with specific guidelines about what they can do to improve?
- a. Do students participate in self-assessment? Peer assessment?
- 17) What are the benefits of working one-on-one with a teacher to interpret and act upon data?
- 18) What do you think are the drawbacks?
- 19) How do you characterize the working relationship that you have with each of your teachers? Does it work well?
- 20) What factors facilitate your relationship with each of your teachers? What factors can make your relationship with your teachers challenging? [Probes: Level of commitment? Standards of behavior? Sustained interaction over time? Personal relationship between coach and teacher? Level of congruence between the data-use and real-world practice?]

### **Perceived Enablers and Constraints**

- 21) Can you think of a time where you felt like you were successful or effective in helping a teacher use data to guide his/her literacy instruction? What do you think contributed to your success?
- b. Was it related to the strategies or approach you took?
  - c. Was there something about the teacher that made it easy or contributed to your success? Possible probes?
    - i. How engaged or motivated he/she was?
    - ii. How receptive he/she was to new ideas?
    - iii. His/her prior knowledge about data use?
    - iv. Prior knowledge about literacy instruction?
    - v. Personal values, experiences, and expectations?
    - vi. How close the data use strategies were to his/her personal goals?
  - d. Were there any other factors that made it easy?

- 22) And vice-versa – can you think of a time when it was particularly challenging to help a teacher use data to guide his/her literacy instruction? What do you think contributed to the difficulty?
- e. Was it related to the strategies or approach you took?
  - f. Was there something about the teacher that made it difficult? Possible probes:
    - i. How engaged or motivated he/she was?
    - ii. How receptive he/she was to new ideas?
    - iii. His/her prior knowledge about data use?
    - iv. Prior knowledge about literacy instruction?
    - v. Personal values, experiences, and expectations?
    - vi. How close the data use strategies were to his/her personal goals?
  - g. Were there any other factors that made it difficult?
- 23) Beyond what we've already discussed, are there other factors at the school that constrain or enable your work with teachers?
- h. [Probes: Adequate funding, time, and space? Strategically selecting whom you work with? Heavy or light involvement by school administrators? Clear school or district leadership?]
- 24) If you could change your typical work week, how would you like to be spending your time fulfilling your duties and responsibilities? Beyond these constraints that we've talked about so far, is there anything else that gets in your way?

### **Training/Support for Coach**

- 25) What support does your central office and/or school provide to you as a coach?
- i. What is the content and frequency of that support?
    - i. Have you been given guidance on how to support teachers with interpreting and acting on data? Are there particular frameworks, models, theories, or readings given to you?
  - j. To what extent is it helpful to you?
  - k. Is there any additional support you would like?
  - l. Are you expected or required to participate in a certain amount of professional development each year?
    - i. If so, how much/how often?

### **School Climate & Leadership**

- 26) I am trying to get a sense of the school climate. How would you characterize the nature of teachers' interactions with each other?
- a. How about interactions between teachers and students?
  - b. Teachers and administrators?
- 27) To what extent does your principal support your work with teachers around literacy and data use? Is there anything she/he does in particular that supports or hinders your work?

- 28) Who is your supervisor?
- 29) If you had a question or problem related to your job as a coach, whom would you ask for assistance?
  - a. [For each person mentioned:] What kind of advice would you go to them for?

**CONCLUSIONS:**

- 30) Overall, do you think teachers in this school have adequate knowledge and skills to analyze data and use it in ways to improve their instruction? If not...
  - a. What are the specific data literacy knowledge and skills that are lacking?
  - b. What more could be done to build their capacity in these areas?
  - c. If you could restructure the coaching position to better support teachers with data use, what would you do or change?
  - d. What more could be done beyond coaching to improve teacher capacity to use data in ways that inform and improve instruction?
  - e. Do you think it is worth investing in data use support, or should we focus somewhere else to bring about improvement in teaching and learning?
- 31) Do you have any final thoughts or comments that you would like to share with me? Is there something else you think I should be asking you about?
- 32) In our interview, you mentioned different documents and materials that you've created or used to analyze data. Would you be willing to provide me with copies?
  - m. Collect documents:
    - i. Assessment print outs
    - ii. Results, data displays
    - iii. Materials they use with coach, e.g., guiding questions, rubrics, etc.

**Instructional Coach  
Expertise Card**

Here are some of the types of expertise that are associated with a coach. On a continuum, please make an "X" where you see yourself at this stage of your professional experience?

Type of Expertise	None	Low	Some	High
Synthesizing Data				
Interpreting Data				
Analyzing Data				
Working with Adults				
Technological Knowledge				
Your Own Practical Experience				
Coordinating/Translating between Teachers and Administrators				

## Appendix F

### Teacher Consent Form

<b>Project Title</b>	The Instructional Coach’s Role in the Data-Driven Decision Making Process and the Perceived Impact on Teacher Practice in an Urban School
<b>Purpose of the Study</b>	This research is being conducted by <b>Natalie Arthurs</b> at the University of Maryland, College Park. We are inviting you to participate in this research project because you are working in a school that has an instructional coach who supports teachers with the data-driven decision making process. The purpose of this research project is to examine how an instructional coach in an urban, high-poverty, middle school supports Data-Driven Decision Making (DDDM) and how this support impacts teacher practice. By examining how an instructional coach supports teachers in regards to data-driven instruction, the possibility of increased teacher effectiveness and student achievement in low-performing schools may potentially be addressed.
<b>Procedures</b>	<p>The procedures involve you participating in an interview. You will participate in one 45- to 60-minute audio-recorded interview. The interview will take place at the school site after school in your classroom.</p> <p>Examples of the teacher interview questions are as follows: “Are there any types of data that regularly help you decide what and how to teach? If you had a question or problem related to instruction, who would you ask for assistance? Why? If you had a question or problem related to interpreting or using data, who would you ask for assistance? Why? What do you see as the instructional literacy coach’s role in the school? What do you gain from working with a coach that you wouldn’t be able to accomplish on your own? What value does the coach add to your practice?” The interviews will take place at the school site after school hours in the your classroom. Your permission will be requested to audio-record and transcribe your interviews.</p> <p>I will collect artifacts, including data printouts, data displays, data analysis meeting minutes, and other materials you use in regards to data-driven instruction that they want to share. Data printouts and data displays will be on a class-level or school-level and not on a student-level. You will be asked to “black out” any identifying information in order to ensure confidentiality. Also, if/when you provide data analysis meeting minutes, they should exclude any identifying information. Excerpts from these artifacts will be used as</p>

	<p>prompts during interviews. Your permissions will be requested to collect and study all artifacts.</p> <p>Additionally, I will record fieldnotes during my observations. I will use my fieldnotes to look for instances of the instructional coach’s support with data-driven instruction that stand out as important to the focus of the study. Additionally, I will keep post-observation analytic memos to note anything that should be discussed or referenced in the interviews.</p> <p>You will be allowed to review and edit research transcripts in order to ensure they are valid and/or clarify any statements that you make.</p>
<p><b>Potential Risks and Discomforts</b></p>	<p>There are minimal risks to you.</p> <p>There is the possibility of there being repercussions for saying negative things about the instructional coach or about the Data-Driven Decision Making process if the data were to “leak out.” However, since I will be the only person with access to this information and since the data will be used for research purposes only, I believe this risk is minimal.</p> <p>Observations of you may also be used for research purposes. Having an additional person observe you while you are participating in a data meeting may produce anxiety. However, since your participation in the study is totally voluntary and you reserve the right to end your participation at any time, I believe this risk is minimal.</p> <p>Even though you will select a pseudonym and although the name and location of your school will be disguised by the use of pseudonyms in any reports or publications that might result from the study, there is a slight possibility of the school and personnel being identified based on the details in my write-ups. However, I will re-review each write-up to ensure that the school and personnel are kept anonymous. I will also allow you to review portions of the write-ups that pertain to you to ensure you feel comfortable with the wording and anonymity of the school and personnel.</p> <p>As noted earlier, you will have the opportunity to review and edit your interview transcripts and clarify any statements that you make. Additionally, you will be encouraged to ask me questions throughout the duration of the study, and you will be informed that you may withdraw from the study at any time without penalty.</p>
<p><b>Potential Benefits</b></p>	<p>There are no direct benefits from participating in this study. However, there is a possible benefit from opportunities to interact with a researcher. For example, you may appreciate opportunities for further reflection provided by interviews. I hope that, in the future, other people might benefit from this study through improved understanding of the instructional coach’s role in supporting the data-driven decision making process.</p>

<p><b>Confidentiality</b></p>	<p>To protect your identity, you will select pseudonyms. The name and location of your school will also be disguised by the use of pseudonyms in any reports or publications that might result from the study. I will re-review each write-up to ensure that the school and personnel are kept anonymous. I will also allow you to review portions of the write-ups that pertain to you to ensure you feel comfortable with the wording and the anonymity of the school and personnel. All materials, including audio segments, will be edited such that your name will not be revealed. Audio-recordings will not be published in any form, and the data shall be used exclusively for educational research in professional settings: closed research meetings, seminars, and professional conferences. You will be informed of my intent to audio-record and will be given the opportunity to review the transcribed segments. Transcribed segments from the audio-recording, with your pseudonym mentioned, may be used in published forms (e.g. journal articles and book chapters). The faculty supervisor for this research project may see data without pseudonyms at various points in the data collection and analysis process. Data with identifying names of participants will be stored in password-protected files for digitally-collected forms (audio-recorded observations and meetings, digitized interview audio files), or a private, home file cabinet for non-digitized correspondence, notes, or forms. Because this is research data, I request to store the data for up to a 10-year period. When the data is no longer needed, it will be destroyed. Transcribed segments from the audio-recordings may be used in published forms (e.g. journal articles and book chapters). In the case of publication, pseudonyms will be used.</p> <p>If I write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
<p><b>Right to Withdraw and Questions</b></p>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p><b>Natalie Arthurs</b>  <b>Department of Teaching and Learning, Leadership and Policy</b>  <b>College of Education</b>  <b>2311 Benjamin Building</b></p>



	<p><b>University of Maryland</b>  <b>College Park, MD 20742</b>  <b>Natalie.arthurs@gmail.com</b>  (202) 262-2341 (cell)</p>	
<b>Participant Rights</b>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"><b>University of Maryland College Park</b>  <b>Institutional Review Board Office</b>  <b>1204 Marie Mount Hall</b>  <b>College Park, Maryland, 20742</b>  <b>E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a></b>  <b>Telephone: 301-405-0678</b></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>	
<b>Statement of Consent</b>	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please sign your name below.</p>	
<b>Signature and Date</b>	<b>NAME OF PARTICIPANT</b> <b>[Please Print]</b>	
	<b>SIGNATURE OF PARTICIPANT</b>	
	<b>DATE</b>	

## Appendix G

### Coach Consent Form

<b>Project Title</b>	The Instructional Coach’s Role in the Data-Driven Decision Making Process and the Perceived Impact on Teacher Practice in an Urban School
<b>Purpose of the Study</b>	This research is being conducted by <b>Natalie Arthurs</b> at the University of Maryland, College Park. We are inviting you to participate in this research project because you are working in a school where you (as an instructional coach) support teachers with the data-driven decision making process. The purpose of this research project is to examine how an instructional coach in an urban, high-poverty, middle school supports Data-Driven Decision Making (DDDM) and how this support impacts teacher practice. By examining how an instructional coach supports teachers in regards to data-driven instruction, the possibility of increased teacher effectiveness and student achievement in low-performing schools may potentially be addressed.
<b>Procedures</b>	<p>The procedures involve you participating in an interview. You will participate in one 45- to 60-minute audio-recorded interview. The interview will take place at the school site after school in your office.</p> <p>Examples of the instructional coach interview questions are as follows: “Did you have any previous experience with interpreting and using data to inform instructional practice? Have you had any preparation for becoming a coach? What types of data have you been focusing on in your work this month? How do you ensure that teachers feel comfortable and safe working with you around data?” As a part of the interview, using an expertise card, you will be asked to rate your expertise in the following areas on a continuum (from no expertise to high expertise): synthesizing data, interpreting data, analyzing data, working with adults, technological knowledge, your own practical experience, and coordinating/translating between teachers and administrators (please see attached Coach Expertise Card).</p> <p>In addition to interviews, I will collect artifacts, including data printouts, data displays, data analysis meeting minutes, and other materials you use in regards to data-driven instruction that they want to share. Data printouts and data displays will be on a class-level or school-level and not on a student-level. You will be asked to “black out” any identifying information in order to ensure confidentiality. Also, if/when you provide data analysis meeting minutes, they should exclude any identifying information. Excerpts from these artifacts will</p>

	<p>be used as prompts during interviews. Your permissions will be requested to collect and study all artifacts.</p> <p>Additionally, I will record fieldnotes during my observations. I will use my fieldnotes to look for instances of your support (as an instructional coach) with data-driven instruction that stand out as important to the focus of the study. Additionally, I will keep post-observation analytic memos to note anything that should be discussed or referenced in the interviews.</p> <p>You will be allowed to review and edit research transcripts in order to ensure they are valid and/or clarify any statements that you make.</p>
<p><b>Potential Risks and Discomforts</b></p>	<p>There are minimal risks to you.</p> <p>There is the possibility of there being repercussions for saying negative things about your role as an instructional coach and about the Data-Driven Decision Making process if the data were to “leak out.” However, since I will be the only person with access to this information and since the data will be used for research purposes only, I believe this risk is minimal. Observations of you may also be used for research purposes. Having an additional person observe you while you are participating in a data meeting may produce anxiety. However, since your participation in the study is totally voluntary and you reserve the right to end your participation at any time, I believe this risk is minimal.</p> <p>Even though you will select a pseudonym and although the name and location of your school will be disguised by the use of pseudonyms in any reports or publications that might result from the study, there is a slight possibility of the school and personnel being identified based on the details in my write-ups. However, I will re-review each write-up to ensure that the school and personnel are kept anonymous. I will also allow you to review portions of the write-ups that pertain to you to ensure you feel comfortable with the wording and anonymity of the school and personnel.</p> <p>As noted earlier, you will have the opportunity to review and edit your interview transcripts and clarify any statements that you make. Additionally, you will be encouraged to ask me questions throughout the duration of the study, and you will be informed that you may withdraw from the study at any time without penalty.</p>
<p><b>Potential Benefits</b></p>	<p>There are no direct benefits from participating in this study. However, there is a possible benefit from opportunities to interact with a researcher. For example, you may appreciate opportunities for further reflection provided by interviews. I hope that, in the future, other people might benefit from this study through improved understanding of the instructional coach’s role in supporting the data-driven decision making process.</p>

<p><b>Confidentiality</b></p>	<p>To protect your identity, you will select pseudonyms. The name and location of your school will also be disguised by the use of pseudonyms in any reports or publications that might result from the study. I will re-review each write-up to ensure that the school and personnel are kept anonymous. I will also allow you to review portions of the write-ups that pertain to you to ensure you feel comfortable with the wording and the anonymity of the school and personnel. All materials, including audio segments, will be edited such that your name will not be revealed. Audio-recordings will not be published in any form, and the data shall be used exclusively for educational research in professional settings: closed research meetings, seminars, and professional conferences. You will be informed of my intent to audio-record and will be given the opportunity to review the transcribed segments. Transcribed segments from the audio-recording, with your pseudonym mentioned, may be used in published forms (e.g. journal articles and book chapters). The faculty supervisor for this research project may see data without pseudonyms at various points in the data collection and analysis process. Data with identifying names of participants will be stored in password-protected files for digitally-collected forms (audio-recorded observations and meetings, digitized interview audio files), or a private, home file cabinet for non-digitized correspondence, notes, or forms. Because this is research data, I request to store the data for up to a 10-year period. When the data is no longer needed, it will be destroyed. Transcribed segments from the audio-recordings may be used in published forms (e.g. journal articles and book chapters). In the case of publication, pseudonyms will be used.</p> <p>If I write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
<p><b>Right to Withdraw and Questions</b></p>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p> <p><b>Natalie Arthurs</b>  <b>Department of Teaching and Learning, Leadership and Policy</b>  <b>College of Education</b>  <b>2311 Benjamin Building</b>  <b>University of Maryland</b></p>

	<p><b>College Park, MD 20742</b>  <b>Natalie.arthurs@gmail.com</b>  (202) 262-2341 (cell)</p>	
<b>Participant Rights</b>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"><b>University of Maryland College Park</b>  <b>Institutional Review Board Office</b>  <b>1204 Marie Mount Hall</b>  <b>College Park, Maryland, 20742</b>  <b>E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a></b>  <b>Telephone: 301-405-0678</b></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>	
<b>Statement of Consent</b>	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please sign your name below.</p>	
<b>Signature and Date</b>	<b>NAME OF PARTICIPANT</b> <b>[Please Print]</b>	
	<b>SIGNATURE OF PARTICIPANT</b>	
	<b>DATE</b>	

## Appendix H

### Principal Consent Form

<b>Project Title</b>	The Instructional Coach’s Role in the Data-Driven Decision Making Process and the Perceived Impact on Teacher Practice in an Urban School
<b>Purpose of the Study</b>	This research is being conducted by <b>Natalie Arthurs</b> at the University of Maryland, College Park. We are inviting you to participate in this research project because you are working in a school that has an instructional coach who supports teachers with the data-driven decision making process. The purpose of this research project is to examine how an instructional coach in an urban, high-poverty, middle school supports Data-Driven Decision Making (DDDM) and how this support impacts teacher practice. By examining how an instructional coach supports teachers in regards to data-driven instruction, the possibility of increased teacher effectiveness and student achievement in low-performing schools may potentially be addressed.
<b>Procedures</b>	<p>The procedures involve you participating in an interview. You will participate in one 45- to 60-minute audio-recorded interview. The interview will take place at the school site after school in your office.</p> <p>Examples of the principal interview questions are as follows: “Do you encourage teachers to share data with individual students? From your observations over the course of this school year, how has the instructional coach’s work affected the teachers on his caseload? Are you seeing changes in their attitudes, beliefs/thinking/knowledge, or skills related to analyzing and interpreting data as a result of their work with the instructional coach? Do you feel the coach’s work has an impact on teachers’ literacy instruction? Can you think of a specific example during this school year when you felt like the instructional coach was successful or effective in helping a teacher use data to guide his/her literacy instruction? What do you think contributed to the instructional coach’s success?” Your permission will be requested to audio-record and transcribe your interviews.</p> <p>In addition to interviews, I will collect artifacts, including data printouts, data displays, data analysis meeting minutes, and other materials you use in regards to data-driven instruction that they want to share. Data printouts and data displays will be on a class-level or school-level and not on a student-level. You will be asked to “black out” any identifying information in order to ensure confidentiality.</p>

	<p>Also, if/when you provide data analysis meeting minutes, they should exclude any identifying information. Excerpts from these artifacts will be used as prompts during interviews. Your permissions will be requested to collect and study all artifacts.</p> <p>Additionally, I will record fieldnotes during my observations. I will use my fieldnotes to look for instances of the instructional coach’s support with data-driven instruction that stand out as important to the focus of the study. Additionally, I will keep post-observation analytic memos to note anything that should be discussed or referenced in the interviews.</p> <p>You will be allowed to review and edit research transcripts in order to ensure they are valid and/or clarify any statements that you make.</p>
<p><b>Potential Risks and Discomforts</b></p>	<p>There are minimal risks to you.</p> <p>There is the possibility of there being repercussions for saying negative things about the instructional coach or about the Data-Driven Decision Making process if the data were to “leak out.” However, since I will be the only person with access to this information and since the data will be used for research purposes only, I believe this risk is minimal.</p> <p>Observations of you may also be used for research purposes. Having an additional person observe you while you are participating in a data meeting may produce anxiety. However, since your participation in the study is totally voluntary and you reserve the right to end your participation at any time, I believe this risk is minimal.</p> <p>Even though you will select a pseudonym and although the name and location of your school will be disguised by the use of pseudonyms in any reports or publications that might result from the study, there is a slight possibility of the school and personnel being identified based on the details in my write-ups. However, I will re-review each write-up to ensure that the school and personnel are kept anonymous. I will also allow you to review portions of the write-ups that pertain to you to ensure you feel comfortable with the wording and anonymity of the school and personnel.</p> <p>As noted earlier, you will have the opportunity to review and edit your interview transcripts and clarify any statements that you make. Additionally, you will be encouraged to ask me questions throughout the duration of the study, and you will be informed that you may withdraw from the study at any time without penalty.</p>
<p><b>Potential Benefits</b></p>	<p>There are no direct benefits from participating in this study. However, there is a possible benefit from opportunities to interact with a researcher. For example, you may appreciate opportunities for further reflection provided by interviews. I hope that, in the future, other people might benefit from this study through improved understanding of the instructional coach’s role in supporting the data-driven decision making process.</p>

<p><b>Confidentiality</b></p>	<p>To protect your identity, you will select pseudonyms. The name and location of your school will also be disguised by the use of pseudonyms in any reports or publications that might result from the study. I will re-review each write-up to ensure that the school and personnel are kept anonymous. I will also allow you to review portions of the write-ups that pertain to you to ensure you feel comfortable with the wording and the anonymity of the school and personnel. All materials, including audio segments, will be edited such that your name will not be revealed. Audio-recordings will not be published in any form, and the data shall be used exclusively for educational research in professional settings: closed research meetings, seminars, and professional conferences. You will be informed of my intent to audio-record and will be given the opportunity to review the transcribed segments. Transcribed segments from the audio-recording, with your pseudonym mentioned, may be used in published forms (e.g. journal articles and book chapters). The faculty supervisor for this research project may see data without pseudonyms at various points in the data collection and analysis process. Data with identifying names of participants will be stored in password-protected files for digitally-collected forms (audio-recorded observations and meetings, digitized interview audio files), or a private, home file cabinet for non-digitized correspondence, notes, or forms. Because this is research data, I request to store the data for up to a 10-year period. When the data is no longer needed, it will be destroyed. Transcribed segments from the audio-recordings may be used in published forms (e.g. journal articles and book chapters). In the case of publication, pseudonyms will be used.</p> <p>If I write a report or article about this research project, your identity will be protected to the maximum extent possible. Your information may be shared with representatives of the University of Maryland, College Park or governmental authorities if you or someone else is in danger or if we are required to do so by law.</p>
<p><b>Right to Withdraw and Questions</b></p>	<p>Your participation in this research is completely voluntary. You may choose not to take part at all. If you decide to participate in this research, you may stop participating at any time. If you decide not to participate in this study or if you stop participating at any time, you will not be penalized or lose any benefits to which you otherwise qualify.</p> <p>If you decide to stop taking part in the study, if you have questions, concerns, or complaints, or if you need to report an injury related to the research, please contact the investigator:</p>



	<p><b>Natalie Arthurs</b>  <b>Department of Teaching and Learning, Leadership and Policy</b>  <b>College of Education</b>  <b>2311 Benjamin Building</b>  <b>University of Maryland</b>  <b>College Park, MD 20742</b>  <b>Natalie.arthurs@gmail.com</b>  (202) 262-2341 (cell)</p>	
<p><b>Participant Rights</b></p>	<p>If you have questions about your rights as a research participant or wish to report a research-related injury, please contact:</p> <p style="text-align: center;"><b>University of Maryland College Park</b>  <b>Institutional Review Board Office</b>  <b>1204 Marie Mount Hall</b>  <b>College Park, Maryland, 20742</b>  <b>E-mail: <a href="mailto:irb@umd.edu">irb@umd.edu</a></b>  <b>Telephone: 301-405-0678</b></p> <p>This research has been reviewed according to the University of Maryland, College Park IRB procedures for research involving human subjects.</p>	
<p><b>Statement of Consent</b></p>	<p>Your signature indicates that you are at least 18 years of age; you have read this consent form or have had it read to you; your questions have been answered to your satisfaction and you voluntarily agree to participate in this research study. You will receive a copy of this signed consent form.</p> <p>If you agree to participate, please sign your name below.</p>	
<p><b>Signature and Date</b></p>	<p><b>NAME OF PARTICIPANT</b>  <b>[Please Print]</b></p>	
	<p><b>SIGNATURE OF PARTICIPANT</b></p>	
	<p><b>DATE</b></p>	

## Appendix I

### Initial Contact Email

Dear \_\_\_\_\_

My name is Natalie Arthurs. I am a doctoral student at the University of Maryland, College Park. I am also currently the Director of Academics & Staff Development at an Elementary Public Charter School. I am contacting you because I am in the dissertation phase of my doctoral program. I am doing a study on the instructional coach's role in the data-driven decision making process. Specifically, the purpose of this research study is to examine how an instructional coach in an urban, high-poverty, middle school supports Data-Driven Decision Making (DDDM) and how this support impacts teacher practice.

I have received approval from See Forever's Director of Academics and Great Schools Academy's middle school principal. Your participation in the study will be greatly appreciated; however, your participation is strictly voluntary. If you decide to participate in this research study, you may stop participating at any time.

I would like to conduct a 45- to 60-minute interview with you. Your identity will be protected with the use of pseudonyms for your name and the school's name and location. If you wish to participate in this research study, please email me with a time, date, and location (at the school site) that is convenient for you to meet with me within the next 1-2 weeks. If you choose not to participate, please disregard the information.

If you have any questions, please do not hesitate to contact me at [natalie.arthurs@gmail.com](mailto:natalie.arthurs@gmail.com) or (202) 262-2341.

Thank you in advance for your consideration,

Natalie Arthurs

## Appendix J

### Instructional Coach Job Description

#### POSITION DESCRIPTION

##### Instructional Coach

<i>Reports to:</i> <i>Dean</i>	<i>Principal and/or Academic</i>
<i>Tour of Duty:</i>	<i>10 month employee</i>
<i>Salary:</i>	<i>\$60,000-\$70,000</i>

The instructional coach is a key component of the Race to The Top Grant. The coach will provide support of evidence-based classroom practices with targeted teachers and will spend the majority of time working in classrooms with teachers (e.g. modeling, observing, and co-teaching). The coach will play a strong role in the analysis and utilization of student achievement data to impact instructional decision-making. The focus of the coach's work is to help teachers learn to use data for instructional planning that will have a positive impact on student achievement. The coach may facilitate teacher study groups in which they analyze student work and lesson plans and plan for the enhancement of instructional strategies. The coach's analysis of student work and teaching and learning data will inform what occurs during coaching sessions with targeted teachers and in the teacher study groups. The instructional coach's role is non-supervisory. The role of a coach is separate and apart from the evaluative role of the principal or supervisor of the teacher.

##### **SPECIFIC TASKS AND RESPONSIBILITIES:**

- Participating in all required coach professional development. The coach is charged with acquiring the knowledge, skills, technology skills, and instructional strategies necessary to effectively impact the instructional practices of the teachers that are coached.
- The coach must remain knowledgeable about current and past research in the specific content area and other pedagogies relevant to the coaching role.
- The coach must develop deep content and pedagogical knowledge in the evidence-based intervention in use.
- The coach identifies school teaching and learning needs, barriers and weaknesses by analyzing qualitative and quantitative data about the teacher and student performance, and organizing for action with teachers.
- The coach facilitates school-based professional development, working with teachers (in teams or individually) to refine their knowledge and skills. Professional development could include, but not be limited to, in-class coaching, observing, modeling of instructional strategies, guiding teachers in looking at student work, developing lesson plans with teachers based on student needs, supporting data analysis, supporting the integration of technology, co-planning with teachers, leading professional learning communities etc.

- The coach will motivate teachers to take ownership of their professional growth.
- The coach monitors instructional effectiveness and student progress using tools and strategies gained through professional development.
- The coach builds and maintains supportive relationships with teachers. The conversations and interactions that the coach has with teachers must always remain supportive so that a high level of trust is created and maintained between the teacher and the coach.

### **KNOWLEDGE, SKILLS, AND ABILITIES:**

- Ability to work well with people; demonstrate and maintain productive and positive interpersonal skills
- Deep content and pedagogical knowledge in Math or English Language Arts
- Knowledge and experience using a variety of assessment tools and analyzing student data
- Demonstrated success in communicating effectively with teachers, principals, parents, students, and paraprofessionals
- Ability to develop educator capacity, implements practices of collaborative inquiry, and build sustainability
- Demonstrated ability to network and connect to resources
- Knowledge and experience using a coaching process with other teachers
- Ability to work with teachers in a way that improves student learning;
  - Ability to manage multiple projects effectively
  - Ability to manage time and schedules flexibly and in a way that maximizes teacher learning
  - Ability to think flexibly and to adapt work to the needs of teachers
  - Knowledge of the change process and ability to help teachers make sense of change
- Ability to work with teams to develop goals for improving student achievement
- Demonstrated teacher leadership skills

### **EDUCATION:**

Bachelor's degree in education (or related field) from an accredited college or university

## Appendix K

### Seven Norms of Collaboration

<b>Norms of Collaboration</b>	<b>Explanation</b>
<b>Pausing</b>	<b>Pausing signals to others that their ideas and comments are worth thinking about, dignifies their contributions, and implicitly encourages future participation.</b>
<b>Paraphrasing</b>	<b>To paraphrase is to recast into one's own words, to summarize, or to provide an example of what has just been said. It helps to reduce tension by showing understanding.</b>
<b>Probing for Specificity</b>	<b>Probing seeks to clarify something that is not yet fully understood.</b>
<b>Putting ideas on the table and pulling them off</b>	<b>Ideas are the heart of a meaningful discussion. Members need to feel safe to put their ideas on the table for discussion. Also take note of when an idea may be blocking dialogue or "derailing" the process and should be pulled off.</b>
<b>Paying attention to self and others</b>	<b>Collaborative work is facilitated when each team member is explicitly conscious of self and others – not only aware of what he or she is saying, but also how it is said and how others are responding to it.</b>
<b>Presuming positive intentions</b>	<b>This is the assumption that other members of the team are acting from positive and constructive intentions, even if we disagree with their ideas.</b>
<b>Presuming a balance between advocacy and inquiry</b>	<b>Both advocacy and inquiry are necessary components of collaborative work. The intention of advocacy is to influence others' thinking; the intention of inquiry is to understand their thinking. Highly effective teams consciously attempt to balance these two components.</b>

**Appendix L**  
**Reflection Meeting Protocol**

**Materials Needed:**

- ▶ Action plans
- ▶ Evidence of re-assessment (bring student work if applicable)

**Protocol:** Together, your teams have 45 minutes to share plans, results, and student work (if applicable). Each team member has approximately 15 minutes.

**Guiding Questions for Presenters (5 minutes each)**

- What skill did you re-teach? Be as specific as possible about the skill.
- Who were you targeting in re-teaching? Whole class? Tutoring?
- When did you re-teach it?
- What percentage of students understand the skill now (based on re-assessment) compared to before re-teaching
- How did you re-assess? Show student evidence of mastery/non-mastery.

**Clarifying Questions (3 minutes)**

**Guiding Questions for Discussion (5 minutes)**

- To what extent did it address the core concept?
- To what extent did it break it into clear discrete steps?
- To what extent did it provide adequate opportunity for student practice?
- Was the reassessment at the same level of rigor as the IA questions?
- If the intervention did work for all *students*, what specific actions yielded the best results?

## Appendix M

### Instructional Coach Weekly Log

<b>DATE</b>					
<b>TIME</b>	<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
7:00 - 8:00	Arrival/Planning Check & respond to emails	Arrival/Planning Check & respond to emails	Arrival/Planning Check & respond to emails	Arrival/Planning Check & respond to emails	Arrival/Planning Check & respond to emails
8:00 - 9:00	Observations	Observations	Principal and Coach Meeting	Observations	Observations
9:03-10:05	Observations	Observations	Coach Planning Time: Prepare for PD	Observations	Observations
10:08-11:10	Meet with SS Department to create common assessments	Weekly Meeting with Teacher B and E	Coach Planning Time: Prepare for PD	Weekly Meeting with Teacher A	Coach's Planning Time: Write up observations
11:10-12:13	ELA Common Assessment Data Meeting	ELA Meeting/collaborative planning focus on Standards and Objective-based lesson	Early Dismissal for Students  (Assist with Dismissal)	Weekly Meeting with Teacher D and F	Weekly Meeting with Teacher C
12:49-1:52	Coach Planning for PD: Write up information on Standards and Objective-based lessons	Lesson planning meeting with Teacher F	Facilitate PD	Complete walk through with ELA teacher	Coach Planning: Review data
1:55-3:00	Observations	Observations	Facilitate PD	Observations	Observations
3:05-4:15	Lesson planning meeting with Teacher B	Acad/SST meeting	Facilitate PD	Coach Planning: Write up observations	Coach Planning: Plan for next week
After School	Leadership Team Meeting	Meeting with SS and ELA departments together	Academy Dean and Coaches meeting	Debrief Observation with Teacher B	

❖ Wednesday s are Early Dismissal days for Professional Development

## Appendix N

### Item Analysis Template

				<b>WHAT</b>	<b>HOW</b>	<b>WHO</b>
<b>Priority Standards</b>	<b>Question #</b>	<b>Correct Answer and # of Students</b>	<b>Wrong Answers and # of Students</b>	<b>Solve Problem and Identify Sub Skills - What did students need to know or do to get the answers right?</b>	<b>Analyze Distracters - What common incorrect answers did students pick? What were the misconceptions? Why?</b>	<b>Students - What students or groups of students missed the question? Why might students have chosen that wrong answer? (note names)</b>



## Appendix O

### Corrective Instruction Action Plan Sample

CORRECTIVE INSTRUCTION	
FOCUS STANDARD/SKILL	ANALYSIS OF WHY STUDENTS DID NOT LEARN IT
<p>What is the standard/skill I need to teach in a different way? What is the exact sub-skill I need to teach?</p> <p><b>8.R.CC.R.1</b>-Identify key ideas and details, cite evidence, make inferences and, identify information stated explicitly.</p>	<p>Why did students not learn the intended skill or concept?</p> <ul style="list-style-type: none"> <li>• Students have had limited exposure to informational texts this school year</li> <li>• Students had difficulty interpreting the text due to its structure</li> </ul>
DATA-INFORMED NEW INSTRUCTIONAL APPROACH	
<p>How will I teach this skill/standard in a different way? How will the concept of the item(s) students misconceived be addressed? How will I break the concept down into clear and concrete steps? How will I ensure that there is adequate opportunity for practice provided to the students? How will I ensure that the level of instruction matches the level of rigor of the interim assessment?</p> <ul style="list-style-type: none"> <li>• The teaching team will use the PREP text previewing protocol to ensure students analyze the author’s purpose and how the author uses print features and structure to support that purpose. The steps to the Preview stage are to analyze the title, note any text features, identify the genre and the author’s purpose.</li> <li>• The teacher will model each step of the previewing strategy using a think aloud and using a gradual release model to support students as they acquire a new method of approaching text.</li> <li>• The team has agreed to use texts that have a Lexile level of 1100 which corresponds to grade level expectations for the Common Core, and will use question stems from Test Wiz and DC-CAS release items to ensure the rigor is comparable to that of standard assessments</li> </ul>	
STUDENT GROUPINGS	
<p><b>Whole Group:</b> Does the entire group of students have the same misconception? Do they also have the same reason for the misconception and/or do not need a deeper level of support (small group or individual)? What will the whole-group instruction include?</p> <p><b>Small Group:</b> Which students need a deeper level of support than whole-group? What will the small-group instruction include?</p>	

**Individual:** Which students need an individual level of support to reach proficiency? What specific strategies will you use?

The majority of students misinterpreted the two questions that we chose for our item analysis. One questions had 25% of students choosing the correct answer while the other had 31%. The wrong answers that were chosen were evenly spread throughout the other answer choices, which made it a challenge to determine what contributed to their confusion. With an average of 70% of the students requiring additional instruction in with citing evidence from informational text, the team will present these lessons to the whole class and then be able to make more targeted interventions for those scholars after collecting some additional data from the mini-quizzes.

Informational text accounts for a large portions (roughly 30% ) on the DC-CAS blueprint focusing on using complex texts and providing rigorous assignments for students but the texts have not be balanced by type, so all students will benefit from explicit instruction in how to approach texts with different purposes and structures and how to navigate the text to respond to inferential questions and citing evidence that is both literally stated and implied.

ASSESSMENT	ACCOUNTABILITY		
How will the skill/standard be reassessed to check for mastery? How will I ensure that the classroom assessment matches the level of rigor of the interim assessment?	What evidence will be collected and reported back to the team and by when?		
Students will read a series of short texts (1 page or less) and accompanying questions based on the question stems provided by ANet and the DC-CAS blueprint which discuss the social themes explored in their mentor text.	<b>Next Step</b>	<b>Owner(s)</b>	<b>By When</b>
	<b>Select 1 page informational texts</b>	<b>All Team Members</b>	
	<b>Create a simplified student data tracker</b>	<b>Instructional Literacy Coach</b>	
	<b>Create common assessments using provided stems</b>	<b>Teacher A (with support of the instructional coach)</b>	

SUPPORTS FOR STUDENT EFFICACY	
STUDENT PERSEPCTIVE	PLANNED ACTION
<p><b>FOCUS ON THE STANDARD/SKILL</b> I understand what I still need to learn.</p> <p>I know that if I work hard and put in the effort as we have planned, I will master the standard, skill or concept.</p>	How will the students be engaged so that they understand what standard/skill still need to be learned? What language will be used with the students to explain the results of the assessment and the corrective instruction process?

	<ul style="list-style-type: none"> <li>• The team will highlight the growth of the students on the most current assessment and will celebrate that success</li> <li>• The teachers will identify the standard that they will address via the corrective instruction</li> <li>• The teachers will explain that the class has had limited work with analyzing informational text and that this will be an ongoing component that will be included to help the students become well rounded readers and that they will have multiple opportunities to show growth with this skill</li> </ul>
<p><b>ACT ON FEEDBACK</b>  I know what I missed on the interim assessment.  I have a concrete, actionable plan that my teacher and I will implement.</p>	<p>What are the students' roles in this learning process? How are students expected to incorporate feedback?</p> <ul style="list-style-type: none"> <li>• The teachers will explain that the texts being used have been chosen to complement the book that they are reading in class</li> <li>• The teacher will model the text preview protocol and will scaffold the steps using a gradual release model</li> <li>• Students will be reading articles that discuss the social themes from <u>The House on Mango Street</u> and applying the text previewing strategy</li> <li>• Students will answer questions designed to mirror the questions they missed on the interim assessment</li> </ul>
<p><b>DEMONSTRATE MASTERY</b>  <b>I know how I will be assessed.</b>  <b>I will present the data that demonstrates my effort and the results.</b></p>	<p>What are the students' roles in this assessment?</p> <ul style="list-style-type: none"> <li>• Students will peer grade in class in order to get immediate feedback on their assessment</li> <li>• Students will record their progress on their mastery tracker</li> </ul> <p>What are the students' roles (if any) in presenting the evidence?</p> <ul style="list-style-type: none"> <li>• Students already record weekly vocabulary data on a tracker, they can be engaged in a reflection to compare their performance on the two data points considering the effort demonstrated in class and the scores received on their in-class assessments</li> </ul>

## Appendix P

### ELA/SS Meeting Agenda

Topic	Outcome
<p><b>Department News</b></p> <ul style="list-style-type: none"> <li>• Co-Planning Meetings               <ul style="list-style-type: none"> <li>➤ To be conducted weekly, with artifacts</li> <li>➤ Co teachers will be given templates to follow for co teaching models.</li> </ul> </li> <li>• Teacher Deliverables               <ul style="list-style-type: none"> <li>➤ All teachers must grade papers and provide authentic feedback to students in a prompt manner</li> <li>➤ Worksheets must be kept to a minimum; more hands-on work and project-based assignments</li> <li>➤ Create academic-rich environments (teacher-made process charts, up-to-date student work, exemplars, certificates)</li> </ul> </li> <li>• Lexia               <ul style="list-style-type: none"> <li>• Students will not rotate for electives, but will remain in their intervention classes</li> <li>• The Lexia teachers will be monitored by the ELA coach. The 8th grade ELA teacher will be informed of progress by Mr. Graham, and the 7th grade ELA teacher will be informed of progress by Mr. Samuels.</li> <li>• The ELA coach will meet with co teachers about Lexia to retrain and emphasize the importance of using Lexia data and lesson during pullouts.</li> </ul> </li> </ul> <p>Lesson plans: Turn in weekly, sub use, Co teacher use, want to know how you will teach something</p>	
<p><b>ANet</b></p> <p><b>Corrective teaching assessment data due Thursday January 10th 2013</b></p> <p><b>Please email corrective teaching lesson by Wednesday January 9th 2013</b></p> <p><b>Please bring a copy of the corrective teaching assessment to January 10th meeting</b></p>	
<ul style="list-style-type: none"> <li>• Remind all ELA and SS teachers that we our curriculum is based on Common Core State Standards and we are aligned with the Achievement Network Series</li> <li>• Pacing guide due January 24th</li> </ul>	
<p>WORK SMARTER! Sewell 100+ student proficient in ELA....This year we will make history!</p>	Send out:

## Appendix Q

### ANet Data Meeting Protocol

# Data Meeting Protocol (3 hours)

#### Goals:

- To analyze student performance data
- To plan 2 to 3 specific actions to take with students

#### Materials:

- Student Performance data report
- Assessment booklets
- ANet Standards Guide
- Curricular materials
- Lesson plans

### Agenda

15 mins

#### 1. Welcome and Overview of Interim Process and Analysis (whole group)

- Role of team
- Overview of Data Analysis Process
- Reflect on results school-wide- how did students do?
  - Share context for performance based on previous years and other schools (e.g. the average % correct for 5<sup>th</sup> grade ELA was 30%)
  - How does this differ from the internal assessments we give?
  - How does this compare to the DC CAS?
- Set the purpose for the data meeting with expected outcomes
- State the importance of fidelity to the ANet model in general

15 mins

#### 2. Model one multiple choice standard

- Model analysis
- Zoom in on student level analysis
- Which students got X but not Z – why?
- Check for understanding
- Restate simplified steps

60 mins

#### 3. Data analysis (small groups)

- Teams will work together to complete same process modeled above for their own classrooms
- Tackle 2-3 standards that will lead to 2 to 3 actions with students
  - Discuss ideas for how standards will be taught (keep your reflections from earlier in mind)
  - Be sure to work in teams for the analysis to ensure that everyone comes away with key takeaways

15 mins

#### 4. Model action plan

- Model how data takeaways lead to action plan
  - Review strong action plan example and average example
- Check for understanding
- Restate what makes the sample action plan strong effective

60 mins

#### 5. Action planning (small groups)

- Write down what needs re-teaching based on analysis of multiple choice and open response items
- Discuss ideas for how standards will be taught
  - Be sure to work in teams for the analysis and planning so that all team members leave with concrete and feasible action plans
- Create action plan (s) and determine how to weave into daily lesson plans
  - Be ready to report on who, what, when, where, how to whole group

15 mins

#### 6. Next Steps/Closing

- Have 1-2 groups share what they saw and note the next steps that they plan to take
- Set structured time for follow up
  - Reflection meeting on XXX date- bring lesson plans (whole class), intervention and tutoring plans (small group), and evidence from re-assessment

After meeting

#### 7. Individual analysis and planning (follow-up steps for teachers)

- Incorporate re-teach plans into lesson plans
- Include plans for celebrating successes with students
- Write reassessment using standards and resource guide, SAS, and additional resources

## Appendix R

### IRB Approval Letter for Continuing Review/Progress Report



1104 Marie Mount Hall  
College Park, MD 20742-5125  
TEL: 301.405.4222  
FAX: 301.314.1475  
irb@umd.edu  
www.spacewalk.umd.edu/IRB

DATE: February 24, 2014

TO: Natalie Arthurs  
FROM: University of Maryland College Park (UMCP) IRB

PROJECT TITLE: [434867-2] The Instructional Coach's Role in the Data-Driven Decision Making Process and the Perceived Impact on Teacher Practice in an Urban School

REFERENCE #:  
SUBMISSION TYPE: Continuing Review/Progress Report

ACTION: APPROVED  
APPROVAL DATE: February 24, 2014  
EXPIRATION DATE: March 24, 2015  
REVIEW TYPE: Expedited Review

REVIEW CATEGORY: Expedited review category # 8 (a) (c)

Thank you for your submission of Continuing Review/Progress Report materials for this project. The University of Maryland College Park (UMCP) IRB has APPROVED your submission. This approval is based on an appropriate risk/benefit ratio and a project design wherein the risks have been minimized. All research must be conducted in accordance with this approved submission.

This submission has received Expedited Review based on the applicable federal regulation.

Please remember that informed consent is a process beginning with a description of the project and insurance of participant understanding followed by a signed consent form. Informed consent must continue throughout the project via a dialogue between the researcher and research participant. Federal regulations require each participant receive a copy of the signed consent document.

Please note that any revision to previously approved materials must be approved by this committee prior to initiation. Please use the appropriate revision forms for this procedure which are found on the IRBNet Forms and Templates Page.

All UNANTICIPATED PROBLEMS involving risks to subjects or others (UPIRSOs) and SERIOUS and UNEXPECTED adverse events must be reported promptly to this office. Please use the appropriate reporting forms for this procedure. All FDA and sponsor reporting requirements should also be followed.

All NON-COMPLIANCE issues or COMPLAINTS regarding this project must be reported promptly to this office.

This project has been determined to be a Minimal Risk project. Based on the risks, this project requires continuing review by this committee on an annual basis. Please use the appropriate forms for this procedure. Your documentation for continuing review must be received with sufficient time for review and continued approval before the expiration date of March 24, 2015.

Please note that all research records must be retained for a minimum of three years after the completion of the project.

## Appendix S

### Data Charts

Figure S1. Achievement Network Data Spreadsheet for Grade 7 English/Language Arts Interim #4 Assessment

Grade 7									
Item Analysis by Standard, Interim 4									
Domain	Standard	Question	Total % Correct	Correct Response	Number of Students Choosing Each Answer Choice				
					A	B	C	D	Omitted
<b>What Did King Midas Look Like? [Informational-Scientific]</b>									
<b>45%</b>									
Craft & Structure	RI.7.5 Analyze author's decisions regarding structure of diverse literature	1	40%	B	17	25*	16	4	0
Key Ideas & Details	7.R.CCR.2 Determine central ideas; summarize details	2	53%	D	24	3	2	33*	0
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	3	65%	D	6	10	6	40*	0
Craft & Structure	RI.7.5 Analyze author's decisions regarding structure of diverse literature	4	50%	C	9	10	31*	12	0
Vocabulary Acquisition & Use	L.7.5 Understand figurative language, word relationships, & word nuances	5	56%	D	7	10	10	35*	0
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	6	24%	C	12	21	15*	14	0
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	7	39%	A	24*	11	11	16	0
Craft & Structure	RI.7.5 Analyze author's decisions regarding structure of diverse literature	8	39%	C	11	4	24*	23	0
Craft & Structure	RI.7.6 Determine author's purpose with textual evidence & analyze autonomy	9	35%	B	20	22*	15	5	0
<b>Famous [Literature-Poetry]</b>									
<b>46%</b>									
Craft & Structure	RL.7.4 Determine meaning of words	10	56%	A	35*	19	5	2	1
Key Ideas & Details	7.R.CCR.2 Determine central ideas; summarize details	11	58%	D	12	7	7	36*	0
Craft & Structure	7.R.CCR.6 Determine effects of point of view on content	12	40%	C	15	6	25*	15	1
Craft & Structure	RL.7.5 Analyze the structure of diverse literature & its effect on meaning	13	31%	C	11	11	19*	21	0
<b>Anne of Green Gables [Literature-Drama]</b>									
<b>42%</b>									
Key Ideas & Details	7.R.CCR.3 Analyze reasoning for interactions	14	45%	C	11	15	28*	8	0
Key Ideas & Details	RL.7.3 Analyze text element interactions	15	31%	C	4	22	19*	17	0
Vocabulary Acquisition & Use	L.7.5 Understand figurative language, word relationships, & word nuances	16	23%	B	13	14*	4	31	0
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	17	44%	C	8	18	27*	9	0
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	18	66%	B	9	41*	9	3	0
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	19	53%	A	33*	16	5	8	0
Key Ideas & Details	RL.7.2 Determine theme from text details	20	29%	B	16	18*	15	13	0
Craft & Structure	RL.7.6 Analyze development of diverse perspectives	21	31%	A	19*	17	8	18	0
Key Ideas & Details	7.R.CCR.2 Determine central ideas; summarize details	22	55%	C	8	10	34*	10	0
<b>Roman Bathing [Informational-Historical]</b>									
<b>51%</b>									
Craft & Structure	RI.7.4 Determine meaning of words	24	65%	C	12	7	40*	3	0
Key Ideas & Details	RI.7.1 Cite several pieces of textual evidence when analyzing & inferring	25	61%	B	6	38*	8	10	0
Key Ideas & Details	RI.7.3 Analyze text element interactions	26	31%	D	10	24	9	19*	0
Key Ideas & Details	RI.7.1 Cite several pieces of textual evidence when analyzing & inferring	27	44%	D	7	12	16	27*	0
Key Ideas & Details	RI.7.3 Analyze text element interactions	28	50%	A	31*	6	24	0	1
Key Ideas & Details	7.R.CCR.1 Determine explicit meanings, make inferences, cite text evidence	29	65%	D	12	6	4	40*	0
Craft & Structure	RI.7.6 Determine author's purpose with textual evidence & analyze autonomy	30	48%	A	30*	5	19	7	1
Key Ideas & Details	7.R.CCR.2 Determine central ideas; summarize details	31	40%	D	8	22	7	25*	0
Craft & Structure	RI.7.6 Determine author's purpose with textual evidence & analyze autonomy	32	56%	C	16	0	35*	11	0

Figure S2. Standard-level Data Chart (created by the instructional literacy coach)

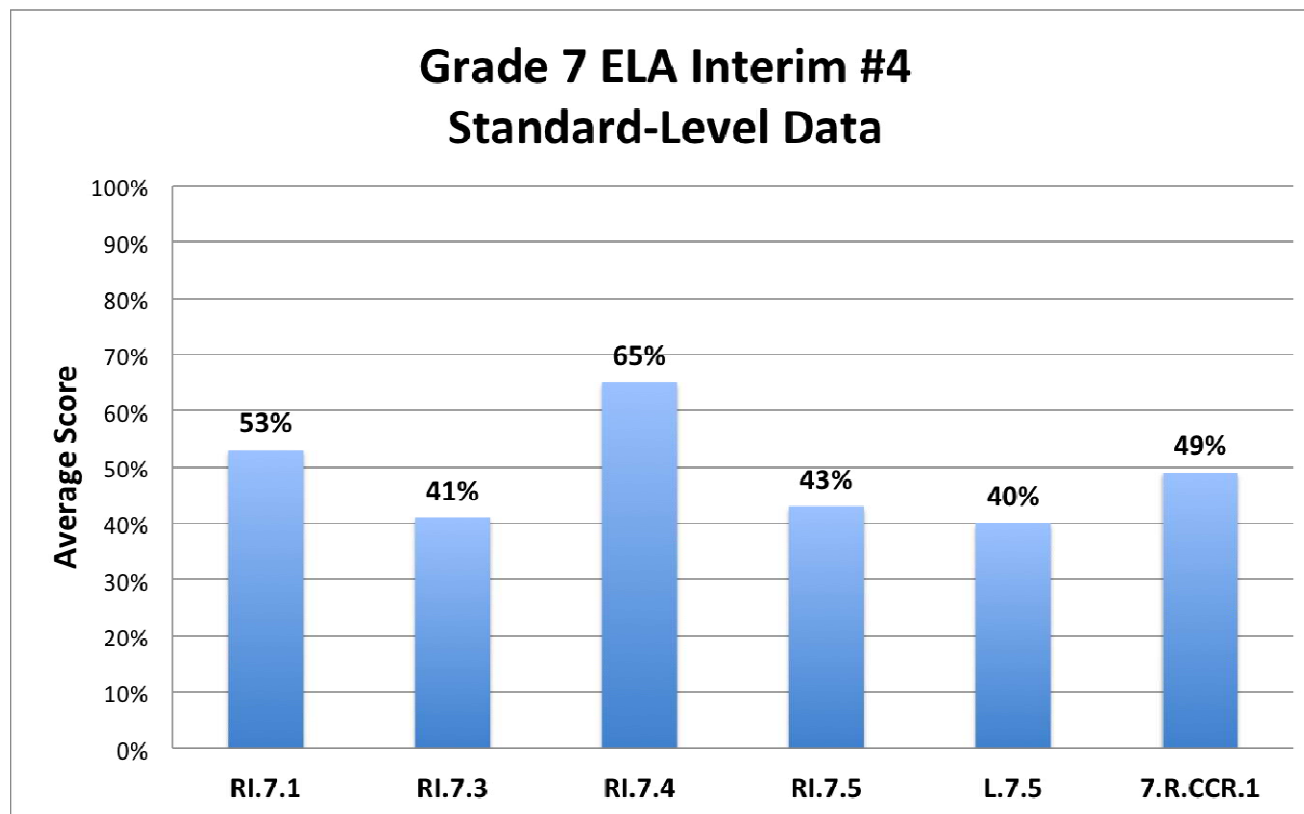




Figure S3. SY 2012-2013 Interim Data Chart (created by the instructional literacy coach)

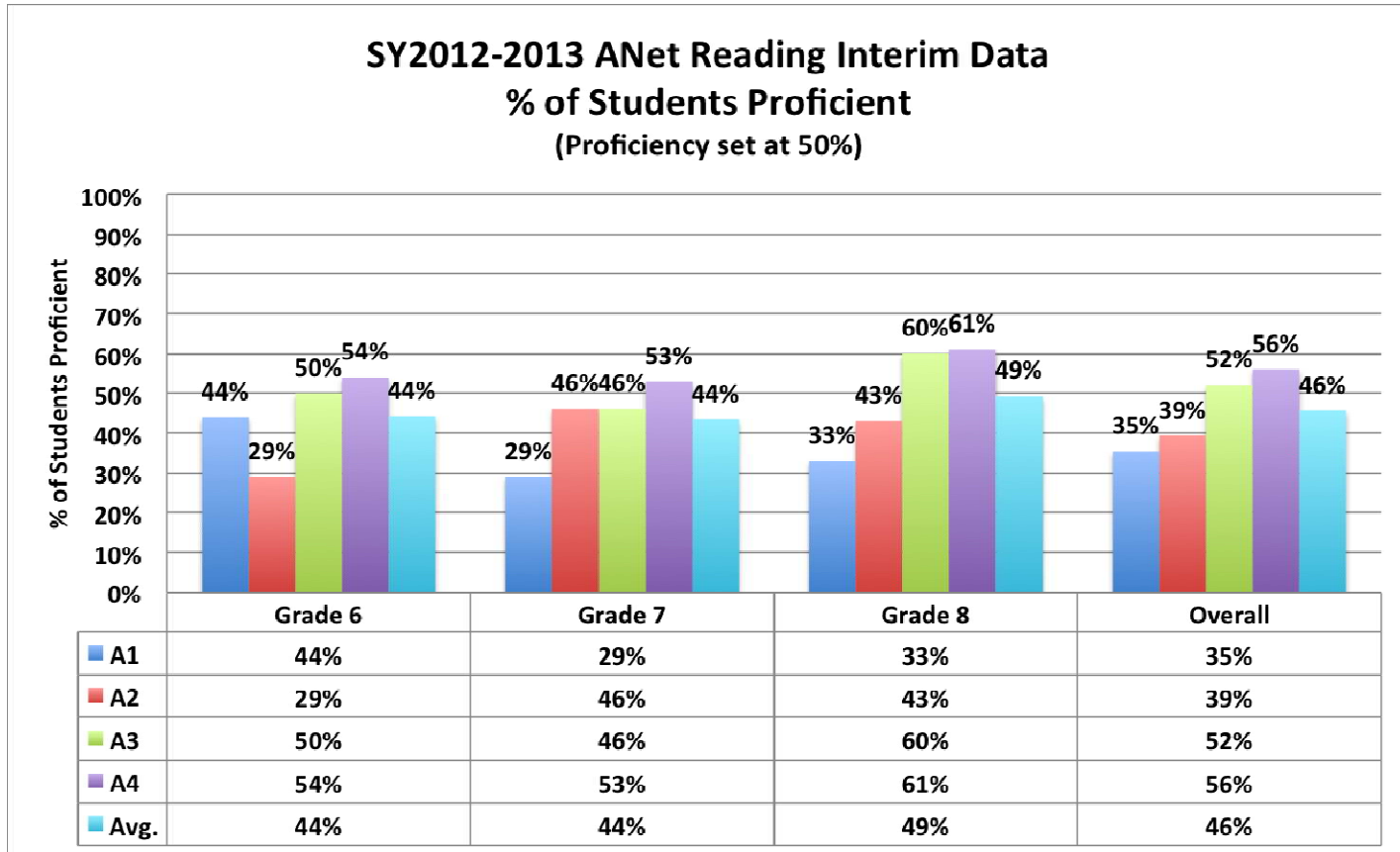
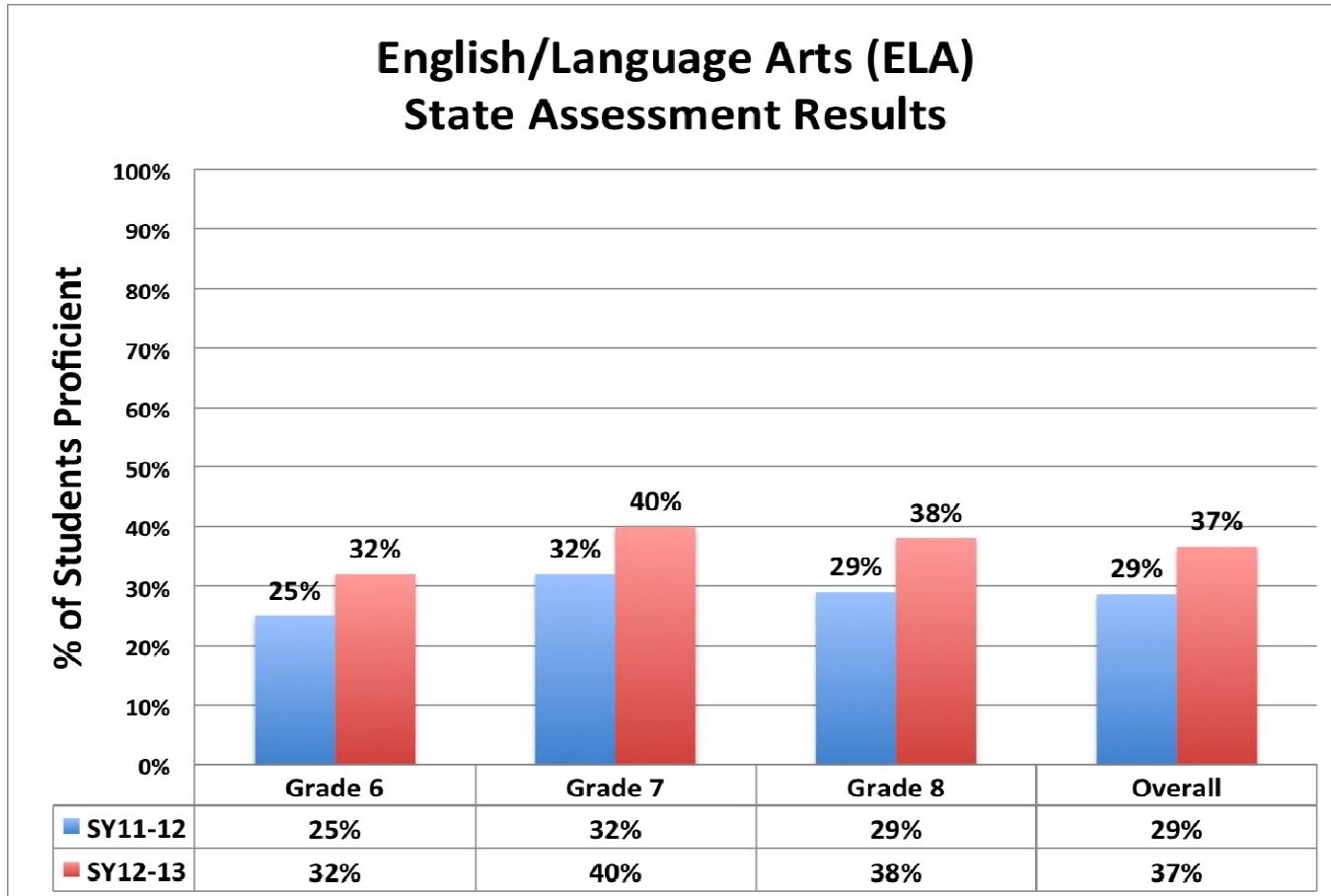


Figure S4. State Assessment Comparison Data Chart of SY 2011-2012 and SY 2012-2013 (created by the instructional literacy coach)



## Appendix T

### Permission to Use Conceptual Framework

---

Natalie Arthurs  
9712 Lake Pointe Court, Unit #302  
Upper Marlboro, MD 20774  
May 15, 2014

Julie Marsh, Ph.D.  
Associate Professor of Education  
Rossier School of Education  
University of Southern California

Dear Julie:

I request permission to reprint the following material from your publication:

**Marsh, J.,** McCombs, J.S., & Martorell, F. (2010). How instructional coaches support data-driven decision making: Policy implementation and effects in Florida middle schools. *Educational Policy*, 24(6), 872-907. In particular, "Figure 1: The Conceptual Framework," on pg. 879, will be reprinted in my dissertation.

For my study, I modified the aforementioned conceptual framework, and I would like to include the conceptual framework in order to discuss those modifications.

I have attached a copy of the conceptual framework for your convenience.

This material will be reprinted in my dissertation, entitled *The Instructional Literacy Coach's Role in the Data-Driven Decision Making Process*, which I anticipate will be published (May 2014).

Sincerely,

Natalie Arthurs  
Department of Teaching and Learning, Leadership and Policy

Permission to reprint the above-referenced material granted by:

Name/Title: *JULIE MARSH, Associate Professor USC*  
Conditions:

Signature: *Julie Marsh*

## REFERENCES

- Abbott, C. J., & McKnight, K. (2010). Developing instructional leadership capacity through collaborative learning. *AASA Journal of Scholarship & Practice*, 7(2), 20 – 26.
- Abbott, M., & Wills, H. (2012). Improving the upside-down Response-to-Intervention triangle with a systematic, effective elementary school reading team. *Presenting School Failure*, 56(1), 37-46.
- Ackland, R. (1991). A review of the peer coaching literature. *The Journal of Staff Development*, 12(1) 22 – 27.
- Annenberg Institute for School Reform (2004). Instructional Coaching: Professional development strategies that improve instruction. Providence, RI: AISR. Retrieved September 1, 2011 from [www.annenberginstitute.org/pdf/InstructionalCoaching.pdf](http://www.annenberginstitute.org/pdf/InstructionalCoaching.pdf).
- Ainsworth, L., & Viegut, D. (2006). *Common formative assessments*. Thousand Oaks, CA: Corwin Press.
- Auerback, C. F., & Silverstein, L. B. (2003). *Qualitative data: An introduction to coding and analysis*. New York: New York University Press.
- Ball, D. L., & Cohen, D. K. (1999). Developing practice, developing practitioners: Toward a practice-based theory of professional education. In L. Darling Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 3-32). San Francisco: Jossey-Bass.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117. Retrieved February 8, 2011, from EBSCO.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: W. H. Freeman.
- Baron, J. B., & Wolf, D. P. (1996). *Performance-based student assessment: Challenges and possibilities*. Chicago: University of Chicago.
- Barr, K., Simmons, B., & Zarrow, J. (2010). *School coaching in context: A case study in capacity building*. Paper presented at the (2010) American Educational Research Association annual meeting, Chicago, IL.
- Bean, R. M., Belcastro, B., Hathaway, J., Risko, V., Rosemary, C., & Roskos, K. (2008). *A review of the research on instructional coaching*. Paper presented at the American Educational Research Association Conference, New York, NY.

- Bean, R. M., Draper, J. A., Hall, V., Vandermolen, J., & Zigmond, N. (2010). Coaches and coaching in Reading First schools: A reality check. *The Elementary School Journal*, 11(1), 87-114.
- Becker, J. M. (1996). *Peer coaching for improvement of teaching and learning*. Teachers Network. Retrieved on September 1, 2011, from <http://teachersnetwork.org/TNLI/research/growth/becker.htm>.
- Bedwell, L. E. (2004). *Data-Driven instruction*. Bloomington, IN: Phi Delta Kappa Educational Foundation.
- Benaquisto, L. (2008). Axial coding. In L.M. Givens (Ed.), *The Sage encyclopedia of qualitative research methods*. Los Angeles: Sage.
- Bernhardt, V. L. (2004). *Data analysis for continuous school improvement*. Larchmont, NY: Eye On Education.
- Biancarosa, G., Bryk, A., & Dexter, R., (2008). *Assessing the value-added effects of literacy collaborative professional development on student learning*. Paper presented at the annual meeting of the America Educational Research Association, New York.
- Boeije, H. (2002). A purposeful approach to constant comparative method in the analysis of qualitative interviews. *Quality and Quantity*, 36(4), 391-409.
- Booher-Jennings, J. (2005). Below the bubble: “Educational triage” and the Texas accountability system. *American Educational Research Journal*, 42(2), 231-268.
- Borman, J., & Feger, S. (2006). *Instructional coaching: Key themes from the literature*. Providence, RI: The Education Alliance at Brown University.
- Boudett, K. P., City, E. A., & Murnane, R. J. (2006). The “data wise” improvement process: Eight steps for using test data to improve teaching and learning. *Principal Leadership*, 7(2), 53 – 56.
- Boudett, K. P., City, E. A., & Murnane, R. J. (2005). *Data Wise: A step by step guide to using assessment results to improve teaching and learning*. Cambridge, MA: Harvard Education Press.
- Brown, C., Stroh, H., Fouts, J., & Baker, D. (2005). *Learning to change: School coaching for systemic reform*. Seattle, WA: Fouts & Associates.
- Brown, D., Reumann-Moore, R., Hugh, R., du Plessis, P., & Christman, J. (2006). *Promising inroads: Year one report of the Pennsylvania High School coaching initiative*. Philadelphia: Research in Action.

- Brown, D., Reumann-Moore, R., Hugh, R., du Plessis, P., & Christman, J., Riffer, M., & Maluk, H. (2007). *Making a difference: Year two report of the Pennsylvania High School coaching initiative*. Philadelphia: Research in Action.
- Brown, D., Reumann-Moore, R., Hugh, R., Christman, J., & Riffer, M. (2008). *Links to learning and sustainability: Year one report of the Pennsylvania High School coaching initiative*. Philadelphia: Research in Action.
- Bruce, C. D., & Ross, J. A. (2008). A model for increasing reform implementation and teacher efficacy: Teacher peer coaching in grades 3 and 6 mathematics. *Canadian Journal of Education*, 31(2), 346-370.
- Bush, R. N. (1984). *Effective staff development*. In making our schools more effective: Proceedings of three state conferences. San Francisco: Far West Laboratories.
- Campbell, P., & Malkus, N. (2010). The impact of elementary mathematics coaches on student achievement. *The Elementary School Journal*, 111(1), 430 – 454.
- Cassidy, J. & Cassidy, D. (2008). What's hot for 2008? *Reading Today*, 25(4), 1, 10-11.
- Cassidy, J. & Cassidy, D. (2009). What's hot for 2009? *Reading Today*, 26(4), 1, 8-9.
- Charmaz, K. (2000). Grounded theory: Objectivist and constructivist methods. In N. K. Denzin, & Y. S. Lincoln (Eds), *Handbook of qualitative research* (2nd ed.). pp. 509-535. Thousand Oaks, CA: Sage.
- City, E.A., Elmore, R.F., Fiarman, S.E., & Teitel, L. (2009). *Instructional rounds in education: A network approach to teaching and learning*. Cambridge, MA: Harvard Education Press.
- Coggins, C. T., Stoddard, P., & Cutler, E. (2003). *Improving instructional capacity through school-based reform coaches*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Cohen, D., McLaughlin, M., & Talbert, J. (1993). *Teaching for understanding: Challenges for policy and practice*. San Francisco: Jossey-Bass.
- Costa, A., & Garmston, R. (2002). *Cognitive coaching: A foundation for renaissance schools*. Norwood, MA: Christopher-Gordon.
- Cresswell, J. (1998). *Research design: Quantitative and qualitative approaches*. Thousand Oaks, CA: Sage.
- Darling-Hammond, L. (1988). The future of teaching. *Educational Leadership*, 46(3), 4 – 10.

- Darling-Hammond, L. (2000). Teacher quality and student achievement: A review of state policy evidence. *Educational Policy Analysis Archives*, 8(1), 1 – 44.
- Darling-Hammond, L., Hightower, A.M., Husbands, J.L., Lafors, J.R., Young, V.M., & Christopher, C. (2005). *Instructional leadership for systemic change: The story of San Diego's reform*. Lanham, MD: Scarecrow Education.
- Darling-Hammond, L, Wei, R. C., Andree, A., Richardson, N. & Orphanos, S. (2009). *Professional learning in the learning profession: A status report on teacher development in the United States and abroad*. Washington, DC: National Staff Development Council.
- Darling-Hammond, L, & Adamson, F. (2013). *Developing assessments of deeper learning: The costs and benefits of using tests that help students learn*. Stanford, CA: Stanford Center for Opportunity Policy in Education.
- Datnow, A., Park, V., & Wohlsetter, P. (2007). *Achieving with data: How high performing school systems use data to improve instruction for elementary students*. Los Angeles: University of Southern California, Center on Educational Governance, Rossier School of Education.
- Deming, W.E. (1986). *Out of the crisis*. Cambridge, MA: MIT Center for Advanced Engineering Study.
- Desimone, L, Smith, T., & Ueno, K. (2006). Are teachers who need sustained, content focused professional development getting it? An administrator's dilemma. *Educational Administration Quarterly*, 42(2), 179-214. Retrieved January 14, 2012, from EBSCO.
- Desimone, L., M. (2009). Improving impact studies of teachers' professional development: Toward better conceptualizations and measures. *Educational Researcher*, 38(3), 181 - 199.
- Deussen, T., Coskie, T., Robinson, L., & Autio, E. (2007). *“Coach” can mean many things: Five categories of literacy coaches in Reading First*. (Issues & Answers Report, REL 2007 – No. 005). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northwest.
- Dole, J. A. (2004). The changing role of the reading specialist in school reform. *The Reading Teacher*, 57, 462-471.
- Doyle, D. P. (2003). Data-driven decision-making. T.H.E. Journal, Retrieved January 2013, from <http://www.thejournal.com/magazine/articleprintversion.cfm?aid=4419>.

- DuFour, R. (2002). The learning-centered principal. *Educational Leadership*, 59(8), 12-16.
- DuFour, R., DuFour, R., Eaker, R., & Karhanek, G. (2004). *Whatever it takes: How professional learning communities respond when kids don't learn*. Bloomington, IN: National Education Service.
- Duncan, A. (2009, June 8). Robust data gives us the roadmap to reform. Paper presented at the Fourth Annual IES Research Conference, Columbia University's Teachers College, New York, NY.
- Edwards, J. L. (2008). Cognitive coaching: A synthesis of the research. Highlands Ranch, CO: Center for Cognitive Coaching.
- Elmore, R.F., (1995). Structural reform and education practice. *Educational Researcher*, 24(9), 23-26.
- Elmore, R., Peterson, P., & McCarthy, S. (1996). *Restructuring in the classroom: Teaching, learning, and school organization*. San Francisco: Jossey-Bass.
- Ertmer, P. A., Richardson, J., Cramer, J., Hanson, L., Huang, W., Lee, Y. et al. (2005). Professional development coaches: Perceptions of critical characteristics. *Journal of School Leadership*, 15(1), 52-75.
- Firestone, W., Mangin, M., Martinez, M., & Polovsky, T. (2005). Leading coherent professional development: A comparison of three districts. *Educational Administration Quarterly*, 41(3), 413-448.
- Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry*, 12(2), 219-245.
- Frey, N., & Heibert, E. (2003). Teacher-based assessment of literacy learning. In J. Flood, D. Lapp, J. Squire, & Jensen (Eds.), *Handbook of research on teaching the English language arts* (pp. 608-618). Mahwah, NJ: Lawrence Erlbaum Associates.
- Fullan, M., Hill, P., & Crévola, C. (2006). *Breakthrough*. Thousand Oaks, CA: Corwin Press.
- Fullan, M. (2001). *The new meaning of educational change*. (3<sup>rd</sup> ed.). New York: Teachers College Press.
- Fullan, M., & Hargreaves, A. (1996). *What's worth fighting for in your school*. New York: Teachers College Press.



- Gallucci, C., Boatright, E. E., Lysne, D., & Swinnerton, J. (2006). *The pedagogy of third party support for instructional improvement: A partnership between CEL and Highline School District*. Seattle: Center for the Study of Teaching and Policy, University of Washington. Retrieved September 10, 2011, from <http://depts.washington.edu/uwcel/resources/papers.html>.
- Gallucci, C., VanLare, M. Yoon, I., Boatright, B. (2010). Instructional coaching: Building theory about the role and organizational support for professional learning. *American Educational Research Journal*, 47(4), 919 – 963.
- Galm, R., Perry, G. (2004). Coaching moves beyond the gym. *Journal of Staff Development*, 25(20), 1-4.
- Gamse, B., Jacob, R., Horst, M., Boulay, B. & Unlu, F. (2008). *Reading First impact study: Final report* (NCEE Report No. 2009-4038). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Garet, M., Porter, A., Desimone, L. Birman, B., & Yoon, K. (2001). What make professional development effective? Results from a national sample of teachers. *American Educational Research Journal*, 38, 915-945.
- Garet, M. S., Cronen, S., Eaton, M., Kurki, A., Ludwig, M., Jones, W., et al. (2008). *The impact of two professional development interventions on early reading instruction and achievement*. (NCEE Report No. 2008-4031). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education.
- Garmston, R. J. (1987). How administrators support peer coaching. *Educational Leadership*, 44(5), 18-26.
- Garmston, R. J., & Wellman, B. M. (1999). *The adaptive school: A sourcebook for developing collaborative groups*. Norwood, MA: Christopher-Gordon.
- Geertz, C. (1973). *The interpretation of cultures: Selected Essays*. New York: Basic Books.
- Gibson, S. A. (2005). Developing knowledge of coaching. *Issues in Teacher Education*, 14(2), 63-74.
- Gillborn, D., & Youdell, D. (2000). *Rationing education: Policy, practice, reform, and equity*. Buckingham, England: Open University Press.
- Glaser, B.G., & Strauss, A.L. (1967). *The discovery of grounded theory*. Chicago: Aldine.

- Glazer, E.M., & Hannafin, M. J. (2006). The collaborative apprenticeship model: Situated professional development within school settings. *Teaching & Teacher Education, 22*(2), 179-193.
- Guskey, T. R. (2003). How classroom assessments improve learning. *Educational Leadership, 60* (5), 6-11.
- Halle, T. (2008). *Dosage of professional development: What have we learned*. Paper presented at the Conference on Early Childhood Professional Development, Ann Arbor, MI.
- Hargreaves, A. (1994). *Changing teachers, changing times*. New York: Teachers College Press.
- Hargreaves, A. (2009). The fourth way of change: Towards an age of inspiration and sustainability. In A. Hargreaves & M. Fullan (Eds.), *Change wars* (pp. 11-43). Bloomington, IN: Solution Tree.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.
- Hawley, W. D., Valli, L. (1999). The essentials of effective professional development: A new consensus. In L. Darling-Hammond & G. Sykes (Eds.), *Teaching as the learning profession: Handbook of policy and practice* (pp. 127-150). San Francisco: Jossey-Bass.
- Ikemoto, G. S., & Marsh, J. A. (2007). Cutting through the “data driven” mantra: Different conceptions of data-driven decision making. In P.A. Moss (Ed.), *Evidence and decision making: 106<sup>th</sup> yearbook of the National Society for the Study of Education* (pp. 105-131). Malden, MA: Blackwell.
- Ingram, D., Louis, K., & Schroeder, R. (2004). Accountability policies and teacher decision making: Barriers to the use of data to improve practice. *Teachers College Record, 106*(6), 1258-1287.
- International Coach Federation. (2009). The ICF code of ethics. Retrieved November 20, 2011 from <http://www.coachfederation.org/ethics/>.
- International Reading Association. (2004). *The role and qualifications of the reading coach in the United States*. Newark: DE: Author.
- International Reading Association. (2006). *Standards for middle and high school literacy coaches*. Newark: DE: Author.

- Johnson, J. H. (2006). *In Data-driven school improvement*. Retrieved February 1, 2013, from Clearing House on Educational Policy Management Web Site: <http://eric.uoregon.edu/publications/digest109.html>.
- Joyce, B., Murphy, C., Showers, B., & Murphy, J. (1989). School renewal as cultural change. *Educational Leadership*, 46(3), 70-77.
- Joyce, B., & Showers, B. (1982). The coaching of teaching. *Educational Leadership*, 40(1), 4-10.
- Kerr, K., Marsh, J., Ikemoto, G., Darilek, H., & Barney, H. (2006). Strategies to promote data use for instructional improvement: Actions, outcomes, and lessons from three urban districts. *American Journal of Education*, 112(4), 496-520.
- Killion, J. P. (1990). The benefits of an induction program for experienced teachers. *Journal of Staff Development*, 11(4), 32-36.
- Killion, J., & Harrison, C. (2006) *Taking the lead: New roles for teachers and school based coaches*. National Staff Development Council.
- King, D., Neuman, M., Pelchat, J., Potochnik, T., Rao, S., & Thompson, J. (n.d.) *Instructional coaching: Professional development strategies that improve instruction*. Providence, RI: Annenberg Institute for School Reform. Retrieved January 1, 2011 from <http://www.annenberginstitute.org/pdf/InstructionalCoaching.pdf>.
- Knight, J. (2004). Instructional coaches make progress through partnership: Intensive support can improve teaching. *Journal of Staff Development*, 25(2), 32-37.
- Knight, J. (2006). Instructional coaching. *The School Administrator*, 63(4), 36-40.
- Knight, J. (2009). Coaching: The key to translating research into practice lies in continuous, job embedded learning with ongoing support. *Journal of Staff Development*, 30(1), 18-22.
- Knight, J. (2014). What you learn... When you see yourself teach. *Educational Leadership*, 71(8), 18-23.
- Kohler, F., & Crilley, K. (1997). Effects of peer coaching on teacher and student outcomes. *Journal of Educational Research*, 90(4), 240-251.
- Lachat, 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.
- Lave, J., Wenger, R. (1991). *Situated learning: Legitimate peripheral participation*. Cambridge: Cambridge University Press.

- Learning Point Associates (2004). *Reading First coaching: A guide for coaches and Reading First leaders*. Naperville, IL: Author.
- Lee, V. E., & Smith, J. B. (1996). Collective responsibility for learning and its effects on gains in achievement for early secondary school students. *American Journal of Education, 104*(2), 103-147.
- Lieberman, A. (1995). Practices that support teacher development: Transforming concepts of professional learning. *Phi Delta Kappan, 76*(8), 591-596.
- Louis, K. S., & Marks, H. M. (1998). Does a professional learning community affect the classroom? Teachers' work and student experiences in restructuring schools. *American Journal of Education, 106*(4), 532-575.
- Love, N., Stiles, K., 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 Press.
- Mandinach, E. B., & Honey, M. (Eds.). (2008). *Data-driven school improvement: Linking data and learning*. New York, NY: Teachers College Press.
- Mandinach, E. B. (2010, August). *Using data-driven decision making to inform practice: From research to practice*. Presidential speech for Division 15, American Psychologist Association, San Diego, CA.
- Mandinach, E. B. (2012). A perfect time for data use: Using data-driven decision making to inform practice. *Educational Psychologist, 47*(2), 71 – 85.
- Marsh, J. A., Pane, J. F., Hamilton, L. A. (2006). *Making sense of data-driven decision making in education: Evidence from recent RAND research*. Santa Monica, CA: RAND.
- Marsh, J. A., McCombs, J. S., Lockwood, J. R., Martorell, F., Gershwin, D., Naftel, S. et al. (2008). *Support literacy across the sunshine state: A study of Florida middle school reading coaches*. Santa Monica, CA: RAND.
- Marsh, J. A., McCombs, J. S., & Martorell, F. (2010). How instructional coaches support data driven decision making: Policy implementation and effects in Florida middle schools. *Educational Policy, 24*(6), 872-907.
- Mason, S. (2002). *Turning data into knowledge: Lessons from six Milwaukee public schools*. Madison, WI: Wisconsin Center for Education Research.

- Matsumura, L. C., Garnier, H. E., Correnti, R., Junker, B., & Bickel, D. D. (2010). Investigating the effectiveness of a comprehensive literacy coaching program in schools with high teacher mobility. *The Elementary School Journal*, 111(1), 35-62.
- Maxwell, J. A. (1992). Understanding and validity in qualitative research. *Harvard Education Review*, 62, 279-300.
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach*. Sage Publications, Incorporated.
- McCombs, J., & Marsh, J. (2009). Lessons for boosting the effectiveness of reading coaches. *The Leading Edge: Professional Learning*, 90(7), 501 – 507.
- McLaughlin, M. W., & Talbert, J. E. (2001). *Professional communities and the work of high school teaching*. Chicago: University of Chicago Press.
- McLaughlin, M. W., & Talbert, J. E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement*. New York: Teachers College Press.
- Miles, M. B., & Huberman, M. A. (1994). *Qualitative data analysis: An expanded sourcebook* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.
- Miller, E. (1995). “The Old Model of Staff Development Survives in a World Where Everything Else Has Changed.” *The Harvard Education Letter*. 11(1), 1 – 3.
- Moxley, D., & Taylor, R. (2006). *Literacy Coaching: A handbook for school leaders*. Thousand Oaks, CA: Corwin.
- Mraz, M., Algozzine, B., & Watson, P. (2008). Perceptions and expectations of roles and responsibilities of literacy coaching. *Literacy Research and Instruction*, 47, 141-157.
- Murnane, R. J., Sharkey, N. S., & Boudett, K. P. (2005). Using student-assessment results to improve instruction: Lessons from a workshop. *Journal of Education for Students Placed at Risk*. 10(3), 269-280.
- National Center for Education Statistics (2007). *The Nation’s Report Card*. Retrieved November 20, 2011, from [http://nationsreportcard.gov/reading\\_2007/r0008.asp](http://nationsreportcard.gov/reading_2007/r0008.asp).
- Neufeld, B., & Roper, D. (2002). *Off to a good start: Year 1 of collaborative coaching and learning in the Effective Practice schools*. Boston: Education Matters, Inc.

- Neufeld, B., & Roper, D. (2003). *Coaching: A strategy for developing instructional capacity*. Cambridge, MA: Education matters, Inc. Retrieved September 27, 2010, from <http://www.edmatters.org/webreports/CoachingPaperfinal.pdf>.
- Park, V., & Datnow, A. (2009). Co-constructing distributed leadership: District and school connections in data-driven decision making. *School Leadership and Management*, 29(5), 477 – 494.
- Poglinco, S., Bach, A., Hovde, K., Rosenblum, S., Saunders, M., & Supovitz, J. (2003). *The heart of the matter: The coaching model in America's Choice schools*. Philadelphia: Consortium for Policy Research in Education, University of Pennsylvania. Retrieved November 14, 2011, from [www.cpre.org/Publications/Publications\\_Research.htm](http://www.cpre.org/Publications/Publications_Research.htm).
- Poglinco, S. M., & Bach, A. J. (2004). The heart of the matter: Coaching as a vehicle for professional development. *Phi Delta Kappan*, 85(5). Retrieved November 14, 2011, from ProQuest Education Journals Database.
- Porter, A. C., Garet, M. S., Desimone, L., Yoonk, K. S., & Birman, B. F. (2000). *Does professional development change teacher practice? Results from a three year study*. Washington, D.C.: American Institutes for Research in the Behavioral Sciences.
- Powell, D., Diamond, K., & Burchinal, M. (2009). *Effects of a professional development intervention on teaching processes and child language and literacy outcomes*. Paper presented at the meeting of the Society for Research on Child Development, Denver, CO.
- Protheroe, N. (2001). Improving teaching and learning with data-based decisions: Asking the right questions and acting on the answers. *Educational Research Service Spectrum*, 19(3), 4-9.
- Quinn, C., Haggard, C., & Ford, B. (2006). Preparing new teachers for leadership roles: A model in four phases. *School Leadership and Management*. 26(1), 55 – 68.
- Ross, J. (1992). Teacher efficacy and the effects of coaching on student achievement. *Canadian Journal of Education*. 17(1), 51 – 65.
- Ross, J., & Gray, P. (2006). Transformational leadership and teacher commitment to organizational values: The mediating effects of collective teacher efficacy. *School Effectiveness & School Improvement*, 17(2), 179-199.
- Rothman, R. (1995). *Measuring up: Standards, assessment, and school reform*. San Francisco: Jossey-Bass.

- Rudner, L. M., & Boston, C. (2003). *Data warehousing: Beyond disaggregation. Educational Leadership, 60*(5), 62-65.
- Russo, A. (2004). School-based coaching. A revolution in professional development – or just the latest fad? *Harvard Education Letter, 20*(4), 1 – 3.
- Sailors, M., & Price, L. (2010). Professional development that supports the teaching of cognitive reading strategy instruction. *The Elementary School Journal, 110*(3), 301-322.
- Sailors, M., & Shanklin, N. (Eds.). (2010). Coaching, teaching, and learning [Special issue]. *The Elementary School Journal, 111*(1).
- Sanchez, E., Kline, D., & Laird, R. (2009). *Data-driven districts: Building the culture and capacity to improve student achievement*. Retrieved November 20, 2011, from <http://www.apqceducation.org/downloads/DQC-Brief-FINAL.pdf>.
- Sandelowski, M. (2008). Member Check. In L. M. Givens (Ed.), *The Sage encyclopedia of qualitative research methods*. Los Angeles: Sage.
- Schen, M., Rao, S., & Dobles, R. (2005). *Coaches in the high school classroom*. New York: Carnegie Corporation.
- Schmoker, M. (2003). First things first: Demystifying data analysis. *Educational Leadership, 60*(5), 22-24.
- Schmoker, M. (2004). Tipping point: From feckless reform to substantive instructional improvement. *Phi Delta Kappan, 85*(6), 424 – 432.
- Showers, J. & Joyce, B. (1982). *Transfer of training: The contribution of coaching*. Eugene, OR: Centre for Educational Policy and Management.
- Showers, J., & Joyce, B. (1996). The evolution of peer coaching. *Educational Leadership, 53*(6), 12 – 16.
- Shulman, L. S. (1986). Those who understand: Knowledge growth in teaching. *Educational Researcher, 15*(2), 4-14.
- Singleton, G. E., & Linton, C. (2006). *Courageous conversations about race: A field guide for achieving equity in schools*. Thousand Oaks, CA: Corwin Press.
- Smith, M. C. (1997). Self-reflection as a means of increasing teacher efficacy through cognitive coaching. *Masters Abstracts International, 35*(4), 935.

- Smylie, M. (1995). Teacher learning in the workplace: Implications for school reform. In T.R. Guskey and M. Huberman (Eds.). *Professional development in education: New paradigms and practices*. (pp. 92-113). New York: Teacher College Press.
- Sparks, G. M., & Bruder, S. (1987). Before and after peer coaching. *Educational Leadership, 45*(3), 54-57.
- Sparks, D., & Loucks-Horsley, S. (1989). Five models of staff development for teachers. *Journal of Staff Development, 10*(4), 40-57.
- Stein, M. K., Baxter, J. A., & Leinhardt, G. (1990). Subject-matter knowledge and elementary instruction: A case from functions and graphing. *American Educational Research Journal, 27*(4), 639-663.
- Stein, M. K., & Nelson, B. S. (2003). Leadership content knowledge. *Educational Evaluation and Policy Analysis, 25*(4), 423-448.
- Stiggins, R. (2002). Assessment crisis: The absence of assessment for learning. *Phi Delta Kappan, 83*(10), 1-10.
- Stiggins, R. (2004). *Student involved assessment for learning*. New Jersey: Prentice Hall.
- Strahan, D. (2003). Promoting a collaborative professional culture in three elementary schools that have beaten the odds. *The Elementary School Journal, 104*(2), 127-146.
- Strauss, A., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (2<sup>nd</sup> ed.). Thousand Oaks, CA: Sage.
- Sturtevant, E. G. (2005). *The literacy coach: A key to improving teaching and learning in schools*. Washington, DC: The Alliance for Excellent Education.
- Suppovitz, J. (2002). Developing communities of instructional practice. *Teachers College Record, 104*(8), 1591-1626.
- Toll, C. (2005). *The literacy coach's survival guide: Essential questions and practical answers*. Newark, DE: International Reading Association.
- Toll, C. (2006). *Literacy coach's desk reference: The processes and perspectives for effective coaching*. Urbana, IL: National Council of Teachers of English.
- Toll, C. (2007). Literacy Coaching. In J. Knight (Ed.), *Coaching: Approaches and perspectives*, (pp. 56-69). Thousand Oaks, CA: Corwin Press.



- Tomlinson, C. A. (2008). *The differentiated school: Making revolutionary changes in teaching and learning*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Tomlinson, C. A. (2014). The bridge between today's lesson and tomorrow's: Formative assessments can improve both teaching and learning, if you follow these ten principles. *Educational Leadership*, 71(6), 10-14.
- U.S. Department of Education. (2002). *No child left behind: A desktop reference*. Retrieved November 20, 2011 from <http://www.ed.gov>.
- Veenman, S. & Denessen, E. (2001). The coaching of teachers: results of five training studies. *Educational Research and Evaluation*, 7(4), 385-417.
- Vogt, M., & Shearer, B. (2007). *Reading specialists and literacy coaches in the real world* (2<sup>nd</sup> ed.). Boston: Pearson.
- Walpole, S., & McKenna, M. (2005). *The Literacy Coach's Handbook: A Guide to Research Based Practice*. NY: Guilford Press.
- Walpole, S., & McKenna, M. (2008). *The Literacy Coaching Challenge: Models and methods for grades K-8*. NY: Guildford Press.
- Wayman, J. C., & 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.
- West, L, & Staub, F. C. (2003). *Content-Focused Coaching: Transforming mathematics lessons*. Portsmouth, NH: Heinemann.
- Wiliam, D. (2011). *Embedded formative assessment*. Bloomington, IN: Solution Tree.
- Yin, R. K. (2009). *Case study research: Design and methods* (4<sup>th</sup> ed.) Los Angeles: Sage.

---

<sup>1</sup> The Achievement Network is a non-profit organization committed to helping all students achievement academic excellence by providing schools with effective data-driven strategies to identify and close gaps in student learning and embed those strategies into schools' everyday routines. In the 2011-2012 school year, ANet has grown to work with 252 schools, over 68,000 students, and 2,900 teachers in eight geographic Networks.

<sup>2</sup> The Emerging Leaders program focuses on four key leadership areas: adult leadership, instructional leadership, culture leadership, and personal leadership. Adult leadership is motivating a team to believe in college success for all students and the team's ability to realize this goal, building trusting relationships, and giving constructive feedback and leading effective meetings. Instructional leadership focuses on setting the expectation that college success is the target, guiding teams through full data analysis cycles as well as observing and coaching teachers to improve instruction. Culture leadership is building a learning orientation among team members and students focused on hard work and personal responsibility for one's own development. Personal leadership involves receiving feedback and self-reflecting to continuously improve.

<sup>3</sup> In **Qualitative Research for Education: An introduction to theories and methods** (5<sup>th</sup> ed.), Robert Bogdan and Sari Biklen (2007) discuss the controversy with the widespread use of the word "triangulation" in qualitative research studies. Bogdan and Biklen argue, "Unfortunately the word is used in such an imprecise way that it has become difficult to understand what is meant by it... When triangulation made its way into qualitative research it carried its old meaning – verification of the facts – but picked up another. It came to mean that many sources of data were better in a study than a single source because multiple sources lead to a fuller understanding of the phenomena you were studying." The authors advise against using the word. They declare that if you use different data-collecting techniques – interviewing, observation, and official documents – just simply state that. In this dissertation, I chose to use the word triangulation anyway to mean the use of multiple sources (interviews, observations, and documents) to lead to fuller data.

<sup>4</sup> The Common Core State Standards are a set of high-quality academic standards in mathematics and English language arts/literacy (ELA). These learning goals outline what a student should know and be able to do at the end of each grade. These standards were created to ensure that all students graduate from high school with the skills and knowledge necessary to succeed in college, career, and life, regardless of where they live. As of May 2014, forty-four states, the District of Columbia, four territories, and the Department of Defense Education Activity (DoDEA) have voluntarily adopted and are moving forward with Common Core (retrieved from <http://www.corestandards.org/standards-in-your-state/> on May 14, 2014).

<sup>5</sup> The New Teacher Project's (TNTP) Instructional Culture Insight, a diagnostic tool, distills teacher feedback into a clear roadmap to a stronger school culture. More than 300 schools are using Insight to build a workplace where teachers thrive – and students excel. Since 2009, TNTP has worked with high-performing schools nationwide to understand how the best principals manage their teachers, and to help other schools achieve the same. Built on survey data from more than 11,000 teachers, Instructional Culture Insight breaks down complex school culture into discrete parts, giving school and district leaders the clarity they need to build the workplace that teachers deserve. Many elements

---

contribute to a successful school culture, but three matter most: a common vision of great teaching, clear expectations for effective instruction, and a commitment to developing teachers. The Index, a score based on those three elements, reliably compares schools of all types: district or charter, preschool or high school. Administrators can gauge instructional culture across the district; principals can track improvements in their school. The results are real: schools with strong instructional cultures (and high Index scores) retain more top teachers and help students learn more (retrieved from <http://tntp.org/what-we-do/policies/in-action/insight> on May 1, 2014).

<sup>6</sup> Response to Intervention (RtI) is a framework that supports the practice of providing high-quality instruction and targeted interventions that match students' needs. Using a multi-tiered model to deliver increasingly intense educational services, the RtI framework promotes systematic, data-driven processes for determining if implemented strategies are working for each student. Response to Intervention integrates assessment and intervention within a multi-level prevention system to maximize student achievement and reduce behavior problems. (retrieved from <http://www.rti4success.org> on April 20, 2014).

<sup>7</sup> The four territories that have adopted the CCSS are Guam, American Samoa, US Virgin Islands, and Northern Mariana Islands. The following states have not adopted the CCSS: Virginia, Indiana, Nebraska, Texas, Alaska, and Puerto Rico. Minnesota has only adopted the ELA standards (retrieved from <http://www.corestandards.org/standards-in-your-state/> on May 14, 2014).

<sup>8</sup> No Child Left Behind requires states to measure "adequate yearly progress" (AYP) for schools receiving Title I funds with the goal of all students reaching the proficient level on reading/language arts and mathematics tests by the 2013-2014 school year. The consequences for Schools "In Need of Improvement" (retrieved from <http://www.greatschools.org/definitions/nclb/nclb.html#transfer2> on May 16, 2014).