Exploring Teachers’ Collective and Individual Adaptations to an Evidence-Based Summer Literacy Program

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Exploring Teachers’ Collective and Individual Adaptations to an Evidence-Based Summer Literacy Program

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A Thesis Presented to the Faculty of the Graduate School of Education of Harvard University in Partial Fulfillment of the Requirements for the Degree of Doctor of Education

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For what was, what is, and what will be.
For J.B., B.F.T., and L.M.
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To my parents: Dad, thank you for keeping calm, for being proud of me no matter what, for getting it. Mom, thank you for picking up your phone, for pep talks, for finding my work interesting.

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“But for as long as I sat at my desk, I felt better. When I’m writing, when my fingers are moving over the keys and words are marching across the screen, I don’t worry. Physically, I can’t worry; there’s no space for it in my head. I wish I could remember that more easily, so that I could choose to write first, rather than worry.”

—Molly Wizenberg
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Thesis Abstract

While the field of educational research has produced an enormous amount of literature relevant for improving teaching and, ultimately, student achievement, the field has been less successful at producing deep and lasting instructional change at scale. In this dissertation, I present three papers that explore an approach to program implementation that attempts to cultivate conditions to support scale by involving teachers in a process of collaborative inquiry around an evidence-based program called *READS for Summer Learning* (READS). While many have called for implementation approaches that give educators an opportunity to make adaptations, few studies have examined the ways in which teachers respond to such an approach, including: the process that teachers go through as they are making their adaptation decisions, the kinds of adaptations they make, and the ways in which participation in such an approach may affect their perceptions of the program. In this thesis, I begin to address these gaps.

Together, the papers in this dissertation explore how teachers at three high-poverty schools in one urban district responded when given opportunities—both as individuals and as teams—to make structured adaptations to READS. In the first study, I focus on individual teachers’ enactments of READS in their classrooms. The purpose of this study was to explore individual teachers’ fidelity to and adaptations of the core component of READS in which teachers have the most responsibility—teaching the READS lessons. In the second study, I consider the adaptation decisions that grade-level teams arrived at through a collaborative inquiry process. In my third study, I use interview data, collected after the implementation of the school-based components of READS (including the lessons) but before the end of the summer, to explore teachers’
expectations of the program’s effectiveness for their students and the basis for these expectations. Taken together, these studies provide insight into what success might look like when it comes to giving teachers greater autonomy over the implementation of evidence-based programs, as well as how researchers and school leaders might support these kinds of efforts.
Chapter 1: Introduction

While the field of educational research has produced an enormous amount of literature relevant for improving teaching and, ultimately, student achievement, the field has been less successful at producing deep and lasting instructional change at scale (Coburn, 2003; Elmore, 2004; McLaughlin, 2006). This challenge is often framed in the literature as an agency problem (Rowan & Miller, 2007)—that is, although evidence-based programs and practices are developed by researchers, they are necessarily implemented by agents (e.g., teachers) who, for lack of skill or will, do not implement these programs as intended (Lipsky, 1980). Others point out that constraints in the broader policy environment also pose challenges for implementation at scale, such that even if agents are willing and able to implement a program, lack of support from local leadership or misalignment with local standards may prevent them from doing so (Datnow, 2005). The result is that promising programs tend to come and go in schools, leaving few traces; this churn is particularly common among programs developed by researchers, given that these programs tend to be “inconsistent with the stable features of instruction in the school systems,” such as textbooks and standardized tests (Rowan, 2006, p. 78).

The field has long relied on a “linear” model for guidance on how to bridge the research-practice divide. The logic of this model has “led to policy solutions that focus mostly on…translating research findings into forms usable in practice, and disseminating research-certified programs and practice to practitioners” (Stein & Coburn, 2010, p. 4); online databases of “effective” programs such as the What Works Clearinghouse are examples of this logic at work. The linear model positions researchers as knowledge
generators and teachers as knowledge users; teachers are responsible for “put[ting] into practice what they have learned of the knowledge base” (Cochran-Smith & Lytle, 1999, p. 257). More and more, however, in light of the challenges noted above, researchers are questioning the usefulness of the linear model and proposing approaches to program development and implementation that create more active roles for teachers (e.g., Cobb, Confrey, Lehrer, & Schauble, 2003; Fishman, Penuel, Allen, Cheng, & Sabelli, 2013; National Research Council, 2003). Stein and Coburn (2010), for example, describe a model that acknowledges the ongoing work that educators do to improve teaching and learning at their schools and the local knowledge that such efforts can generate. They envision a space where researcher knowledge—or, formal knowledge and theory—can interact with local knowledge of practice during program implementation to the benefit of both researchers and local settings.

But what might the goals of such efforts be, particularly when thinking about the use and scale-up of evidence-based programs? If researchers were to give teachers greater autonomy over the implementation of evidence-based programs, what would they hope to see? On the one hand, many studies have documented a positive relationship between fidelity of implementation and program outcomes (Durlak & DuPre, 2008; Fogarty et al., 2014; Stein et al., 2008; Vaughn et al., 2013; Vaughn et al., 2015). Thus, researchers might hope to see high fidelity to the research-based principles of the intervention. On the other hand, when fidelity is in place, local adaptations may also have positive effects on program outcomes (Durlak & DuPre, 2008; Lemons, Fuchs, Gilbert, & Fuchs, 2014). This suggests that perhaps fidelity and adaptation should be considered as separate—and complementary—aspects of program implementation (O'Donnell, 2008), rather than
adaptation being the absence of fidelity. Thus, researchers might also hope to see adaptations that represent additions to or modifications of program activities that align with a program’s principles (McMaster et al., 2014). Some, however, have argued for more, calling for “productive adaptations” that “effectively respond to the dilemma of being faithful to the intentions of curriculum developers...while also being responsive to particular students and to the characteristics and resources found in local contexts” (DeBarger, Choppin, Beauvineau, & Moorthy, 2013, p. 300).

In order to make productive adaptations, teachers will need access to both researcher-knowledge and local knowledge of practice. Efforts to support teachers’ productive adaptation of evidence-based programs should attempt to address both of these needs. Yet, while the notion of providing greater autonomy to teachers over the implementation of standardized programs has gained traction in recent years, there is a lack of research on how teachers might respond to such opportunities. How will teachers make decisions about what to adapt? What kinds of adaptations will they make? And how might participation in such an implementation approach affect their perceptions of the program? This dissertation starts to address these gaps. Specifically, I present three papers on one approach to program implementation that attempted to promote teachers’ productive adaptation of an evidence-based program by building their competence around the program’s research-based principles, activating their practitioner knowledge through collaborative interactions with peers, and giving them autonomy to make structured adaptations to the program.

At the core of this effort is READS for Summer Learning (READS), an evidence-based summer literacy program for upper elementary students with a demonstrated
history of effectiveness (Kim, 2006; Kim et al., 2016; Kim & White, 2008), particularly in high-poverty settings (White, Kim, Kingston, & Foster, 2014). Historically, READS has focused solely on promoting teachers’ fidelity when enacting the READS lessons. In the study year, however, the program developers created opportunities for teachers to make adaptations to READS that extended and/or modified existing program content and procedures. Teaching teams learned more about the research-based principles underlying READS, discussed data on prior READS implementations at their school, and made adaptations to address their local context. While some decisions were made collectively at grade-level team meetings, other decisions were made more in-the-moment, as teachers enacted the READS lessons in their classrooms.

Together, the papers in this dissertation explore how teachers at three schools responded to these opportunities. In looking closely at what went on in these schools, the goal was to generate hypotheses about how and why teachers make decisions about how to adapt standardized programs within a context that encourages and supports them to do so and, based on these hypotheses, to offer suggestions as to how researchers, program developers, and school leaders might support teachers to do this work more effectively.

In the following sections, I provide details on each of these studies.

In my first study (Chapter 2), I focus on individual teachers’ enactments of the READS lessons in their classrooms. The purpose of this study was to explore individual teachers’ fidelity to and adaptation of the core component of READS in which they have the most responsibility—teaching the READS lessons. I found that most teachers took advantage of the flexibility they were given to address local needs (e.g., to increase students’ engagement in the lessons, to work towards local instructional goals). Teachers
varied, however, in their ability to address local needs while also working productively towards core lesson objectives. Based on these findings, I propose a way of thinking about the set of knowledge and skills that teachers might need to productively adapt evidence-based programs—*pedagogical design capacity for productive adaptation*. This study has implications for researchers who are interested in bringing evidence-based programs to scale, as well as for those who might be working to develop this skillset with either pre-service or in-service teachers.

In my second study (Chapter 3), I consider the adaptation decisions that grade-level teams arrived at through a collaborative inquiry process. This study is concerned with teachers’ interactions with one another around the READS principles and their school-level data, as well as the role that group context played in teams’ decision-making. In other words, this study examines *how* teaching teams engaged in the work of adapting evidence-based programs within the context of an effort where they received encouragement and supports to do so. I found that only one team was able to achieve resonance around a well-defined problem statement, which for them may have facilitated subsequent consensus around more resource-intensive adaptation strategies. My findings further suggest the influential role played by the team School Coordinators in the decision-making process. In zooming in on the micro-processes of teaching teams’ decision-making, this study contributes to the knowledge base about how to support adaptive implementation efforts.

In my third study (Chapter 4), I use interview data, collected after the implementation of the school-based components of READS (including the lessons) but before the end of the summer, to explore teachers’ expectations of the program’s
effectiveness for their students and the basis for these expectations. I found that teachers who grounded their expectations, at least in part, on the adaptations they made during the school year and/or observations of students’ participation in program activities during the school year, tended to be more positive in their outlook for students’ success with the summer, home-based components of the program. Furthermore, the valence of teachers’ expectations differed by school, suggesting the importance of school-level characteristics in any given reform outcome. This study has implications for researchers and practitioners who are interested in exploring adaptive implementation approaches as a strategy for addressing program sustainability.

Finally, in Chapter 5, I make recommendations based on findings from across these three studies and the broader literature. In-depth analyses of adaptive program implementation efforts are important if we want to understand why such efforts might work more or less well or how to improve them moving forward. While some of the implications of these studies are useful for research and speak to the implementation literature, this thesis also has important implications for teacher educators, school leaders, and/or local intermediary organizations that might spearhead adaptive implementations in a variety of local settings.
References


Chapter 2: Study 1

Implementation with integrity? An exploration of teachers’ fidelity to and adaptations of researcher-developed lessons within an adaptive approach to program implementation

Abstract

One promising strategy for bringing evidence-based programs to scale is to give teachers the flexibility to adapt programs to better fit their local contexts. Despite the growing popularity of this strategy, however, the field lacks a framework for thinking about the knowledge and skills that teachers might need in order to successfully engage in this work. A first step in developing this framework is to explore how teachers respond to an adaptive approach to program implementation. In this article, I use a comparative case design to examine how eight fourth-grade teachers enacted a set of researcher-developed lesson plans within the context of an implementation effort where they were encouraged to make adaptations. Specifically, I examine their fidelity to the lessons, the adaptations that they made, and the thinking behind their adaptation decisions. My findings reveal that most teachers took advantage of program flexibility to address local needs—often in an effort to increase student engagement, but also to work towards local instructional goals that they held for students. Teachers varied, however, in their ability to address local needs while also working productively towards core lesson objectives. Taken together, my findings contribute to an emerging understanding of the knowledge and skills teachers may need in order to engage in an adaptive implementation effort successfully, a set of knowledge and skills that we might call pedagogical design capacity for productive adaptation.
Introduction

While education researchers have identified—often through randomized controlled trials—many programs that have the potential to improve student achievement, the field has been less successful at producing deep and lasting instructional change at scale (Coburn, 2003; Elmore, 2004; McLaughlin, 2006). Researchers have long relied on a linear model for guidance on how to bridge this research-practice divide. The logic of this model has “led to policy solutions that focus mostly on…translating research findings into forms usable in practice, and disseminating research-certified programs and practice to practitioners” (Stein & Coburn, 2010, p. 4). The linear model positions researchers as knowledge generators and teachers as knowledge users (Cochran-Smith & Lytle, 1999); researchers develop effective programs and teachers implement these programs with fidelity. However, linear scaling strategies have rarely been successful (Coalition for Evidence-Based Policy, 2013). In response, many researchers are questioning the usefulness of this model and proposing alternative approaches to program development and implementation—ones that create a more active role for educators (e.g., Cobb, Confrey, Lehrer, & Schuble, 2003; Fishman, Penuel, Allen, Cheng, & Sabelli, 2013; National Research Council, 2003).

One alternative to the linear model is to give teachers flexibility to adapt programs to fit their local contexts (e.g., Datnow & Castellano, 2000; Gutiérrez & Penuel, 2014; Klingner, Cramer, & Harry, 2006; Lewis, 2015). While research on adaptive program implementation is sparse, a few empirical studies have found positive effects of teachers’ adaptations on program outcomes (Durlak & DuPre, 2008; Lemons, Fuchs, Gilbert, & Fuchs, 2014). Other studies suggest that researcher-developed
programs are more likely to be sustained when practitioners have some degree of autonomy over implementation (Kearns et al., 2010). But there may also be a downside to these types of adaptive efforts, for example, if local adaptations violate foundational or “core” program principles, undermining program theory and negatively affecting the desired outcomes (Brown & Campione, 1996; McLaughlin & Mitra, 2001). Given this, teachers will likely need specific knowledge and skills in order to implement core program components with fidelity at the same time that they utilize local knowledge of practice to tailor noncore components and processes (Coburn, Russell, Kaufman, & Stein, 2012; McMaster et al., 2014).

As the field moves away from a model solely concerned with fidelity and towards a model where teachers are encouraged to adapt standardized programs—what some are calling “implementation with integrity” (LeMahieu, 2011)—it is important that we learn more about how teachers might respond to these efforts and the knowledge and skills that might be necessary in order for these efforts to succeed. When given the flexibility to make changes, to what extent will teachers implement program components with fidelity? What kinds of adaptations will teachers make? And why? This study will contribute to the literature on scale by examining teachers’ fidelity to and adaptations of a set of scripted lesson plans within the context of an adaptive program implementation. Specifically, the eight fourth-grade teachers in this study engaged in an adaptive implementation of *READS for Summer Learning* (READS), an evidence-based summer literacy program (Kim et al., 2016; Kim & White, 2008; White, Kim, Kingston, & Foster, 2014). Teachers participated in professional development where they learned about READS program theory and core components and were encouraged to make adaptations
to address local needs. Examining how these teachers balanced fidelity and adaptation will enhance our understanding of how such efforts might promote deep and lasting change at scale.

**Conceptual Framework**

In order to learn from teachers’ enactments of an adaptive program implementation, it is important to first establish a shared understanding of both “fidelity” and “adaptation,” as well as the role that each might play in the successful local implementation of an evidence-based program. In the following sections, I present an overview of each construct, followed by a description of two complementary analysis approaches with which to explore them.

**Fidelity of Implementation: Formal Knowledge from Program Developers**

While there is not one agreed-upon definition of fidelity, it is generally understood to mean the extent to which a program as implemented corresponds to the program as designed (Durlak & DuPre, 2008, p. 329). Specific fidelity criteria may include: exposure, adherence, quality of delivery, program differentiation, and participant responsiveness (Dane & Schneider, 1998). The last decade has seen an increased recognition of the importance of attending to teachers’ fidelity of implementation during program evaluation (for reviews, see Dane & Schneider, 1998; Mowbray, Holter, Teague, & Bybee, 2003; O'Donnell, 2008), and many researchers, policymakers, and school leaders continue to promote the importance of emphasizing and monitoring fidelity as programs scale up (Echevarria, Richards-Tutor, Chinn, & Ratliff, 2011; Hulleman & Cordray, 2009).
The importance of emphasizing fidelity as part of a program evaluation seems clear—it’s difficult to know empirically whether or not a particular program can work and why unless that program is implemented in the same way by a large number of teachers (O'Donnell, 2008). What is less clear is the extent to which a continued emphasis on fidelity is enough to produce deep and lasting instructional change at scale (Bryk, 2016). On the one hand, continuing to emphasize fidelity makes sense—a certain program has been tested and it is that program, and not an adapted version, that has demonstrated effectiveness. Moreover, many studies have documented a positive relationship between fidelity of implementation and program outcomes (Durlak & DuPre, 2008; Fogarty et al., 2014; Stein et al., 2008; Vaughn et al., 2013; Vaughn et al., 2015). On the other hand, even when implemented with relatively high fidelity, evidence-based programs may fail to demonstrate effects when replicated (Vaughn, Solís, Miciak, Taylor, & Fletcher, 2016). As programs spread into complex settings and are used with diverse populations, teachers may find themselves needing to make adaptations in order to integrate the program with local initiatives (Borko & Klingner, 2013) and/or to meet their students’ needs (Klingner & Edwards, 2006).

Given these challenges, researchers thinking about how to define “fidelity” for teachers as programs go to scale often begin by acknowledging that local adaptation is inevitable and suggest that developers put supports in place to ensure that teachers don’t make “lethal mutations” (Brown & Campione, 1996; Remillard, 2005). These supports may include conceptual tools (like program theory) and practical tools (like program materials and processes) (Grossman, Smagorinsky, & Valencia, 1999). Developers may also highlight the program’s “core components” for teachers—that is, its “most essential
and indispensable components” (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005, p. 24) or what should not be changed (McMaster et al., 2014). These supports are all examples of “formal knowledge” (Fuchs & Fuchs, 1998), and they are designed to promote teachers’ understanding and use of foundational program principles. The logic is that if teachers understand a program’s foundational principles, they can consider those principles when making changes, thus avoiding adaptations that might undermine program effects (McLaughlin & Mitra, 2001). There is some empirical evidence that professional development experiences that emphasize teachers’ understanding of program principles may be more effective than those that emphasize how to choose program materials (Penuel, Gallagher, & Moorthy, 2011).

What might this mean for the successful local implementation of an evidence-based program? Teachers should implement core program components with fidelity. To avoid lethal mutations, teachers need to understand the program’s foundational principles. Armed with this knowledge, teachers can critique their own adaptation ideas for alignment with program principles. But is any adaptation acceptable, as long as it does not violate program principles? Some research and theory suggests that not all adaptations are equally “productive.”

**Productive Adaptations: Local Knowledge Employed by Teachers**

Like fidelity, “adaptation” is not defined consistently from study to study. Some researchers consider any change made to the original program to be an adaptation, including the omission of core program components. For example, Drake and Sherin (2006) argue that teachers adapt curriculum materials when they add or omit lesson activities, increase or decrease teacher control over an activity, or change the amount of
time spent on an activity (Drake & Sherin, 2006). Others argue that clearer lines need to be drawn between fidelity and adaptation, given that fidelity of implementation may moderate the effect of local adaptations on program outcomes (O'Donnell, 2008). This second perspective is more aligned with how adaptations are considered within the context of adaptive implementation efforts, where teachers are encouraged to change or supplement program activities and materials, as long as core components are not mutated (Lemons et al., 2014; McMaster et al., 2014).

The logic of emphasizing local adaptation during the implementation of an evidence-based program is that teachers can use “practical knowledge,” which is informal and rooted in their experience of students and settings (Fuchs & Fuchs, 1998), to make changes that allow for the realization of program effects and/or the sustainability of the program over time. Thus, not all adaptations are created equal, as some types of adaptations are more likely than others to achieve these ends. DeBarger, Choppin, Beauvaineau, and Moorthy (2013) offer one framework for assessing the “productiveness” of local adaptations. They argue that productive adaptations “effectively respond to the dilemma of being faithful to the intentions of curriculum developers...while also being responsive to particular students and to the characteristics and resources found in local contexts” (p. 300). More specifically, they argue that productive adaptations (1) take multiple perspectives into account (e.g., parents, policymakers); (2) are responsive and capitalize on what students are bringing to the classroom (e.g., prior knowledge, cultural and linguistic practices); (3) and serve to engage all students while also maintaining or enhancing task complexity.
While we could find no studies examining teachers’ adaptations to evidence-based programs within the context of an effort where they were encouraged and supported to do so, many studies have documented teachers’ enactments of prescribed curriculum materials, including their adaptations. These studies provide insight into ways that we might expect teachers to behave during an adaptive program implementation. They suggest that teachers modify curriculum materials in order to meet students’ instructional and/or behavioral needs (Allen, Matthews, & Parsons, 2013; Burkhauser & Lesaux, 2015; Klingner et al., 2006), as well as to meet the needs of their local setting, for example, to address district standards (Burkhauser & Lesaux, 2015; Grossman & Thompson, 2004; Pardo, 2006). Teachers may also modify curriculum materials to better fit with their beliefs, goals, and experiences (Collopy, 2003; Davis, Beyer, Forbes, & Stevens, 2011), which may or may not be aligned with foundational program principles or move students towards desired program outcomes. In short, we might expect teachers to adapt materials for many reasons, not all of which are necessarily “productive.”

What might this mean for the successful local implementation of an evidence-based program? In addition to drawing on their understanding of program principles, teachers will need to draw on practical knowledge—of students, of families, of their school and district setting—and develop adaptations that address local needs while also working towards program outcomes and sustainability. This work is likely to be challenging and it is unclear what supports teachers will need to do it well. In order to explore one adaptive program implementation and to generate a rich understanding of how teachers involved in this effort balanced fidelity and adaptation, I draw on two complementary methodologies: integrity and actor-oriented analyses.
Integrity and Actor-Oriented Analyses

Penuel, Phillips, and Harris (2014) describe two analytical approaches for studying teachers’ curriculum enactments: integrity and actor-oriented analyses. Integrity analysis is most closely associated with fidelity of implementation. It examines a teacher’s curriculum enactment from an outsider perspective, asking: How closely did this teacher follow the guidance as laid out by the program developers? Such an analysis “…provides documentation about the specific adaptations teachers make and whether or not those adaptations are potentially productive” and “…helps to identify specific areas where teachers encounter difficulties implementing materials in ways congruent with their intentions” (p. 771). Since the core components of a particular program are set by the researcher and/or program developer, this person, who often has a deep understanding of the theory underlying the program (i.e., formal knowledge) is in the best position to assess the extent to which a teacher’s enactment holds up to the intent of the developer.

Actor-oriented analysis, which is more closely aligned with the concept of “sensemaking” (Weick, 1995), explores “how teachers interpret guidance embedded in materials and how these perceptions shape their decisions about how to adapt materials to their local circumstances” (p. 752). Such an analysis takes an insider view and asks: On what are teachers basing their decisions? Such an analysis “…helps explain why teachers make the particular adaptations to curriculum materials” and “...can identify sources of prior knowledge that teachers bring to the situation of implementing new curriculum materials” (p. 771-772). Looking at a teacher’s lesson from the outside, it is hard to know why a particular lesson activity is skipped or why a new lesson activity has been added. We might guess that a teacher is trying to better engage her students or align materials
with district standards; however, without talking with teachers, we can’t know for sure. Moreover, we may misinterpret the purpose of a teacher’s adaptation or miss something that the teacher is trying to accomplish entirely.

**Present Study**

While many studies examine either teacher fidelity to an evidence-based program or teachers’ adaptations and reasoning, rarely are both considered simultaneously, and never to our knowledge within the context of an adaptive implementation effort. Exploring teachers’ fidelity to and adaptations of a set of researcher-developed lessons within this context will contribute to the field’s understanding of how such an approach might support teachers’ local implementation of evidence-based programs. Specifically, I ask:

1. How did eight fourth-grade teachers enact a set of researcher-developed lessons within the context of an adaptive implementation approach?

2. What was the thinking behind their adaptations?

**Methods**

**Instructional Context**

The mission of READS is to improve students’ reading comprehension by engaging them in reading over the summer. There are four core program activities: (1) students receive ten books over the summer that have been “matched” to them by reading level (as measured by Lexile) and reading interests (as measured by a survey); (2) teachers teach a comprehension routine through six end-of-year lessons; (3) the school hosts a family event where students demonstrate the comprehension routine; and (4) students receive a scaffolding tool (called a “tri-fold”) over the summer that supports
them to use the comprehension routine with their books. Historically, READS has focused solely on implementation fidelity, instructing teachers to closely follow the scripted lesson plans. The teachers in this study, however, participated in an adaptive implementation of READS where they were given flexibility and supports to make local adaptations.

Fourth-grade teachers met as a grade-level team three times between November and February, prior to enacting READS. They collaboratively examined and talked about student data from the previous year, identified challenges around the implementation of the program at their school, and generated a plan for how they wanted to adapt the program to address the challenges they identified. From March through May, teachers met monthly to check in with one another on the enactment of their plan. The lead author was present during the first two meetings (November, January) and a staff member from our local implementation partner was present during all meetings. See Appendix A for a timeline of READS activities.

In addition to these professional development meetings, teachers were provided with a “lesson box” that included the six scripted lessons, as well as all materials needed to teach the lessons. Teachers also had access to a website where they could learn about how the lessons were developed and watch short clips of lesson components being enacted by teachers. The website also included a discussion forum where teachers were encouraged to post thoughts on the READS lessons (or the other components of READS) and to respond to each other. While lessons were scripted, teachers were not required to read the scripts. They were encouraged to make changes, as long as they ensured that
students met the main objective of the lessons—that is, learning the READS Reading Routine.

**READS Lessons**

The six READS lessons are designed to teach students a comprehension routine called the READS Reading Routine that they can use independently with their books over the summer. Each book over the summer comes with a “tri-fold” activity that guides students through this routine. The READS Reading Routine is designed to draw students’ attention to the text structures of narrative and informational books, recognizing these text structures can help students with reading comprehension (Shanahan et al., 2010). The routine in the fiction lessons (Lesson 1-3) is centered on an activity called story impressions, which provides students with a pre-reading, during-reading, and post-reading activity, as well as questions around the text that require students to use different levels of abstraction (McGinley & Denner, 1987). Students are presented with a text-specific set of words and phrases that draw their attention to characters, setting, plot, problem and solution. Before reading the text, students use the words and phrases to make a story guess. After reading the text, they answer three questions and then check their story guess. Then, they ask their parents to complete the back of the tri-fold and mail it back. The routine for the non-fiction lessons (Lessons 4-6) is very similar, except that students make main idea guesses. Students are presented with two or three sets of words and phrases, each of which directs students’ attention to a main idea that the author describes in the text.

Lessons are structured using a gradual release of responsibility model. In designing these lessons, we drew on the IES Practice Guide principles of rich discussion
questions around texts (Shanahan et al., 2010). Prior experimental research suggests that scaffolded teacher support, in addition to giving students access to well-matched books over the summer, is necessary to achieve reading comprehension gains (Kim & White, 2008). See Table 1 for lesson summaries.

**Research Setting and Participants**

This comparative case study includes eight fourth-grade teachers working at three high-poverty schools in District M, a mid-sized urban district in one southeastern state. In the study year, all three schools served a large population of low-income students. While Riverdale had relatively more students reading at grade-level, all three schools served a large number of struggling readers. All three schools had implemented READS in the past; however, due in large part to turnover within the schools, most teachers were working with the READS lessons for the first time. In this study, each teacher serves as a single case. This paper focuses on teachers’ lesson enactments, and thus the unit of analysis is the individual teacher.

**Data Sources**

Data collection was designed to support both integrity and actor-oriented analyses. To support an integrity analysis, we asked teachers to record all of their READS lessons. This captured any adaptations that teachers made to the lessons. To support an actor-oriented analysis, teachers were interviewed at the end of the day following three of the lessons.¹ Teachers also participated in an interview at the end of the school year.

¹ For one lesson, the teacher was interviewed several days later.
Lesson recordings and post-lesson interviews. Teachers were asked to audio record all of their READS lessons. On the afternoon following teachers’ enactments of Lesson 2, either Lesson 4 or 5, and Lesson 6, teachers participated in a post-lesson interview, which was also recorded. Each interview lasted approximately 15 minutes. The purpose of these post-lesson interviews was to learn more about teachers’ thinking as they enacted the lesson—e.g., what the teacher was trying to accomplish through a particular adaptation, the beliefs or understandings (of READS, of teaching) that were at play as teacher made decisions about enactment in real-time. Teachers were asked to describe how they thought the lesson went. They were also asked to describe any adaptations that they made to the lesson and to explain what they were thinking as they made these adaptations. During this interview, teachers were asked to talk about any moments where they went “off-script” during the lesson, as well as the thinking behind these moments.

End-of-year interviews. Teachers were also interviewed at the end of the school year. Interviews were semi-structured and lasted approximately 60 minutes. The purpose of these interviews was to collect data on how teachers understood and made sense of READS, as well as to hear from teachers about their implementation experiences.

Data Coding and Analysis

The analysis proceeded through the following steps: I first conducted an integrity analysis of teachers’ enactments of the READS lessons. The primary data source was the audio recordings of the six READS lessons. This analysis addresses my first research question: How did eight fourth-grade teachers enact a set of researcher-developed lessons? The integrity analysis proceeded as follows: First, I created an adherence
checklist for each lesson. We identified four “core components” in each lesson, that is: the parts of the READS lessons that we, the developers of READS, believe are unique and essential to READS (Munter, Wilhelm, Cobb, & Cordray, 2014) and/or are backed by research evidence as being important to achieving the main objective of the lessons (i.e., teaching students the READS Reading Routine) (McMaster et al., 2014). Each READS Lesson core component is comprised of essential elements. The essential elements operationalize each of the core components (e.g., what does it mean to do a READS read aloud? what does it mean to introduce a Story Guess?). To identify the essential elements of each component, we considered: the theory behind including that core component in READS, the teacher’s responsibility in leading that core component for a particular lesson. See Appendix B for an example of the READS core components and essential elements for Lesson 2.

I listened to each lesson in its entirety and determined which essential elements were enacted by the teacher. Additionally, as I listened to each lesson, I followed along in the lesson script and took detailed notes about any adaptations made by the teacher and/or any instances where the teacher went “off-script.” I also noted the amount of time that the teacher spent on each lesson component. Finally, I listened for and took notes about the classroom context—e.g., student behavior, other disruptions to the lesson. Once the data were coded, they were entered into a matrix that organized the following by teacher: (1) essential elements hit/missed and (2) types of adaptations (Miles, Huberman, & Saldana, 2013). To establish inter-rater reliability, I trained a research assistant in my coding method. I then sampled eight lessons (30 percent of the sample) and the research assistant coded the lessons separately. The lessons were sampled such that the second coder coded
one lesson from each teacher and two of each type of lesson (Lesson 2, Lesson 4, etc.). Inter-rater agreement was calculated, with an average of 93.3 percent agreement across all codes ($Kappa = 0.84$).

After the completion of the integrity analysis, I conducted an actor-oriented analysis. The purpose of this analysis was to provide a second perspective on my first research question—*How did teachers enact a set of researcher-developed lessons?*—as well as to address the second research question: *What was the thinking behind their adaptations?* The primary data sources were the post-lesson and end-of-year interviews. The actor-oriented analysis proceeded as follows: First, I excerpted sections of the interviews where teachers were talking about any off-script moments or adaptations that they made during the lessons, as well as their associated reasoning. I coded excerpts along two dimensions. First, I coded the purpose of each adaptation, that is, any goals or reasoning articulated by the teacher. Codes were developed iteratively and included: *to check or enhance students' engagement in READS; to check or enhance students’ understanding of READS; to respond to students; to link to skills or knowledge outside of READS;* and *to work towards a larger goal.* Second, I coded what teachers were attending to or perceiving as they made these adaptations. I used an adapted version of a coding scheme developed by Davis et al. (2011). Codes covered teachers’ knowledge and beliefs (e.g., *of students, learning goals*), experiences (e.g., *observations of students in the moment, previous teaching experiences*), and resources (e.g., *colleagues, time*). See Appendix C for a full list of codes. Finally, I linked each teacher’s adaptations or off-script moments as described with what I observed in the integrity analysis.
Throughout these analyses, I wrote memos to record my thinking (Miles et al., 2013). Additionally, I wrote a summary memo for each teacher in the sample, including sections for (1) off-script moments, (2) reasoning for going off-script, (3) and knowledge/experiences that factored into the teacher’s decision-making process. These summary memos facilitated comparisons across teachers. I also added the actor-oriented data into the previously created matrices as a way to compare teachers’ self-reported enactments with what I heard in the lesson audio files.

**Findings**

I first present findings from the integrity analysis, addressing the research question—*How did eight fourth-grade teachers enact a set of researcher-developed lessons within the context of an adaptive implementation approach?* I compare teachers’ lesson enactments with the guidance provided by the program developers in the lesson scripts, attending to both fidelity and adaptations. Based on this analysis, I place teachers in one of three categories: (1) minimal adaptation, (2) some misalignment between enactment and lesson objectives, and (3) general alignment with lesson objectives. I then present findings from the actor-oriented analysis. I explore why teachers chose to make particular adaptations, including those that, from an outsider perspective, appeared misaligned with the main objective of the READS lessons—that is, to teach students to use a comprehension routine in order to scaffold their engagement with books over the summer.

**Teachers’ Fidelity to and Adaptations of the READS Lessons**

**Fidelity to core components.** The goal of an integrity analysis is to study how closely teachers followed the guidance as laid out by the program developers (Penuel et
al., 2014). In Table 2, I report on teachers’ fidelity to the core components and essential elements of the READS lessons. With respect to lesson fidelity, teachers in this study were more similar than different. For one, all eight teachers relied heavily on the lesson scripts. They tended to follow them closely, often reading whole sections of the scripts aloud word-for-word. Moreover, while teachers’ fidelity scores ranged from 52 to 88 percent, only two teachers implemented fewer than 75 percent of the essential lesson elements. Furthermore, with the exception of the lowest-scoring teacher, teachers tended to miss or mutate the same lesson elements and they tended to do so again and again across their lessons. For example, two lesson elements were often missed: at the end of Lesson 2, most teachers did not remind students about the purpose of making a story guess; and only one teacher made an attempt to highlight story impression words and phrases in the read aloud texts. Also, all eight teachers experienced difficulty around the making and checking of main idea guesses in the non-fiction lessons (Lessons 4-6), a critical step in the READS Reading Routine.

**Adaptations.** There was more variation across teachers when looking at the ways in which they adapted the READS lessons. In Table 3, I report on the kinds of adaptations that teachers made to the lessons and at which points in the lessons they tended to go off-script. Overall, teachers’ adaptations were relatively minor. In only a few cases did teachers add a new lesson activity. More often, teachers extended and/or modified existing lesson activities. In some cases, but again this was relatively rare, teachers replaced one activity (e.g., partner share) with another activity (e.g., whole class share). From an outsider perspective, I located and grouped teachers into categories, based on: (1) the extent to which they made adaptations and (2) the extent to which their
adaptations aligned with the main lesson objective of teaching students to use the READS Reading Routine independently.

Teachers fell into three categories. Two teachers made relatively few adaptations. The remaining six teachers had many adaptations in common (e.g., adding a lesson review, asking unscripted questions); however, there were three teachers who sometimes made adaptations that appeared, from an outsider perspective, to be misaligned with the main lesson objective. That is, these teachers sometimes made adaptations that did not appear to increase student engagement in or understanding of the READS Reading Routine. Finally, three teachers made adaptations that generally appeared to serve the main lesson objective. I present these cases in more detail in the sections that follow.

**Minimal adaptation: Ms. Gunn and Ms. Carpenter.** Ms. Gunn and Ms. Carpenter, both first-year teachers and both implementing READS for the first time, had high overall fidelity scores (75 percent and 78 percent, respectively) and made few adaptations to the READS lessons. The adaptations they did make were minor, mostly consisting of brief extensions of existing activities. Ms. Gunn didn’t make any adaptations during Lesson 2, while Ms. Carpenter’s off-script moments were minor additions (e.g., a brief review of the previous READS lesson, a passing connection to students’ narrative writing unit, a few unscripted questions). During Lesson 5, both teachers asked a few unscripted questions during the read aloud, and Ms. Gunn gave students an opportunity to walk around and share their work with multiple partners. Both teachers went off-script more often in Lesson 6. Ms. Carpenter asked students to make their main idea guesses by moving to different spaces around the room, rather than just writing them on paper. Similarly, Ms. Gunn asked students to vote on a class guess
before revealing the correct answer. Both teachers also added unscripted questions and connections to the read aloud. Ms. Carpenter made quite a few connections between the read-aloud text and the students’ current science unit.

*Some misalignment: Ms. Pine, Ms. Campbell, and Ms. Armstrong.* Ms. Pine, a second-year teacher implementing READS for the second time, had the lowest fidelity score of all of the teachers (52 percent). She frequently missed essential lesson elements (e.g., checking story and main idea guesses). With respect to her adaptations, in addition to the kinds of adaptations that other teachers were also observed making, such as asking unscripted questions, several of Ms. Pine’s adaptations were unique to her, including: asking students to read the text aloud and showing students a YouTube video following the read aloud. By and large, these adaptations did not appear to increase students’ engagement in or understanding of the READS Reading Routine. For example, several of the students who read aloud were not fluent readers and this likely made comprehending the text more difficult. The video shown by Ms. Pine, while on the same topic as the read aloud (panda bears), was tacked on to the end of the lesson and Ms. Pine did nothing either before or after the video to connect the video content to the main ideas in the read aloud text. Additionally, Ms. Pine’s lessons were frequently disrupted by students, resulting in the loss of substantial instructional time.

Ms. Armstrong and Ms. Campbell, both experienced teachers working at Riverdale, also adapted the READS lessons in ways that appeared misaligned with the main lesson objective. Ms. Campbell was new to READS and enacted the lessons with overall moderate fidelity (68 percent), while Ms. Armstrong had taught the lessons once before and enacted the lessons with overall high fidelity (81 percent). Where these
teachers differed from the rest of the sample was in the amount and kind of off-script moments that occurred during their read alouds, in particular, during the non-fiction lessons. Both teachers stopped numerous times during these read alouds, and spent more time on them than suggested in the lesson plan (i.e., 20 minutes or 30 percent of the lesson). For example, in Lesson 4, the read aloud text was *A Picture Book of Cesar Chavez* (Adler & Adler, 2011). Ms. Armstrong spent 65 percent of her lesson on the read aloud. She asked many unscripted questions, some of which were text-based (e.g., “What did you just get from that page?” “What does he mean ‘shattered’?”) and some of which were not. At one point, Ms. Armstrong stopped and asked students how old Cesar would be if he were alive today. “Math problem. Figure it out in your head.” The class then spent several minutes trying to figure it out. While students appeared engaged in this activity, it connected neither to the content of the read aloud nor to the students’ understanding of the READS Reading Routine.

Similarly, Ms. Campbell spent 67 percent of Lesson 4 on the read aloud. She stopped in order to ask students text-based questions, make brief connections, and summarize the text. She also stopped at one point to address a student who made a derogatory comment about Mexicans. Ms. Campbell also spent several minutes reviewing a timeline of Cesar’s life at the back of the book, going through the highlighted dates and asking the students to do math: “March 31st he was born what year? [1927] Eleven years later his family moved to California. So what year was that? [1938] Four years later he quit school to work full time? [1942]...” While this activity might also serve as a review of the read aloud content, because of the amount of time that she spent on the read aloud, Ms. Campbell has to rush through the end of the lesson. Thus, she spends
only 15 seconds “reviewing” the main idea guesses, a key step in the READS Reading Routine, saying: “By the way, all of the guesses were correct. This one was...This one was…Good job class.”

While the read alouds were designed to be engaging and informative for students, the main reason for including read alouds in the lessons is to provide a text through which teachers can model and students can practice the READS Reading Routine. Adaptations that address student engagement and understanding of the read aloud text but get in the way of their understanding the READS Reading Routine do not align with the principles of READS and are not productive.

**General alignment: Ms. Maddow, Ms. Pearson, and Ms. Kelley.** Teachers in this third category didn’t necessarily adapt the lessons more than teachers in the second category. The adaptations that they made, however, rarely detracted from the main lesson objective—i.e., to increase student engagement in or understanding of the READS Reading Routine. The types of adaptations that these teachers made also differed qualitatively from some of the adaptations that have been discussed thus far.

Ms. Maddow was a third-year teacher working with the READS lessons for the second time. Unlike Ms. Armstrong and Ms. Campbell, she rarely added much to the read aloud portions of the lessons. Most of her adaptations involved creating additional opportunities for students to actively participate in lesson activities. She did this in different ways across the lessons. In some cases, the adaptations were relatively minor. For example, she often did a fill-in-the-blank style activity where she would pause and let students fill in what should come next. For example, in Lesson 2: “We made this story guess based on our what? Our...? [words and phrases] And this is also called a...? [story impression].”
Other adaptations were slightly more involved; for example, asking students to come to the front of the room and read the words and phrases aloud or to lead the class in reciting the steps in the READS Reading Routine. While not detracting from the main lesson objective, these adaptations also do not do much to increase the cognitive rigor of the lesson activities.

Ms. Kelley, a fourth-year teacher in her first year with READS, had the highest fidelity score of any teacher at 88 percent of essential lesson elements enacted. She was observed making many of the same kinds of adaptations as other teachers, including reviewing previous READS lessons, making connections, and leading word work. Additionally, like Ms. Campbell and Ms. Armstrong, Ms. Kelley frequently went off script during the non-fiction read alouds. Her off-script moments, however, almost always tied back to the main lesson objective. During the two non-fiction read alouds, Ms. Kelley paused in order to: ask students questions about text features, make connections between read aloud content and students’ prior knowledge, describe picture, and rephrases the text. In a few cases, her adaptations drew students’ attention to the kinds of main ideas described in informational texts, which is a key piece of the READS Reading Routine. For example, at the end of the read aloud in Lesson 6, Ms. Kelley drew students’ attention to some of the main ideas typically found in books about animals, pointing out how they had touched on many of them in the reading: “So how they live, how their raise their babies. What about where they live? Where do panda bears live? …. What do they eat? …. What do panda bears look like? …. Are they really tiny? …. They are pretty big.”
Ms. Pearson was both new to READS and new to teaching. She went off-script quite a bit, relative to the other teachers, and unlike Ms. Maddow, her adaptations were more varied. For example, in Lesson 2, Ms. Pearson spent an extended amount of time reviewing the meanings of the words and phrases with students, whereas other teachers only briefly touched on their definitions:

I’m going to use [the word ‘crisis’] in a sentence. I put bleach in my clothes. I lost all of my clothes. I don’t have enough money. That’s a crisis. You might hear the word crisis on the news. …. You know when we put words in order? Say I had the word ‘walk’ and ‘strut.’ They both mean that I’m moving but in a different way. So, if I’m happy, that means the same as ‘elated.’ What would your face look like if you were elated? Show me if you are just happy. So the same thing. There might be a problem and then there might be a crisis. It might mean something or someone is in danger… Flooding…lots of water in a town.

Like several other teachers, Ms. Pearson goes off script during the read alouds. She asks her own, unscripted questions throughout, as well as the scripted questions; she summarizes the text and reviews word meanings; she responds to students’ comments and questions. These off-script moments, however, are rooted in the text. Furthermore, extra time spent on the read aloud doesn’t appear to detract from the rest of the lesson; rather, Ms. Pearson simply extends the whole lesson. In Lesson 6, Ms. Pearson makes a couple of interesting, more unique adaptations. She gives students a strategy for thinking about how to make their main idea guesses: “I was talking to another group and I was changing my A, B, and C to questions and seeing if any of these would be my answer. So, how do panda bears raise their babies? Thick fur. Does that make sense? …. Where
do panda bears live? 6-feet. .... What do panda bears look like? They are black and white?” At the very end of the lesson, she asks students to draw a picture that represents the three main ideas from the informational text they just read.

**Teachers’ Explanations for their Enactment Decisions**

Actor-oriented analyses explore “how teachers interpret guidance embedded in materials and how these perceptions shape their decisions about how to adapt materials to their local circumstances” (Penuel et al., 2014, p. 2). I lay an actor-oriented analysis over my integrity analysis in order to learn more about how and why teachers tried to balance the intentions of the program developers with local needs, thus answering my second research question—*What was the thinking behind teachers’ adaptations?* This analysis shows that teachers made adaptations for many different reasons. In particular, two broad themes emerged: teachers adapted the lessons in order to (1) increase student engagement during the lessons and (2) incorporate local instructional content and/or goals. While most teachers referenced both of these lines of reasoning in their interviews—in particular adaptations made to engage students were common—teachers tended to fall into one category or the other. Moreover, within each category, teachers varied in their ability to meet local needs while at the same time working toward the main objective of the READS lessons; in other words, they varied in their ability to productively adapt the READS lessons.

**Theme 1: Adaptations to ensure student engagement.** According to DeBarger and colleagues (2013), productive adaptations serve to engage all students in lesson activities while also maintaining or enhancing task complexity. Indeed, almost all teachers spoke to some extent about making adaptations in order to better engage their
students in the lessons. Teachers talked about “engagement” differently, however. For some teachers, engagement seemed to have more to do with keeping students quiet; for other teachers, engagement had more to do with keeping students actively participating in the lesson activities.

Ms. Pine’s lesson enactments were heavily influenced by her desire to keep her students engaged. Indeed, this desire was behind some of her lethal mutations and misaligned adaptations. At times, Ms. Pine reported being aware of what the script wanted but feeling that it would not work for her class:

And the instructions, I believe it said that it wanted them to turn and talk to a partner. And I know in my class that can get very out of hand. So I typically don't let them turn and talk to a partner unless it's someone in the room who actually wants to see that happen. Then I'll do it. But otherwise, I don't do that.

In other cases, her adaptation decisions were driven by what students wanted her to do in the moment. For example, in several places, Ms. Pine reported showing students the read aloud book on the document camera. Ms. Pine explains: “I was just gonna read the story out loud and kind of cross back and forth across the room, and just show them the pictures in my hand. But they wanted me to display it on the...document camera.” Similarly, Ms. Pine describes why she decided to have students read aloud: “…and they're all, ‘Ooh.’ And they were, ‘Can I read? Can I read?’” Also in Lesson 6, as described above, Ms. Pine showed students a video about panda bears. She did this, however, not primarily to engage students or to enhance their understanding of pandas, but to fill the time that she had blocked off for READS: “…and I showed them that for about 15 minutes because I just really needed it to last the rest of my afternoon and what was
written here was not gonna last us that long …. Because they really will sit still and listen to a video.”

Like Ms. Pine, a desire to engage students in the lessons was behind many of Ms. Kelley’s and Ms. Pearson’s adaptations. Unlike Ms. Pine, however, in making adaptations, these teachers considered both their students’ interests and the goals and objectives of the READS lessons. For example, Ms. Kelley, knowing that students don’t normally get homework over the weekend and anticipating some pushback, offers an incentive for turning it in. Later when describing the thinking behind this strategy, she references a READS goal and interim outcome, getting students to turn in tri-folds over the summer:

...whereas usually they don't get an incentive for doing their reading log. But if they do that tri-fold, they know they get to come eat lunch with me, or they get a special treat...and so they're pretty excited about that …. So hopefully if some of my friends, I can convince them to at least turn in the first couple, and they get something, and they'll keep doing it.

Ms. Pearson, like Ms. Gunn, asks students questions at the end of the read aloud, rather than throughout. But whereas Ms. Gunn does this primarily because she has some “long winders” who would make it hard to finish the read aloud in a timely fashion, Ms. Pearson references goals that are more aligned with the principles underlying READS, among other reasons:

...it doesn't break their concentration in terms of being engaged in the book.

Because are they really gonna be asked questions when they want to sit down and
read for fun? …. I don't want to take a test in the middle of what I'm reading …. That's what, to me, it's all about is getting them to read for fun at home.

When Lesson 6 runs shorter than anticipated and Ms. Pearson finds herself with unplanned time, she moves beyond the purpose of just filling time. In the moment, she creates an activity that she feels will engage students, while at the same time checking and possibly enhance their understanding of the main ideas in the text:

And I finished a little bit earlier than I usually do, so I had them turn the paper over. And you know how I said I really liked the writing piece or just having something that's more engaging? I had them draw a picture, but they needed to incorporate the three main ideas in a scene …. To show like, okay, did they understand. And what's a way to get them engaged …. It was just another way to get them to personalize it too.

In sum, a teacher’s desire to keep students “engaged” in lesson activities may lead her to modify scripted lesson plans. The modifications that result, however, may or may not move students towards the main lesson objectives. In particular, management-driven adaptations seemed prone to mutation and misalignment. On the other hand, some teachers demonstrated an ability to productively adapt the READS lessons in order to achieve this goal—that is, they were able to attend to their students’ needs in the moment while, at the same time, considering the principles and objectives underlying the READS lessons and whether their adaptations also served that purpose.

**Theme 2: Adaptations to tailor lessons to fit local instructional goals.** What sets Ms. Armstrong, Ms. Campbell, and Ms. Maddow apart from the other teachers is the extent to which their off-script moments are, in their own words, reflections of who they
are as teachers and what they personally like to do and/or want for their students, beyond their in-the-moment observations of how engaged students are in the lessons or the particular objectives of the READS lessons. Ms. Armstrong often talked about herself in her interviews. She talked about herself as a teacher who takes advantage of “teachable moments,” saying: “And I'm this way, every teachable moment, even if we're standing in line in the cafeteria waiting to get our lunch, if something comes up and I see that's a teachable moment, I'm going to teach during that time.” Every moment needs to be used in order “to reinforce something that you’ve already taught.” Ms. Armstrong’s off-script moments during the read aloud were also guided by how she likes to teach: “I like to make my children think. I like to engage them. I don't like just reading to them. I want feedback from them.” And later: “I'm big on life lessons, and teaching life skills. I integrated that in with the lessons wherever I can. And that book was a good book to teach about real life lessons...”

Similarly, Ms. Campbell, in describing the thinking behind her adaptations, referenced who she is and the way she likes—or feels that she has—to teach. For one, she enjoys history and she described this as being behind some of her off-script moments during the Cesar Chavez reading: “And I personally, because I’m a history girl anyway, but just information, facts, just with the non-fiction just being able to kind of attach other knowledge to it, I really did like that.” She talked about having to consider, in deciding how to teach these lessons, both who she is as a person, constraints on her instructional time, and her goals for students:

I — that’s just how I’ve always been but, also, you know I said I came from a private school but I was able to just kind of make it what I wanted it to be and so I
did a whole lot of that there. And you know our schedule is such a way here where you can’t do a whole lot but you’ve got to pull a whole lot into what you’re doing. And so I just think being able – that’s an opportunity to maximize on getting good knowledge in there that I can’t necessarily sit and teach this during this time because you know we’re having to do this particular standard of skill but you can still get the information. So you know just integrate as much as possible just to make those connections and learn something new along the way.

Compared to Ms. Campbell and Ms. Armstrong, Ms. Maddow didn’t make as many different kinds of adaptations. But she did talk about the same type of adaptation again and again, in both the post-lesson interview and in her interview at the end of the year, that is: getting students to actively participate in the lessons. She talks about the thinking behind this type of adaptation:

I like to make them responsible for what they’re learning. That’s how we make life-long learning is when they’re responsible, and they take the initiative, and they’re saying, ‘Okay, hey. This is what I need to do.’ I’m just here to facilitate, and they are the ones actually digging in … It works.

Additionally, she has a “philosophy” on what it means to really know something that also seems to be behind some of her adaptation decisions: “My philosophy is you don’t know it unless you’re able to teach someone else. Unless you teach someone else, that’s when you’ve mastered the skill that you’re doing.”

Where these teachers differ from one another is the extent to which their adaptations speak to a larger, more specific goal that they have for their students, as well as the extent to which that goal aligns with the principles of READS. Most of Ms.
Maddow’s adaptations are driven by one goal: students should be able to take responsibility for their own learning. She “reads” the scripted lessons through this lens and makes adaptations accordingly. This goal very much aligns with the objective and structure of the READS lessons. Ms. Armstrong and Ms. Campbell, on the other hand, voice multiple, less-specific goals for students—they want to make their students think, teach them “real life lessons,” and/or integrate “good knowledge” into the lessons. The adaptations that result take the lessons in a number of different directions. Students are looking up words in the dictionary, talking about time, and doing mental math. These adaptations don’t always serve the main objective of the READS lessons and sometimes result in less time being spent on essential lesson elements.

**Discussion**

In theory, adaptive program implementations promote the long-term success of evidence-based programs in local settings by giving teachers flexibility to make adaptations. This comparative case study was designed to explore how teachers balance fidelity and adaptation when enacting researcher-developed lesson plans within the context of an adaptive implementation effort. While a number of studies have examined either teachers’ fidelity to evidenced-based programs or teachers’ flexible use of curriculum materials, few studies have considered both fidelity and adaptation simultaneously, and never to my knowledge within the context of an effort where teachers were encouraged to make changes. Looking across eight teachers from three schools, I found that while fidelity to core components was generally high, teachers fell into three categories with respect to adaptations made: (1) few adaptations, (2) some misalignment with lesson objectives, and (3) general alignment with lesson objectives.
Furthermore, I found that teachers made adaptations for many different reasons. In particular, two broad themes emerged: teachers adapted the lessons in order to (1) increase student engagement during the lessons and (2) incorporate local instructional content and/or goals.

Productive adaptations allow teachers to meet local needs while at the same time moving students towards desired program outcomes and/or increasing the likelihood that a program will be sustained over time. Research and theory suggest that teachers’ enactments of standardized programs are more likely to be productive if teachers faithfully implement the program’s core components, while making adaptations that address the needs of students and other stakeholders. In this section, I discuss two insights that emerge from this study, both of which relate to teacher vision. While the small scope of this study limits the strength of its conclusions, it generates hypotheses about the kinds of knowledge and skills that teachers may need in order to engage in an adaptive implementation effort successfully. First, this study suggests that it may be important for teachers to have both the knowledge of a program’s first principles as well as the skill to stick to those principles when making adaptations. Second, this study suggests that it may also be important for teachers who are making adaptations to have a clear and specific vision of what they are trying to accomplish as well as the skills to enact that vision.

My findings suggest that teachers’ adaptations may be more productive if they are able to draw on knowledge of the program’s first principles, as well as local strategies. I observed many teachers adapting the lessons in order to engage students. Not all teachers, however, were equally skilled at making productive adaptations in order to meet this
goal. The drawing activity that Ms. Pearson designed is a good example of a productive adaptation. When faced with a challenge (unscheduled time), Ms. Pearson considered what would be both fun and related to the READS Reading Routine. What resulted was an innovative adaptation that moved students towards the main lesson objective. Ms. Pine, on the other hand, when faced with the same challenge, did not have a vision guiding her choice of what to do and so turned to something that would get her students to sit still and listen. Similarly, when faced with the challenge of students not returning the homework, some teachers (Ms. Pine, Ms. Pearson) gave students an opportunity to complete the homework in class, while other teachers (Ms. Kelley) gave students an incentive to complete and return the homework. Ms. Kelley considered what would both get students to do the homework and prepare them to return the tri-folds over the summer. While both strategies solve the short-term problem of getting students to engage with the homework, Ms. Kelley’s strategy is informed by larger program goals.

My findings further suggest that teachers’ adaptations may be more productive if they are able to articulate and home in on one specific local instructional goal with which to critique the standardized lessons, rather than multiple goals. Both Ms. Campbell and Ms. Armstrong were observed making adaptations that did not serve to enhance students’ understanding of or engagement with the READS Reading Routine. In reflecting on these adaptations, both teachers referenced goals that they wanted their students to work towards through their teaching. As they were teaching, they saw moments in the lessons where they could integrate something they felt was important or interesting—either for their students or for themselves—and they went for it. In doing this, however, they took time away from the core lesson objectives. This is not to say, however, that teachers’ own
learning goals for students can’t be a source of productive potential. For example, Ms. Maddow also drew on the way that she liked to teach and one goal in particular that she felt was important for students—making them more responsible for their own and one another’s learning. Most of her off-script moments were driven by this one goal. While this goal is certainly not antithetical to the underlying principles or READS, it goes above and beyond what they program is designed to do. Thus, in order for Ms. Maddow to achieve this local instructional goal, adaptation was required.

The story of Ms. Maddow, however, also suggests that teachers may need additional supports to enact their vision. While Ms. Maddow’s goals for her students are certainly ambitious, the actual adaptations that she was observed making are relatively minor (e.g., her fill-in-the-blank type strategy). An outsider observing this lesson would be unlikely to pick up on what Ms. Maddow described herself as trying to do, and these minor adaptations are unlikely to have the effect that she intends. Her idea, though, is a good one. Shulman and Shulman (2004), considering the learning and development it would take for practitioners to implement an innovative, theory-driven science program within “the uncertain, complex, and often unpredictable settings of schools” (p. 260), conceptualize the accomplished teacher as “a member of a professional community who is ready, willing, and able to teach and to learn from his or her teaching experiences” (p. 265). They identify five dimensions of accomplishment, including being ready (possessing vision), willing (having motivation), and able (both knowing and being able ‘to do’). While Ms. Maddow has a working vision of what she is trying to accomplish, in practice, she struggles to carry out her vision.
Across both broad lines of teacher reasoning, having a guiding vision of what one is trying to accomplish with one’s adaptations—whether that vision is more or less directly related to the foundational principles of a program may enable to teachers to mobilize existing resources more productively when faced with a challenge.

**Implications**

Giving teachers the flexibility to adapt programs to better fit their local contexts is a promising strategy for bringing evidence-based programs to scale. In order to avoid lethal mutations and make productive adaptations when working with researcher-developed programs, however, teachers will likely need to develop a specific set of knowledge and skills, including formal knowledge of a program’s first principles and local knowledge of students and school context. Indeed, teachers have a lot to keep in mind as they read, interpret, critique, and adapt evidence-based programs. To do this work well takes considerable skill. As researchers and others start to work more with practitioners around adapting evidence-based programs, it would be useful to have a framework for describing and tracking the productiveness of teachers’ adaptations. While such a framework does not currently exist, there is a closely related construct upon which we might build: pedagogical design capacity.

Broadly speaking, a teacher’s pedagogical design capacity (PDC) is her ability to perceive and mobilize existing resources (e.g., curriculum materials, state standards, evidence-based practices) to meet instructional goals (Brown, 2009). Beyer and Davis (2009) argue that PDC consists of two phases: the critique phase and the adaptation phase. During the critique phase, the teacher holds the existing resources up against some other set of criteria, identifying its strengths and weaknesses. During the adaptation
phase, the teacher makes a decision about what needs to be changed in order to meet her goals. Potentially, there are different kinds of PDC that teachers might draw on for different purposes. For example, Beyer and Davis (2012) studied how pre-service teachers critique curriculum materials by holding them up against reform-based science criteria. The call this particular set of knowledge and skills “pedagogical design capacity for reform-based curriculum design” and define it as a teacher’s “ability to act upon a range of resources to design and enact instruction aligned with reform-based standards and practices,” specifically as it relates to science instruction (p. 389).

In light of this study and its findings, I suggest that we might take this construct and modify it to represent teachers’ skill at adapting evidence-based programs, considering the criteria that teachers should have in mind as they critique and adapt an evidence-based program. In this case, a teacher’s pedagogical design capacity for productive adaptation would be her ability to perceive and mobilize existing resources—including the evidence-based program and local knowledge of practice—to meet instructional goals. Although they do not call it out as such, Davis, Beyer, Forbes and Stevens (2011) offer some idea of what this might look like. They examined two teachers’ adaptations to a set of reform-oriented science lessons—both the adaptations that the teachers made and the basis of their adaptations. They found that both teachers drew on knowledge of their students, as well as their own learning goals for students in adapting the curriculum materials. One teacher, however, was better able to align her learning goals for students with the goals of the curriculum, resulting in more productive adaptations. Thus, one dimension of PDC for scale might be an ability to align the first principles of the program with one’s own learning goals for students. While this is a
useful start for thinking about PDC for productive adaptation, additional analyses of teachers’ adaptations, particularly those made within supportive contexts, is needed in order to better flesh out what this construct might look like.

**Future Research**

To realize the promise of evidence-based programs, more focused work is needed to support teachers’ pedagogical design capacity for productive adaptation. Findings from this study suggest directions for future work in this area—for one, teachers may need additional support to (1) define a vision for how they see the program working in their classroom, (2) align that vision with the foundational principles of the program, and (3) enact that vision, including planning innovative adaptations in advance and dealing with challenges as they come up in the moment. Beyond this, future research should study the relative effectiveness of particular types of professional development on teachers’ fidelity and adaptations, student outcomes, and the sustainability of programs over time.
References


Coalition for Evidence-Based Policy. (2013). Randomized controlled trials commissioned by the Institute of Education Sciences since 2002: How many found positive versus weak or no effects. Washington, DC.


LeMahieu, P. G. (2011). What we need in education is more integrity (and less fidelity) of implementation. Retrieved from


<table>
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<tr>
<th>Lesson</th>
<th>Genre</th>
<th>Lesson Summary</th>
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<tbody>
<tr>
<td>1</td>
<td>Fiction</td>
<td>Teachers introduce Story Impressions. Teacher models how to make a Story Guess and works with the class to create a class Story Guess. Teacher reads the first four chapters of <em>Mercy Watson to the Rescue</em> and asks students comprehension questions at multiple levels of abstraction. Together, the class checks their Story Guess. Teacher reviews the READS Reading Routine with students.</td>
</tr>
<tr>
<td>2</td>
<td>Fiction</td>
<td>Teacher reviews how to make a Story Guess with students. Students make Story Guesses with a partner while the teacher monitors their work. Each set of partners shares with another set of partners. Teacher reads the next four chapters of <em>Mercy Watson</em> and asks students comprehension questions at multiple levels of abstraction. Partners check their Story Guesses. Teacher reviews READS Reading Routine with students.</td>
</tr>
<tr>
<td>3</td>
<td>Fiction</td>
<td>Teacher reviews how to make a Story Guess. Students make Story Guesses independently while teacher monitors their work. Students have an opportunity to share their Story Guesses with a friend. Teacher reads final four chapters of <em>Mercy Watson</em> and asks students comprehension questions at multiple levels of abstraction. Students check Story Guesses. Teacher reviews READS Reading Routine with students.</td>
</tr>
<tr>
<td>4</td>
<td>Non-Fiction</td>
<td>Teacher introduces Information Impressions, including main ideas commonly found in different types of informational books. Teacher guides the class to make Main Idea Guesses for <em>A Picture Book of Cesar Chavez</em>. Teacher reads text and asks students comprehension questions at multiple levels of abstraction. Together, class checks Main Idea Guesses. Teacher reviews the READS Reading Routine with students.</td>
</tr>
<tr>
<td>5</td>
<td>Non-Fiction</td>
<td>Teacher reviews Information Impressions, including main ideas commonly found in books about nature. Teacher reviews how to make a Main Idea Guess. In partners, students make Main Idea Guesses for <em>Volcanoes</em>. Partners share guesses with another set of partners. Teacher reads the text and asks students comprehension questions at multiple levels of abstraction. Partners go back and check their Main Idea Guesses. Teacher reviews READS Reading Routine with students.</td>
</tr>
<tr>
<td>6</td>
<td>Non-Fiction</td>
<td>Teacher reviews Information Impressions, including main ideas commonly found in books about animals. Students make Main Idea Guesses for <em>Giant Pandas</em> independently. Teacher reads the text and asks students comprehension questions at multiple levels of abstraction. Students check Main Idea Guesses. Teacher reviews READS Reading Routine with students.</td>
</tr>
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Table 2. Integrity analysis

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<tr>
<th>Lesson Core Component</th>
<th>Pine</th>
<th>Gunn</th>
<th>Carpenter</th>
<th>Armstrong</th>
<th>Campbell</th>
<th>Maddow</th>
<th>Pearson</th>
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Table 3. Teachers’ adaptations to the READS lessons

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<th>Carpenter</th>
<th>Gunn</th>
<th>Armstrong</th>
<th>Campbell</th>
<th>Maddow</th>
<th>Pearson</th>
<th>Kelley</th>
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<td>Story Review;</td>
<td>Gunn Replace</td>
<td>Pine Scaffolding</td>
<td>Armstrong Adds SGC</td>
<td>Maddow Call and</td>
<td>Pearson Word Work</td>
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<td>Connection</td>
<td>Partner</td>
<td>Scaffolding</td>
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<td>Unscripted</td>
<td>Word Work</td>
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<td>Word Work</td>
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<td>Discussion with</td>
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<td>Guess</td>
<td>SGC With</td>
<td>Discussion With</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>Check</td>
<td>Students</td>
<td>Students</td>
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<th>Guesses</th>
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<th>Closing</th>
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<tr>
<td></td>
<td></td>
<td>review;</td>
<td>frequently stops RA (for ss behavior)</td>
<td>review;</td>
<td>frequently goes off-script during the RA</td>
<td>connection;</td>
<td>frequently goes off-script during the RA</td>
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<td>review;</td>
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<td>call and response;</td>
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<td></td>
<td>connection (READS)</td>
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<td>Main Idea</td>
<td>Guesses</td>
<td>Check</td>
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<td>unscripted questions</td>
<td>review;</td>
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<td></td>
<td>connection (READS)</td>
<td>frequently goes off-script during the RA</td>
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Main Idea

Guess Check

Closing

L6 Main Idea

student participation word work; connections replace partner share with class guess review replace partner share with class guess review; student participation review; student participation; new strategy

Read Aloud

unscripted questions; word work; connection unscripted question unscripted questions; mostly replaces teacher read aloud with student read aloud frequently goes off-script during the RA frequently goes off-script during the RA asks ss to share what they know; asks all but the last scripted question; makes connections; responds to ss; reads defn in glossary and has ss call out words asks all but the last question; asks a few additional questions; makes a few comments; references prior knowledge stops to ask questions, refer to things they have studied, review MIs typically in books about animals
<table>
<thead>
<tr>
<th>Main Idea</th>
<th>student participation</th>
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<tbody>
<tr>
<td>Guess</td>
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<tr>
<td>Check</td>
<td></td>
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<tr>
<td>Closing</td>
<td>new activity</td>
</tr>
<tr>
<td></td>
<td>(YouTube videos, 20 min)</td>
</tr>
<tr>
<td></td>
<td>student participation</td>
</tr>
<tr>
<td></td>
<td>new activity</td>
</tr>
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<td></td>
<td>(picture of MIs)</td>
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### Appendix A
**READS Timeline and Activities**

<table>
<thead>
<tr>
<th>Month</th>
<th>READS Activity</th>
<th>Description of READS Activity</th>
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<tbody>
<tr>
<td>Nov</td>
<td>Teacher working group meeting (2 hrs.)</td>
<td>Teacher team meets to 1) learn about research-based principles behind READS; 2) discuss school-specific READS data; 3) identify problems of practice related to READS. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Dec</td>
<td>Online discussion forums</td>
<td>Teachers learn more about the core components of READS through a series of online modules. Teachers participate in discussion forums. Teachers brainstorm adaptations to READS that they are interested in discussing with their team. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Jan</td>
<td>Teacher working group meeting (1.5 hrs.)</td>
<td>Teacher team meets to 1) discuss possible adaptations and why they want to make them; 2) decide on a set of adaptations that they would like to make. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Feb</td>
<td>Teacher working group meeting (30 min)</td>
<td>Teacher team addresses any questions/concerns that the research team has about their plan. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Mar</td>
<td>Implementation check-in (30 min)</td>
<td>Teachers check in with each other to talk about – how it’s going, what’s working/not working, what they are learning.</td>
</tr>
<tr>
<td>Apr</td>
<td>Implementation check-in (30 min)</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>Implementation check-in (30 min)</td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td>Implementation check-in (30 min)</td>
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</tr>
<tr>
<td>Jul</td>
<td>READS conference in Boston</td>
<td>READS teacher teams gather in Boston to share their implementation experiences and what they learned.</td>
</tr>
</tbody>
</table>
Appendix B
READS Core Components and Essential Elements for Lesson 2

READS Reading Routine, Lesson 2

LESSON 2
Teacher:
Coder:
Date:

**Make notes for anything that you mark “NO”

**For each lesson component, take notes on any “off-script” moments that you hear; that is, make note of any time that the teacher veers from the scripted lesson plan (e.g., to ask an unscripted question, to elicit additional responses from students beyond what is asked for in the script).

- YES NO: Conveys to students the purpose for Story Impressions

Making a Story Guess [TIME-TIME]
- YES NO: Reviews Story Guess from the previous lesson
- YES NO: Reads aloud all of the words/phrases (and/or asks students to read aloud)
- YES NO: Reminds students to use all of the words/phrases in the order they appear
- YES NO: Reminds students to think about familiar elements of narrative books
- YES NO: Gives students time to work together (e.g., partners or small groups) to create a Story Guess
- YES NO: Gives students an opportunity to share their Story Guesses

**Monitors students to ensure they are performing this activity correctly -- Rather than a Y/N, please take notes on what you can hear the teacher doing as students are making their SGs.

Read Aloud [TIME-TIME]
- YES NO: Reviews what happened in previously read chapters (note: this might happen earlier in the lesson)
- YES NO: Reads aloud part of the narrative lesson book
- YES NO: Asks at least 3 questions during or after the read aloud
- YES NO: Asks questions at different levels of abstraction (at least 2 out of 3 levels)

Checking the Story Guess [TIME-TIME]
- YES NO: Reminds students how to complete a Story Guess Check
- YES NO: Conveys to students that the point is not whether they got it right or wrong, but to go back and see what is similar and what is different
**Monitors students to ensure they are performing this activity correctly -- Rather than a Y/N, please take notes on what you can hear the teacher doing as students are making their SGs.

**Introduction of the TF and reviewing the RRR [TIME-TIME]**
- YES NO: Introduces the tri-fold to students, including pointing out all of the different sections of the tri-fold (e.g., words/phrases, area to write Story Guess)
- YES NO: Clearly explains the homework assignment to students
- YES NO: Reviews all of the steps in the READS Reading Routine with students (could include the teacher asking students to recite the RRR)

**Lesson 2 Running Notes:**
Appendix C
Codes Used in Actor-Oriented Analysis

Coding descriptor and definition

Resources
- Curriculum materials (in general): Non-READS lesson plans, unit plans, worksheets, activities, etc.
- READS: Lesson plans and other READS materials
- Colleagues: Opportunities to co-plan, get guidance from others, etc.
- Time: Time necessary to plan lessons, assess students, etc.
- Other: Pragmatics or logistics: Materials, room set-up, scheduling, etc.

Experiences
- Current teaching experiences: Experiences in current classroom teaching current READS lessons
- Previous teaching experiences: Experiences in previous classrooms, grades, and schools
- Professional development experiences: Experiences with previous or current professional development provided by school or sought on own

Knowledge and beliefs
- Knowledge of students: Knowledge regarding students as individuals, groups of students, students' knowledge level in general, students' community and family contexts, etc.
- Subject matter knowledge: Knowledge of literacy instruction
- General pedagogical or educational knowledge: Knowledge of appropriate instructional strategies, educational psychology, etc.
- Knowledge of school context: Knowledge of contextual issues related to school and schooling, such as knowledge of previous and future grades' foci, collegial norms, etc.
- Curricular knowledge: Knowledge of what topics should be or are taught, scope and sequence, curriculum materials, etc.
- Learning goals: Teachers' own learning goals for the students
- Teaching style: The ways in which the teacher likes to teach

Reasoning
- to check/enhance understanding of READS
- to check/enhance engagement in READS
- to make the best use of time
- to work towards another learning goal
- to respond to students
- to link to skills/knowledge outside of READS
- to meet the needs of individual students
- to enhance personal experience of READS
Chapter 3: Study 2

The role of resonance and voice in teaching teams’ decision-making around how to adapt an evidence-based summer literacy program

Abstract

As researchers grapple with the challenge of bringing evidence-based programs to scale, there has been growing interest in the notion that teachers should be encouraged to tailor programs to better fit local contexts. To facilitate the success of these efforts, there is a need for research that examines how teaching teams engage in the process of adapting evidence-based programs. Specifically, how do teams come to consensus around both the problem(s) they are trying to address and the specific adaptation strategies they will employ? In this comparative case study, I examine the process that fourth-grade teaching teams from three high-poverty schools went through as they decided how to adapt an evidence-based summer literacy program. I examine (1) the adaptations each team implemented, (2) the extent to which teams achieved resonance (i.e., agreement) around problem statements and adaptation strategies, and (3) the role that different teacher voices played in the decision-making process. While all teams settled on a set of adaptation strategies, my findings suggest that only one team achieved resonance around a well-defined problem statement, which may have facilitated their subsequent consensus around more resource-intensive strategies. The other teams settled on problem statements that were more general or not clearly defined. My findings further suggest the influential role played by the School Coordinators in the decision-making process. In zooming in on the micro-processes of teaching teams’ decision-making, this study contributes to the knowledge base about how to support adaptive implementation efforts.
Introduction

The field of education is currently grappling with the challenge of sustaining evidence-based programs in schools. In light of this challenge, many have questioned the usefulness of a linear research-to-practice model that positions researchers as knowledge generators and teachers as knowledge users. In its place, they have proposed program implementation models that create more active roles for teachers (e.g., Bryk, Gomez, Grunow, & LeMahieu, 2015; Fishman, Penuel, Allen, Cheng, & Sabelli, 2013; National Research Council, 2003). These models attempt to create opportunities for researcher-generated knowledge to interact with local knowledge of practice such that program effects are realized and the program is sustained over time (Stein & Coburn, 2010). For example, structured adaptation approaches encourage and support teachers to adapt program activities and procedures, while at the same time ensuring that teachers adhere to foundational program principles (McMaster et al., 2014). In theory, teachers participating in structured adaptation approaches are better able to meet students’ needs because they are given resources (e.g., time for collaboration, professional development, data) that support their identifications of (1) problems of practice related to local program implementation and (2) strategies for addressing these problems.

Despite growing interest in adaptive implementation approaches and the popularity of teacher collaboration as a reform strategy, few studies to date have examined how teaching teams make decisions around how to adapt evidence-based programs, particularly within a context in which they are encouraged and supported to do so. While there is a substantial body of research examining the ways in which teachers adapt curriculum materials (e.g., Grossman & Thompson, 2004; Pardo, 2006; Sherin &
Drake, 2009), this work has largely considered adaptations made by individual teachers to curricula of varying quality. Even studies of teachers’ adaptations to evidence-based programs have been in contexts where teachers were instructed to implement programs with fidelity (Datnow & Castellano, 2000; Klingner, Cramer, & Harry, 2006). Collectively, these studies tell us that teachers often feel a need to—and often do—adapt standardized programs. Furthermore, these studies tell us that teachers adapt for a variety of reasons, including: to make the program more enjoyable to teach (Datnow & Castellano, 2000); to better address students’ abilities and interests (Beatty, 2011; Klingner et al., 2006); and to align programs with district standards (Burkhauser & Lesaux, 2015). What these studies do not tell us, however, is what happens when teaching teams are tasked with adapting evidence-based programs. Thus, we are left wondering: When given time and resources to engage in this work collaboratively, how do teams decide which local implementation problem(s) they want to address? And how do they come to agreement around specific adaptations strategies?

To address these questions, this study examines how fourth-grade teaching teams in three high-poverty school arrived at a set of adaptation strategies. All teams were participating in an adaptive implementation of an evidence-based summer literacy program called *READS for Summer Learning* (READS). Specifically, I examine (1) the set of adaptation strategies that each team decided to implement, (2) the extent to which teams achieved resonance around particular problem statements and adaptation strategies, and (3) the role that different teacher voices played in the decision-making processes. In the sections that follow, I review relevant literature on improvement science, which informed the design of our adaptive approach, and frame analysis, which guides the
study’s data analysis plan. I then provide context on the READS program and the specific adaptive implementation approach undertaken. Finally, I present my findings and discuss the implication of these findings for adaptive program implementations moving forward.

**Conceptual Framework**

To explore the decision-making processes that teaching teams engaged in as they identified local implementation problems and strategies for addressing these problems, I draw on two bodies of literature: improvement science and frame analysis. In developing our adaptive implementation approach, we drew on improvement science, which offers researchers and practitioners a general process for adapting standardized programs to local contexts (Bryk et al., 2015). While our approach does not fully embody all of the principles of improvement science, it does engage teachers in two guiding questions that are at the heart of the improvement science method—“What is the specific problem we are trying to solve?” and “What change might we introduce and why?” Thus, improvement science theory can help illuminate our adaptive process and, by the same token, studying how our adaptive process played out can speak to improvement science theory. While improvement science describes a process, frame analysis is methodological and has been used by educational researchers to study how groups engage in collective decision-making. I employ frame analysis as a way of exploring this collaborative process across teams. Frame analysis is particularly useful in that it highlights both the problems identified by participants (diagnostic framing) and the strategies proposed (prognostic framing). I also pay attention to who invokes particular frames (i.e., whose voices are heard).

**Improvement Science: A Process for Adapting Standardized Programs**
Improvement science offers the field one process for adapting standardized programs to meet the needs of diverse contexts by encouraging teams to develop a “working theory of improvement” that begins with a clear aim, includes a number of theoretical drivers of the problem, and ends with a set of potential solutions (Bryk et al., 2015). Teams arrive at a working theory of improvement by engaging with three guiding questions: “What specifically are we trying to accomplish? What change might we introduce and why? How will we know that a change is actually an improvement?” (p. 114). Thus, the first step is to identify a problem statement. For example, Bryk and colleagues describe one team’s efforts to collaborate around the challenge of high failure rates for community college math students. The identified problem statement is then turned into a clear aim. In this example, the team agreed to the following clear aim: to increase students achieving college math credit within one year from 5 to 50 percent.

Having identified a specific problem and clear aim, the next step is to theorize about drivers of the identified problem—what might be causing the high failure rate? Only after that has been accomplished should the team move on to developing potential solutions for addressing the problem.

Although improvement science is rich in theory as to processes through which teachers and others might adapt programs to their local contexts, research on how teams actually collaborate in order to work through improvement science questions is nascent. Furthermore, different studies focus on different aspect of improvement work—identifying local implementation problems and developing strategies being only part of the process. For example, in one exploratory case study, Hannan, Russell, Takahashi, and Park (2015) explored how six schools used improvement science methods to adaptively
integrate a standard feedback process for beginning teachers into existing systems. The authors focused on each school’s use of plan-do-study-act (PDSA) cycles. Rather than looking at the micro-processes of any one particular cycle, however, they examined the schools’ general engagement with this framework and their ability to integrate new learnings into ongoing practice. The authors found that schools landed on a continuum—two schools demonstrated only limited engaged in the improvement process and, while the other four schools demonstrated engagement in the process, only two were able to integrate new learnings. The authors attribute their success to a willingness to use data and evidence to drive all aspects of their work.

This research implies that not all schools are equally prepared to engage with the core work of improvement science. Indeed, the broader literature suggests that collaborative inquiry efforts work best under certain conditions—specifically, when there is cohesion and trust among educators (Bryk & Schneider, 2002), as well as a willingness to make one’s practice public (Little, 2002) and to engage in the inquiry process (Cochran-Smith & Lytle, 1999). Furthermore, access to content and pedagogical content knowledge may be a necessary condition. Coburn, Russell, Kaufman, and Stein (2012) found that teachers were more likely to sustain a mathematics reform when they interacted frequently with others in their social network, particularly those with mathematics expertise, and when those interactions were about underlying principles, rather than superficial features of the reform. This may have enabled them to adjust the intervention when necessary. Unfortunately, and particularly relevant to the present study, the social and organizational conditions that support collaborative inquiry are less likely to be found in high-poverty settings (Finnigan & Daly, 2012).
The Role of Diagnostic and Prognostic Framing in the Decision-Making Process

While improvement science provides a useful theoretical model for what we would like to see as teachers collaboratively engage in adaptive implementation, frame analysis provides a set of tools for in-depth analysis of what the process actually looks like—that is, how individuals interact with one another within particular contexts in order to make sense of and negotiate local implementation problems and strategies for addressing those problems. These constructs have been employed by other researchers who have examined similar efforts in educational settings, for example, how school district personnel make instructional decisions (Coburn, Toure, & Yamashita, 2009), a school’s implementation of a policy (Coburn, 2006), and how school and district leaders implement data-driven decision making (Park, Daly, & Guerra, 2013). Framing both depends and builds upon individuals’ sensemaking, giving it a function (Coburn, 2006). Framing is an act of synthesis. As described by Coburn and colleagues (2009): “The act of framing something as a problem involves noticing, punctuating, and organizing a vast array of information into an explanation that renders the complexity meaningful” (p. 1119).

Framing is an important aspect of collective decision making in that both the specific frames that are invoked and how skillfully the framing is done can influence the decisions that are ultimately made and the actions that are taken (or not). The degree to which individuals or groups accept a particular frame as truth is called “resonance” (Benford & Snow, 2000). To generate resonance, individuals may use “frame alignment” such that they “produce and invoke frames in an attempt to connect these frames with the interests, values, and beliefs of those they seek to mobilize” (Snow, Rochford, Worden,
& Benford, 1986, as cited in Coburn, 2006, p. 347). Although research suggests that individuals with more positional authority may have more influence over problem framing, resonance may still be necessary to inspire action from the group (Coburn, 2006; Park et al., 2013). Research suggests that framing is more successful when others are able to connect with the frame in some way, when the frame aligns with the values of the school, and when the frame is consistent with the available evidence (Coburn, 2006). Furthermore, groups may find themselves in a situation where there is agreement around some aspects of framing but not others. For example, work by Park et al. (2013) suggests that while frames around goals may resonate, framing around particular strategies for achieving those goals may not and this may be due to the interaction of particular frames with long-standing beliefs and norms.

There are at least two types of framing activities that individuals engage in: diagnostic framing and prognostic framing (Benford & Snow, 2000). Diagnostic frames articulate problems and/or assign blame or causes for particular problems. For example, in a study of how the problem of reading instruction was framed at one school, Coburn (2006) found that some teachers blamed student or parent deficits for low reading scores, while other teachers blamed structural issues like class size and a few teachers linked the problem to classroom instructional practices. In other words, diagnostic frames address the question: “What is the specific problem we are trying to solve?” Prognostic frames, on the other hand, articulate goals and/or propose solutions. For example, in Coburn (2006), prognostic frames included teaching students new comprehension strategies and creating more consistency in instructional approaches. In other words, prognostic frames
address the question: “What change might we introduce and why?” Thus, these two framing activities align with the first two core questions of improvement science.

The types of framing activities in which teams engage—that is, the extent to which they spend their time discussing diagnostic and/or prognostic frames—may influence the kinds of conversations they have as well as their ability to act. Resonance around particular frames, after all, is not the final goal—rather, it is one step on the path to action. Scribner, Sawyer, Watson, and Myers (2007) examined discourse patterns in two teaching teams. They found that the team with a closed purpose, that is, where the problem was perceived among the team members as more well-defined, engaged in more active discourse where they committed to action. They define “problem solving” as, “approaching a problem that everyone knows about and applying well-known procedures and techniques to resolve the problem” (p. 79); this discourse pattern is most closely related to prognostic framing. The team with a less clearly defined purpose engaged in more passive discourse. They spent most of their time “problem finding,” that is identifying and re-identifying problems with a lack of action, which may be “required when no one is quite sure exactly how to frame the problem, or what procedures would be involved in its solution” (p. 79); this discourse pattern is more closely related to diagnostic framing. Both problem finding and problem solving (or, at least hypothesizing about how to solve problems) are necessary steps in the improvement process.

Structuring Teachers’ Adaptations to READS

As noted, this study is focused on an effort to structure teachers adaptations to READS—that is, to encourage and support them to make adaptations in order to improve local outcomes, while at the same time ensuring their adherence to foundational program
principles (McMaster et al., 2014). In this section, I provide background information on both READS and the specific adaptive implementation approach undertaken.

**READS for Summer Learning: An Evidence-Based Program**

The mission of READS is to address the problem of summer reading loss by engaging students in book reading over the summer. The program theory that guides READS is that providing students with free summer books, matched to students’ interests and reading level, along with teacher and parent scaffolding, will result in more voluntary summer reading and improved reading achievement. This theory is embodied in four core components: (1) students receive ten books over the summer; (2) at the end of the school-year, teachers teach students a comprehension routine to use with their summer books; (3) the school hosts a family event where parents learn about READS and how they can encourage their child to participate in the program; and (4) during the summer, families receive “nudges” in the form of phone calls and/or text messages reminding them about READS, while students receive prizes for participation. During the summer, each book comes with a tool called a “tri-fold” that supports students’ use of the comprehension routine. Students return tri-folds for prizes, and tri-fold returns are used as a measure of students’ engagement with books. READS has undergone rigorous experimental testing. Results from randomized controlled trials suggests that the program is effective, on average, at improving elementary students’ reading achievement in the short- and long-term (Kim et al., 2016; Kim & White, 2008; White, Kim, Kingston, & Foster, 2014).

**Supporting Teachers’ Structured Adaptations to READS**

While READS has been shown to improve students’ reading achievement on average, this does not mean that all students and families fully engage in READS
program activities. For example, in a recent randomized trial of READS involving 19 elementary schools, only 55 percent of students in the READS treatment condition returned at least one tri-fold. Therefore, we designed an adaptive implementation approach and tasked teachers with finding ways to improve their school’s tri-fold return rate. Specifically, teachers were given opportunities to learn more about READS and to work collaboratively in order to identify specific problems related to local program implementation, and to come to consensus around strategies for addressing these problems.

The work of crafting a team adaptation plan began in November 2014 and continued through March 2015. Teams met three times over the course of this period. These meetings took place in person and ranged from one to two hours. Team members included fourth-grade teachers and the school’s Response to Intervention (RTI) coordinator, who was appointed by the principal to be the READS “School Coordinator.” In a few cases, the principal and/or other faculty and staff attended the first meeting. Additionally, each team worked closely with a member of a local non-profit who was charged with supporting the team’s adaptation plan. This person attended all meetings. Finally, I attended the first and second meetings at all three schools.

At the November meeting, I presented the research-based principles underlying READS. I also presented school-specific READS data from previous years (e.g., the proportion of students returning tri-folds, the proportion of families attending a family event). At the end of this presentation, each team was given the improvement aim of increasing their students’ engagement in reading over the summer, as measured by tri-fold returns. The goal of the November meeting was to begin working towards this
improvement aim by addressing the question: “What are the specific problems we are trying to solve?” In December, teachers participated in a series of online modules where they learned more about each of the READS core components. In January, the team met to draft a proposed set of adaptations. The goal of this meeting was to answer the question: “What changes might we introduce and why?” In February, the team finalized their decisions and produced a written document outlining their plan. See Appendix A for a detailed timeline of activities.

To protect against lethal mutations—that is, adaptations undermining READS program theory (McLaughlin & Mitra, 2001)—during the adaptation process, teachers were given guidance as to the types of adaptations they could make. Specifically, teachers were required to implement all four core components. They could, however, make changes both to the specific program activities and the implementation processes surrounding these activities. For example, each school was required to hold at least one READS family event where families learned about READS and how to support their child’s participation in READS. Schools did not, however, have to follow any particular script for this event. Furthermore, schools had flexibility with respect to the number of events they wanted to hold, when these events took place, and how families were recruited to the event(s). See Appendix B for the guidance document provided to teaching teams around adapting each component.

**Present Study**

The present study uses frame analysis to learn more about how teaching teams collaboratively make decisions around how to adapt an evidence-based program designed to increase students’ engagement in reading over the summer. In zooming in on the
micro-processes of teams’ decision-making, this study contributes to a knowledge base around how to support adaptive implementations and improvement science efforts more generally. This knowledge base will be useful as it becomes increasingly common for teachers to collaborate around improvement work. This comparative case study examines the process through which fourth-grade teaching teams from three high-poverty schools decided how to adapt an evidence-based summer literacy program. Specifically, this study asks:

1. What kinds of adaptations strategies did teams decide to implement?
2. To what extent did teaching teams achieve resonance around specific problem statements and adaptation strategies?
3. What role did different teacher voices play in the decision-making process?

**Method**

This study employs a comparative case study design (Yin, 2014) to explore both the adaptation strategies decided on by teaching teams and the decision-making process that led to each team’s decisions about their major change strategy.

**Participants and School Sites**

This study includes fourth-grade teaching teams (classroom teachers and a READS School Coordinator) at three high-poverty schools in District M. All three schools serve a large population of low-income students and while Riverdale has relatively more students at grade-level, all three schools serve a large number of struggling readers. All three schools had implemented READS in the past; however, due in large part to turnover within the schools, most teachers were unfamiliar with the

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2 All district, school, and teacher names are pseudonyms.
program. At all three schools, the appointed READS School Coordinator was also the school’s RTI facilitator.

Mountainside Elementary. In November, the Mountainside team included five teachers and the team’s School Coordinator, a teacher with more than ten years of teaching experience. A few weeks later, a new teacher was hired to fill a vacant position, and she attended all subsequent meetings. By March, one teacher had taken a temporary leave of absence. Of the seven teachers on the team, three were new to both the school and to classroom teaching, one teacher was new to the school but had some teaching experience, and three were not new. Additionally, two of these teachers had some experience implementing READS.

North Shore Elementary. In November, the North Shore team included four teachers and the School Coordinator, a teacher with more than ten years of experience. By March, one teacher had taken a temporary leave of absence. Of the five teachers on the team, one was new to both the school and to teaching, two were in their second year of teaching and of working at the school, and two had been at the school for a decade. Additionally, these two teachers and one of the second-year teachers had some experience with implementing READS.

Riverdale Elementary. In November, the Riverdale team included three teachers and the School Coordinator, who had over five years of teaching experience. All of the other teachers had teaching experience, although one was new to the school. Only this new teacher had no prior experience with READS.

Data Collection and Sources
Data for this analysis were collected over a five-month period. The primary data source used in this analysis are transcriptions of teaching teams’ meetings in November, January, and either February or March. Descriptions of each data source follow.

**Transcripts of monthly meetings.** Monthly team meetings were audiotaped and later transcribed.

**Adaptation plans.** At the end of the planning phase, each team submitted a plan that outlined the adaptations they wanted to make and a few sentences about the purpose behind each adaptation. At the end of the year, the research team followed up with each school team as well as the team’s non-profit partner to confirm which adaptations were completed and which were not. School teams also submitted an artifact to document the completion of each adaptation (e.g., lesson plan, student work, call log).

**Data Analysis**

Data analysis proceeded through the following steps. First, to understand how each teaching team arrived at their set of adaptation decisions, I started with the final adaptation plan submitted to the research team prior to implementation. I conducted a content analysis of each team’s adaptation plans in order to facilitate comparisons across the plans. I considered differences across adaptations made on multiple dimensions, including: the READS core component affected by the adaptation and the resources required by the teaching team to enact the adaptation.

Next, following a process described in Coburn et al. (2009), I went through each team’s meeting transcripts and created a longitudinal record for each of the team’s decisions. That is, for each school, I excerpted all exchanges related to these decisions and organized them by meeting into one document. I excluded one adaptation where the
decision appeared to have been made outside of the meeting. In some cases, where
decisions were closely related (e.g., multiple decisions related to recruiting families), I
collapsed them into one record. For purposes of reliability, I engaged in member
checking (Creswell & Miller, 2000)—I shared a summary of each record, as well as my
decisions regarding organization, with our non-profit partner who was present at all of the
meetings.

Having identified all of the adaptation decisions made by each team and having
reviewed the discourse surrounding each decision, I identified each team’s “major
adaptation strategy,” that is, those adaptations that each team invested the most time in
fleshing out. In order to be considered part of the major adaptation strategy, the
adaptation’s longitudinal record had to include discussion (i.e., more than a few
exchanges) of the “drivers of the problem,” as well as discussion of “a set of potential
solutions” (Bryk et al., 2015). For each team, two adaptation decisions fit these criteria.
The majority of the remaining decisions were relatively low-effort adaptations that were
suggested by one teacher and readily agreed to by the rest of the team without much
discussion, for example, staffing a child care room during the family event or mentioning
READS at the school’s end-of-year pep rally.

For those decisions related to each team’s major change strategy, I used the
following coding strategy to explore the role that framing played in these decisions: First,
I coded each record for evidence of both diagnostic framing (problem/blame)—for
example: “…parents didn't know about it, because they didn't even come to the family
night so they may not have even known about the tri-folds or the program”—and
prognostic framing (goal/strategy)—for example: “I think we need to provide students
with as much scaffolding as possible for them to get this done on an independent basis during the summer.” For each instance of framing, I further coded: (1) who did the framing and (2) how the particular framing resonated, or not, with the rest of the team. Indicators of resonance included statements of agreement (“Right, and I think that’s the key…”), offering evidence in support of a particular frame (“I've got some [students] that stuff things in their book bag and they're still in there from the beginning of the year”), and echoing the same framing later in the meeting or at a follow-up meeting.

Finally, for each school, I wrote memos, summarizing each team’s major adaptation strategy. I then wrote analytical memos, looking across the summaries for patterns and themes (Miles, Huberman, & Saldana, 2013). Finally, I conducted a cross-case comparison, looking for repeating patterns and themes across the three schools (Yin, 2014).

**Results**

This comparative case study describes how teaching teams at three schools negotiated diagnostic and prognostic frames in an effort to craft a plan for adapting READS. While all teams were tasked with addressing the same improvement aim—i.e., increase tri-fold return rates at your school—they were also tasked with coming to consensus around a plan for meeting this aim. Our data suggest that the Mountainside team was more successful than the other two teams at achieving resonance around well-defined problem statements, which allowed them to more easily come to agreement around specific strategies for addressing these problems. While the North Shore team achieved resonance around a less-defined problem statement, their inability to explicitly narrow the problem statement meant that potentially important pieces of the plan were
lost along the way. The Riverdale team also landed on a less-defined problem statement. Confusion around key terms within the problem statement made it more difficult to ensure that their plan was addressing the problem that they had identified and had teachers talking past one another during team meetings. Our data further highlight the influential role played by the School Coordinator in shaping each team’s decision-making process.

In the sections that follow, I first present an overview of the set of adaptations that each team decided on. I then present each case separately, highlighting their problem statements, where they achieved resonance and where they did not, and the implications of this process on each team’s final plan. Finally, I present evidence of the influential role of the School Coordinator across the cases.

**What Kinds of Adaptations Did Teaching Teams Decide to Implement?**

By way of context, teaching teams did not have to make adaptations to READS, yet all three teams decided to do so. Before examining the team processes in more detail, I start by examining where teams ultimately arrived—that is, the set of decisions that they collectively agreed to. In Table 1, I break down each team’s adaptation plan; for the sake of comparison, I organize adaptations by core READS component.

Looking across these adaptation decisions, there were similarities and differences in what teams decided to do. Teachers were busy with their everyday work and only had so much capacity for READS. Still, each team invested resources into their adaptations; although, teams chose to invest their resources differently. While some adaptations required almost no resources from teachers beyond time spent in the planning meetings (e.g., presentation of READS data, text to families), others involved a great deal of
classroom time (e.g., additional lessons), teachers’ personal time (e.g., creating READS-like activity, planning rallies, summer phone calls), and some required teachers to use their social capital (e.g., getting other teachers to staff the child care room, getting other school staff to attend the READS rallies). Ultimately, each team came to consensus around a major change strategy. Mountainside invested most heavily in doing more work with students around the READS reading routine and recruiting families to READS Family Night; North Shore invested most heavily in designing, organizing, and implementing READS “rallies”; and Riverdale invested most heavily in calling their students over the summer and organizing a READS event in the fall.

**READS lessons and other in-school events.** All three teams made changes to the dosage of the READS lessons, choosing to do more than the six core lessons. Some teams taught more lessons than others. North Shore and Riverdale chose to teach the two READS booster lessons, while Mountainside chose to teach the booster lessons plus four additional lessons for a total of six additional READS lessons, doubling the lesson dosage. Additionally, Mountainside created a READS-like activity that they gave to students over spring break. Students were given a matched book (printed from Accelerated Reader™) and a worksheet to fill out about that book. Students received an incentive if they turned it in at the end of the break. Mountainside and North Shore also chose to spread their lessons out over a few months, while Riverdale chose to teach the six core lessons over six consecutive days, in keeping with the original program design. North Shore and Riverdale both worked READS into a pep rally type event, but while Riverdale made mention of READS at a pre-existing pep rally, North Shore organized two READS-specific rallies, one for girls and one for boys.
**Family engagement.** All three teams employed additional strategies to recruit families to READS Family Night, but some teams did this to a greater extent than others. Mountainside proposed and implemented a variety of recruitment strategies, while the other teams settled on only one additional strategy. Specifically, North Shore sent all of their families a text message and Riverdale held a classroom competition, where the class with the highest attendance got gym time and snacks. Additionally, both Mountainside and North Shore decided to add a childcare room at the event; and Mountainside asked the research team to present data on READS’ effectiveness to families.

**Summer engagement.** Finally, while Mountainside did not make any changes to the summer engagement component, two North Shore teachers decided to record the READS summer tips in their own voices, while the Riverdale teachers met together in the middle of the summer to make phone calls to their students. Riverdale also organized an additional incentive in the form of a fall event where students would be recognized for their summer efforts.

**To What Extent Did Teaching Teams Achieve Resonance Around Specific Problem Statements and Adaptation Strategies?**

This analysis raises some questions that cannot be answered from a review of the adaptation plans alone. Although all schools began with the same improvement aim—i.e., increase tri-fold return rates at your school—each identified a different problem and strategies for addressing that problem. How did teaching teams arrive at their problems and strategies? What role did framing play? What role did resonance play? And whose voices drove the discussion?
Mountainside—resonance around well-defined problems. Mountainside ultimately channeled their adaptation efforts and resources into two change strategies: (1) use additional lessons and READS-like activities to create more opportunities for students to practice the READS Reading Routine; and (2) employ multiple, teacher-specific recruitment strategies to increase attendance at READS Family Night.

The Mountainside team’s ability to achieve resonance around well-defined problem statements allowed them to more easily come to consensus around specific strategies for addressing these problems. One specific problem that resonated with the Mountainside team was the struggle of lower-level readers to complete work independently. This translated into a concern that some students might struggle to complete the tri-folds independently over the summer, a core READS activity. This is the problem frame underlying the team’s decision to give students more practice with the routine through additional lessons and other assignments.

Ms. Evans, the School Coordinator, raised the problem of struggling lower-level readers (along with a potential strategy for addressing it) early in the November meeting: “I think we need to provide students with as much scaffolding as possible for them to get [the tri-folds] done on an independent basis during the summer …. and some of our lower kids more needs …. You know our kids, we know our kids, I know our kids, no matter how much scaffolding provided...” This problem resonated with all of the teachers present at the meeting. This resonance was demonstrated in a variety of ways. Some teachers shared anecdotes from their classrooms to provide specific evidence of the problem. For example, Ms. Oats said: “And they will, the lower level, will need—I'm just thinking about my kids, they need someone standing over them. Like mine don't
even...it's hard to get anything produced from my lower levels, I can't get anything...”

Other teachers picked up this problem and started to identify more specific strategies that might address it. For example, in this exchange:

Ms. James: In the past with the READS we did that at the end of the school year, that week. I mean, as we do the [adaptive process], is it possible that maybe if we know our lower kids what they need, that they get more instructional practice in that? I mean, the—just the…

Ms. Francis: Because they need to see modeling…

Ms. James: And quite a few efforts other than the days that we do.

Ms. Francis: Right, they need to see more.

At the end of the November meeting, the team summarized this particular line of inquiry, finishing each other’s sentences:

Ms. Evans: And then thinking back on that, talking about having it in the instructions early in the school year, having kids to practice with that so that they can be more independent. We can also possibly have them to complete some of these tri-folds for homework with their reading comprehension, because they read every night anyway.

Ms. Francis: And that way they could get some feedback if they do it for homework.

Ms. Medina: It would be excellent feedback whether or not they—the success now, and then they can say well I did it in school, it will be that much easier to do over the summer.
Ms. Lovell: Because I'm into the routine, I know how it goes, I know how it works.

Thus, by the end of the November meeting, the Mountainside team had achieved resonance around the idea that their students, and especially their lower-level students, needed additional scaffolding with the READS Reading Routine.

In January, the team started to build-out what it would look like to give students this additional practice. When there was some dissent about a particular strategy, the team referred back to the previously agreed-upon framing. Ms. Oats suggested trying out a tri-fold over the spring break and Ms. Evans suggested tri-folds for homework. Ms. Evans then suggested that the team teach additional READS lessons, which resonated with Ms. Francis and Ms. Roberts. When Ms. Lovell asked, “We don’t have to do but six, right?” Ms. Francis responded, “Yeah, but we could do more ….. You know? Because I mean if they're not exposed to it, some of them aren't going to be able to do it on their own.” Thus, in addressing Ms. Lovell’s push-back on this particular strategy, Ms. Francis repeats the framing that has been laid out and agreed on by teachers in the previous meeting to justify this more intensive adaptation strategy.

This is not to say that the team agreed on all of the particulars related to this problem statement. Specifically, there was a lack of resonance as to whom or what was to blame for the struggles of the lower-level students. Ms. Evans and Ms. Francis laid the blame with parents. At one point, Ms. Francis said: “…if we could start working with them, like we suggested during the school year and kind of preparing them to be able to independently work on these assignments because we know that the parent involvement isn't always there.” None of the other teachers, however, responded to this line of
thinking or repeated it back at other points in the meeting. Indeed, Ms. James suggested another source of blame—that lower-level students lack confidence:

A lot of lack of confidence, like if they don't know this, someone here is right there to help bail me out. Otherwise, a lot of times they don't attempt to because it's like the fear of failure. If I don't try, then I don't have to worry about I failed and I gave it my best shot.

Thus, importantly, a lack of resonance around the source of the problem, did not appear to impact the team’s ability to define the problem clearly enough to strategize about how to solve it.

The second well-defined problem around which the Mountainside team achieved resonance focused on students’ families—that families didn’t know about READS. In November, the team surfaced problems related to family engagement. In response to data showing that about 50 percent of Mountainside students had not participated in READS the previous year (i.e., returned zero tri-folds), Ms. Medina framed the problem in this way: “Both parents and the students didn't take it seriously, overall, majority overall they didn't take it seriously.” Ms. Lovell immediately reframed the problem: “So they don't see the benefits of the program. But do the parents know about it?” Thus, two different frames were proposed—first, that parents and students didn’t take READS seriously and second, that parents didn’t know about READS. It is this second framing that resonated more strongly with the team. Again, this resonance is exhibited through anecdotal evidence:

Ms. Evans: How are parents contacted? Because we have parents who it's very hard for us to get in contact with in an emergency, so how are we making sure
that all of these parents even know about the program? …. Because I know that we have lots of phone numbers who get disconnected or they've moved to a different place and you can't find them.

Ms. Oats: What are the odds, what are the chances that the parents didn't even get to see any of [the READS materials]? Because I've got some that stuff things in their book bag and they're still in there from the beginning of the year.

Later, the team digs further into the problem of parents not knowing about READS, wondering why they might not be attending READS Family Night.

Ms. Evans: Do you think some parents are intimidated?

Ms. James: That's what I was wondering. How is the invitation worded? Does it have READS on there? …. I'm just wondering, if you're not a good reader, if you're not a good reader and you're talking about something about READS…

Ms. Evans: Some of our parents haven’t had a very good experience with school, so they are intimidated by some of those things.

The November meeting ended with additional thinking related to engaging families in READS. The teachers strayed somewhat from the well-defined problem of parents not knowing about READS. For example, Ms. Oats:

I think maybe we should broaden that, not just how are we going to reach the children, how are we going to reach the parents? So, what do our parents need? Or what do they want for their children or how can we engage them? Maybe we can send parents books, get them more involved.

Thus, Ms. Oats started to expand the boundaries of the discussion, moving from a focus on the problem that parents need to know about READS to a suggestion that they need to
be more involved in READS. That is, she went beyond the problem that the team had been resonating around. At the beginning of the January meeting, however, Ms. Francis again framed the goal related to parents more specifically: “Well, how do we get everyone to come out? …. That's our challenge.”

The rest of the discussion around family engagement at the meeting then centers around getting parents to the school to learn about READS—and, in trying to find particular strategies, some of the earlier discussion came back in. For example, Ms. Francis came back to the notion that parents might be uncomfortable with READS.

Ms. Francis: Because we had talked about how some of our parents — I know you're getting phone calls, but it may not be a number they're familiar with.

Whereas, like Connect-Ed, they all know if they see Mountainside, it's going to be some sort of Connect-Ed message. Or they may know our phone numbers. If we were to call and say, look, I think this would really help your child. I think you need to get more involved. I think some of them may be more inclined if they hear it from someone they're familiar with.

Different teachers proposed very specific strategies for getting more parents to come out to a READS family event, including: personal phone calls; robo calls from Mountainside; and posting on the school website. Eventually, Ms. Francis summed up their decision, which makes room for all of these ideas—that is, that teachers should contact parents using the strategies that they use normally: “Yeah, because I mean I was going to say a lot of us have different ways that we contact our parents.”

In sum, at Mountainside, there was a great deal of back-and-forth amongst the team members around the problems that they were trying to address in order to increase
students’ engagement with their summer books. Eventually, however, the team managed to clearly define the problem at a grain size that allowed them to organize their efforts. Furthermore, these shared goals were brought in as an argument for particular strategies later in the planning phases. This clarity and consensus around specific problem frames was not as apparent at the other two school sites.

**North Shore—lack of resonance around problem specifics.** North Shore’s major adaptation strategy was a set of rallies that were held during the school day in the week leading up to READS Family Night. They also spent a significant amount of time during their working group meetings talking about challenges relating to students’ families; although, they ultimately only decided on one adaptive strategy for engaging their families in READS—i.e., an additional text message.

There was resonance among the North Shore team but around less-defined problem statements. This made it more challenging for the team to commit to potentially powerful adaptations that had been raised in earlier conversations. Specifically, one problem statement that ultimately resonated with almost everyone on the team was that boys were not as engaged in or as excited about reading over the summer. This difference in engagement across gender stood out to the North Shore team as they examined both their school-specific READS data and data from an experimental study of the effects of READS on students’ reading comprehension. In Ms. Howard’s words: “Girls are more engaged in reading, or reading those books.” Indeed, Ms. Howard reported that she has faced this challenge across the ten years she had worked at North Shore:

Ms. Howard: I find overall, [that] boys are less engaged with reading than girls are …. but I find just in guided reading, it’s harder to get boys really engaged in a
book than it is with girls. I don’t really know why. I’ve never really seen why or been able to understand why, but it seems to be that way year after year. Even if you have kids that are on the same level, if they’re below grade level, still boys, they just don’t seem to be bothered with it.

The strategy of holding a boys’ READS rally was first suggested towards the end of the November meeting by one of the beginning teachers, Ms. Krueger, and addressed the problem of boys not being excited (“pumped up”) about reading:

Ms. Krueger: I think it might be beneficial to do a boys’ rally and just really get them pumped up about reading in the summer. And because it would be just boys they’ll think it’s more important that it really is. And then also including some of the books that they like to read on their own throughout the year.

An interesting piece of this strategy, as it is framed by Ms. Krueger here, is having books play a role in the rally. This reflects discussion earlier in the meeting about the role that books play in mediating students’ (and in particular boys’) engagement in reading. For example, responding to one teacher who actually felt that her boys were more engaged in reading than her girls, Ms. Bronte said: “I think it goes back to what Ms. Howard first talked about, is that our boys, anything that deals with sports or anything that deals with like a comic kind of feel to it, they feel more comfortable reading those.” Later in the meeting, Ms. Bronte and Ms. Howard added additional nuance to this discussion, raising two specific problems related to boys and reading. The first problem has to do with matching books to students and the second with getting students (and boys in particular) to complete the reading assignments.
Ms. Bronte: And I think that presents a challenge somewhat to really try to find a book on their reading level as well as interesting for them. They don’t want their books to look like baby books.

....

Ms. Howard: I have parents who come and say they make their kids read every night, and they never do a reading log. And I mean, it’s not like they’re just coming in and saying that. And the kid agrees, “Yes, I read every night.” I'm like, “You’ve already read, just write on the thing what you read.”

Ms. Bronte: Boys are different.

Also in these meetings, following from these discussions, several teachers proposed strategies that would give students an opportunity to interact with, and possibly make choices about, books. Indeed, for a while, an integral part of the rallies was going to be this book matching component.

Ms. Howard: Like maybe if they did like some kind, and it could be included with that, but some kind of where they wrote down books about soccer or The Diary of Wimpy Kid, or wrote down specific books that they really would like .... because I find a lot with boys if they feel like they had a part in the decision, they’re much more likely to work harder...

....

Mr. Jones: ...when our kids are most excited about books is when I actually see them able to pick them up and flip through. When we have our book fair, they are super excited, and I don’t think I’ve talked to any student who has made a
selection and later disliked their selection, because they had the opportunity to
flip.

But while these more specific problems, and strategies linked to these problems,
were voiced, they didn’t become part of the framing that guided the team’s work. That is,
as the team refined their strategy, they focused themselves more broadly around the
problem of engaging, or exciting, boys in summer reading, rather than more specifically
around ensuring that boys were matched with interesting books. That is, the question that
the team was working around—“How can we engage students, and in particular our boys,
in their summer reading?”—is rather broad in comparison to something more specific
based on these conversations, something more like—“How can we make sure that boys
are getting matched with books that they actually want to read?” At the beginning of the
January meeting, for example, Ms. Brontë started the conversation by framing their work
in the following way:

Ms. Brontë: Okay. So let's think about the different components here. So let's
think about that first. Thoughts? What is going to be our adaptations? …. So
thinking about our boys, we want to get our boys more engaged.

In the February meeting, as the team is finalizing their plan, their non-profit
partner questioned the book matching component of the rally, wondering how the team
would manage students’ expectations about their books. In response, the team went back
to the framing of the rally being a way to excite students and in so doing, they let go of
their good thinking around the role that book matching plays in mediating this
excitement. Thus, rather than finding a way around the legitimate challenge that the non-
profit partner raised, they abandoned that particularly powerful adaptation.
Non-profit partner: Just because *Captain Underpants* is really neat, if their reading level doesn't match up, they won't be assigned to *Captain Underpants*. So just a caveat to keep in the back of your mind that while we want kids to get excited, we don't want them to get their hopes up for something specific and then have them be dashed over the summer.

Ms. Sobin: Right. It's more like excited about reading rather than excited about these exact books, yeah.

Ms. Bronte: So with that being said, do we even want to order books? Because I'm thinking if I see a *Captain Underpants* book, I might want that book as a child and I might not understand the difference of I can't get this book. So we might want to think about the rally just being a pump it up of these people read just like you do...

A similar story played out with respect to the team’s strategizing around family engagement. While more specific, well-defined problems related to students’ families were raised during the course of the discussion, these didn’t make it into the framing later used to organize thinking about specific strategies for adaptation. In the November meeting, the team surfaced the following potential problems behind why students didn’t return tri-folds over the summer: parents don’t know how to support reading (Ms. Barton: “…they want to see their child grow, but they have a hard time figuring out how they can support them at home as their kid’s reading”), parents don’t trust READS (Ms. Howard: “And for the parent, you guys are just some random people …. I mean, for the parents who don’t come to the family night, things like that, and they don’t want to, you know, ‘Well, what are they going to think if we send this back?’”), parents didn’t come out to
READS Family Night (Ms. Barton: “…when we did ours last year, I mean, from the percentage of kids who actually did READS, I feel like not that many parents came”).

But in January, Ms. Bronte framed the problem statement more generally, asking the team how they can “pull the parent engagement in” and “get them involved.”

Ms. Bronte: What about – do we want to put something in there about engagement of family? …. So what's something else you all think that we could add to it that's doable? Because I just really think about how can we pull the parent engagement in? And it could be around the Family Night and all that. How do we get them involved in it as well?

This less-specific framing opened the door to more involved strategies proposed by both Ms. Barton and Ms. Bronte. Ms. Barton suggested that parents could be invited to the school “to read a book, like during the day, during our READS lesson or something, and, like, just getting the parents involved in that aspect, like, have a guest speaker.” This idea did not resonate with the team. Ms. Bronte then proposed a room parent strategy:

So you have a room parent or two room parents and that's their job to do. Just trying to think could we recruit a parent to do that and they start to call parents and say, you know, we're having this Family Night, da, da, da, da, duh, and if you want to come in and read a book or whatever and stuff, but trying to build up to get the parents here.

In the end, though, Ms. Howard suggested that this might be challenging: “I'm just trying to think of a parent. Like, just of my current kids that would be able to do it, because of jobs or other children or things like that.” They then decide to send a text instead: “That
would be easier and doable instead of getting the room parent, because we don't have that [structure already in place].” While sending a group text is certainly easier than setting up a room parents system, it doesn’t address or capture much of the good thinking that came up in earlier meetings around families and summer reading—i.e., problems related to parents’ knowledge about how to support summer reading, and lack of trust.

**Riverdale—confusion about key problem terms.** The Riverdale team also failed to achieve resonance around a specific problem statement. This lack of resonance around a problem statement in the early meetings was masked somewhat by a lack of precision around key terms. In particular, there were a few themes running through the decision records for the Riverdale team. One problem statement that generated resonance with all of the teachers was that students (and perhaps boys in particular) needed some “motivating factor,” something extrinsic to get them to engage in summer work, even if they didn’t want to intrinsically.

One strategy that the team started discussing in November was the idea of a READS event in the fall. This idea was suggested by Ms. Hopkins: “I mean, as a school, I think if we – if there was even an assembly as a presentation to those who did do what they were supposed to do and participate and return – who got that prize or that incentive, where it was acknowledged and recognized.” This strategy resonated with the other teachers:

Ms. Hopkins: So I think – I think we may see a difference if yes, we keep doing those necessary things to make sure the awareness is out there, but also find a motivating factor that is so just geared toward them, making sure –

Ms. Greco: Making it awesome.
Ms. Ortiz: Extrinsic.

Ms. Hopkins: Exactly.

Ms. Greco: Sparking that interest.

Ms. Hopkins brought this strategy up again during the January meeting, again framing it around the need to get students “motivated” or “geared up” about reading and completing tri-folds over the summer:

Ms. Hopkins: We knew we had to get them motivated, to have a buy-in for them to just get them geared up about it. …. And that's one of the things we want to do after the summer, have a comeback, and for them to be able to see that this is actually what you did and be recognized for your accomplishment if you actually put in the work and the effort.

Lack of a motivating factor over the summer is one problem that generated resonance with the team. However, Ms. Greco, the School Coordinator, in the way that she talks about this strategy and others, used a somewhat different framing, suggesting that the problem is perhaps about more than just student will. Talking about the fall READS event, she says:

Ms. Greco: … make sure the kids know that it is important. And then again, bring it back to the public again. Let’s see. Let’s have an incentive program at the beginning of the year. “Sammy did so and so” – as a kickoff, letting the kids know that reading is important, not only – true reading. Not just allowing your eyes to glance over some words, because that’s not – that’s not true reading – and getting them to know the difference between the two – really comprehending what you read.
For Ms. Greco, the fall event would not just be a motivation for students, but also an opportunity to impart some critical knowledge to them about what it means to “really” read. For Ms. Hopkins, the theory behind the fall event is that it motivates students, gets them excited. For Ms. Greco, the theory is also about student knowledge (i.e., knowing reading from “true reading”) and accountability:

Ms. Greco: Yes. Thank you. Yes. Because that was important too, because you know how they are when you turn stuff in in class – they turn it – I’m done. ‘Yes, you are. Yes, you are … That’s all you are – finished.’ Just look at this – feedback is very important.

Ms. Ortiz: They’re data-driven, as well.

Ms. Greco: Mm-hmm. And then you get to know what they’re thinking when you start looking at feedback, and that’s really important, too. You can see where they took that left turn as opposed to the right.

Ms. Hopkins: And it gives that buildup. If they’re working on it all summer long and they know they’re gonna come back and see how did we do –

While the fall READS strategy could be designed to accommodate both theories of action, Ms. Greco’s theory requires more resources from teachers. It requires that teachers not only examine data on the number of tri-folds that students turn in, but also their quality. It also requires that a different message be communicated to students prior to the summer—namely, being very clear about what will count as “quality” and telling students that teachers will be looking at their tri-folds. In Ms. Greco’s words: “When you got – you know you got Ms. Hopkins checking that tri-fold – hey buddy. Yes, get it – come on, let’s get it together. Let’s make sure it’s done properly.”
This tension between different theories of action played out again as the team refined the strategy to make summer phone calls to students. In the beginning, Ms. Greco proposed that both teachers and volunteers would call their students over the summer.

While this particular strategy (summer phone calls) resonated with the team, the teachers weren’t actually in agreement about the exact problem that the strategy would address. Ms. Greco was vague as to the underlying strategy at first—it is meant to “spark some interest” and give “support.”

Ms. Greco: Or if we can get some of core staff, just getting – if we – just gathering everybody. This is a community. And we must – and we have to circle our kids and get them to do what’s necessary for them and make it – like you said, spark some interest. Make it interesting. If you’ve got somebody – ‘I know Ms. Samuels is calling at 4:00’…

Ms. Samuels: Exactly. And ‘I know she gonna have questions for me.’

Ms. Greco: …‘We gonna talk about’ or ‘Ms. Hopkins is calling.’

Ms. Samuels: Yeah. That does matter. That’s a very good point. Yeah.

Ms. Greco: They will do that. If you have somebody who is – not leaning over your shoulder, but somebody who is giving you that support, that makes a world of difference. You could be a child. You could be an adult. But if you have support, it makes a difference.

For Ms. Hopkins, however, the logic behind the strategy is that students need a reminder and a check-in; she refers to the READS data where students received just that:

Ms. Hopkins: For me, the one thing that stood out the most about Module 4 was where it talked about how there was the random selection of certain students who
were called or they reached out to them just to remind them because they weren't returning the tri-folds. And then when you saw how those numbers jumped because they were receiving that call just to know that they had somebody actually checking in behind it all…

Their lack of consensus around what this strategy was meant to accomplish came to a head when there were concerns about having enough volunteers to call students. Ms. Greco believed that it would “be beneficial” for the team to call students and read with them; however, Ms. Hopkins could not commit to that:

Ms. Hopkins: …So we will be calling and reading with them and stuff too?
Ms. Greco: You know – I mean we can. That's up to us. I know definitely that's something that [the volunteers] are going to do, and I think that would be beneficial for the students.
Ms. Hopkins: I know for me, to be totally honest, I am all over the place in the summer. I'm traveling all the time. So to commit to a weekly contact to that degree, I mean I do want to contact them …. I'm not sure how feasible it is that all of us do the exact same thing.
Ms. Greco: Okay and we may vary it with us. We may have to vary it a little bit because there are some questions that we can ask them in general just to see if they're reading. So there are some starters. We could say, ‘Okay, what is your book about?’ It's not that we necessarily have to have that book in front of us, but they should be able to tell us what the book is all about. We should be able to decipher if okay, yeah or I don't think so.
And, at the end of the day, the team defaulted to the path of least resistance with both of these adaptations—that is, they did not check students tri-folds over the summer and they did not talk with students about the specifics of their books; rather, they checked in one time over the summer.

As described, at North Shore and Riverdale, initial resonance around an adaptation strategy without first discussing and coming to some agreement around well-defined problems resulted in a later downsizing of the strategy in the direction of doing less rather than more.

**The Role of the School Coordinator in the Decision-Making Process**

Across all three schools, all teachers participated in the decision-making process to some extent; although, some teachers were more involved than others. Mountainside and North Shore had similar team make-ups—an experienced School Coordinator; one or two experienced teachers; and three or more beginning teachers. At these schools, the School Coordinator played an influential role. Specifically, while strategies or problem frames might have been raised by other teachers, including beginning teachers, they were only picked up for continued discussion if seconded by either the School Coordinator or a more experienced teacher.

At Mountainside, Ms. Evans, the School Coordinator, and Ms. Francis, the most experienced fourth-grade teacher, dominated these conversations. You can see this in several ways. First, simply by how much they talked. Second, they were involved in almost every exchange—in some cases, as with the additional scaffolding trajectory, they framed the problem initially; in other cases, as in the recruitment strategies trajectory, they quickly picked up another teacher’s idea and ran with it. Ms. Evans also influenced
the conversation by shutting down some lines of inquiry that were raised by other teachers. For example, one teacher wondered if students understood the reading preferences survey. Ms. Evans responded: “...the experience I had with the surveys is when they had to do them on the computer. They seem to take it very seriously, most students.” Or, when another teacher suggested that they should think about holding a family event during the daytime, Ms. Evans responded: “[The parents of ESL students] come in during the day, they come during the night. They are the ones that are going to come. They will be here, regardless of when you say you're going to have it. They’ll be here.”

At North Shore, although the boys’ rally originated with Ms. Oats, one of the beginning teachers, the idea was quickly picked up Ms. Bronte and Ms. Howard, at which point Ms. Oats said little more about it. During the January meeting, the School Coordinator and experienced teacher built on this strategy in several ways. Ms. Howard wanted it during the day so that boys and male staff could attend. She also wanted samples of books included at the rallies to excite students. But just as the School Coordinator and experienced teacher were the ones who built out these strategies, so too were they the ones who pared it down in later meetings—specifically Ms. Bronte, in the case of the READS rallies. Ms. Bronte was the one who ultimately made the decision to cut out the book-related pieces of the READS rallies. Similarly, around the family engagement conversation, Ms. Bronte and Ms. Howard went back and forth on the room parent idea that Ms. Bronte proposed and the idea of texting parents came up. Eventually, Ms. Bronte decided that it was “easier and more doable” if the teachers just texted parents.
The makeup of the Riverdale team was different from that of the other two schools in that there were no beginning teachers on the team. The major participants in the Riverdale decisions were Ms. Greco, the School Coordinator, and Ms. Hopkins, who was new to the school but had a decade of teaching experience. The other two teachers took a backseat and were generally agreeable with what the others said. While Ms. Greco and Ms. Hopkins were collegial, they didn’t always agree and Ms. Hopkins challenged Ms. Greco in a few cases, as described above.

Conclusions

In this study, I examined how three teaching teams came to decisions around how to adapt an evidence-based summer literacy program. While all three teams came to consensus around a set of adaptations that they planned to enact, one team was more successful than the others at achieving resonance around specific problem statements. This specificity benefited subsequent discussion of the strategies through which the team would address the problems they had identified. In contrast, a lack of resonance and/or clarity around problem specifics at the other two schools meant that potentially powerful adaptation strategies were not included in the final plans. Across all three schools, the School Coordinator played an influential role in the team’s decision-making process.

This work has implications for how researchers and practitioners engage in these efforts moving forward. Specifically, I highlight three insights: the importance of problem specificity in the adaptation decision-making process; the influential role of the School Coordinator and other experienced teachers in the decision-making process; and the potential of adaptive implementation efforts to engage teachers in the work of productive adaptation.
The Importance of Problem Specificity

Improvement science cautions that in the field of education, too often leaders focus on strategy without explicating a theory of change as to how that strategy will address some specific problem (e.g., Bryk et al., 2015). Indeed, this scenario played out at two of the schools in this study at a micro level. While the North Shore and Riverdale teams did articulate problems that they were trying to address and did achieve resonance around these problem statements, lack of resonance around specific problems of practice seemed to prevent earlier good thinking done by teachers from making it into the final plan. In the case of North Shore, lack of agreement around a more specific frame than “getting boys excited about reading over the summer” made it easier for good thinking about book matching (a mechanism theorized in earlier discussions) to be lost along the way. In the case of Riverdale, lack of clarity in earlier meetings around the goals of particular strategies (i.e., what problems the strategies were meant to address) led to eventual conflict as teachers had to make choices about how to spend their time over the summer. This finding suggests the importance of supporting teachers to articulate a clear and specific theory of improvement before jumping into conversations about strategy.

It’s less clear from this study how important it is for teachers to be specific and achieve resonance around the source of the problem—i.e., who’s to blame. At Mountainside, while teachers agreed that lower-level readers were struggling to complete the READS activities independently over the summer, they disagreed about the source of their struggle, with some teachers blaming parents and others blaming a lack of confidence. This lack of resonance around the source of the problem, however, did not
appear to impact the team’s ability to define the problem clearly enough to strategize about how to solve it.

The Influential Role of the School Coordinator

This study highlights the influential role played by the School Coordinator on each team. In all three cases that we examined, it was the School Coordinator who had the most influence over the adaptation plan that ultimately rolled out. This pattern was most apparent at schools with beginning teachers as part of the team. This influence manifested itself in a number of ways, including: picking up and expanding on frames surfaced by other teachers, shutting down lines of inquiry raised by other teachers, articulating framing to start off a meeting, and making final decisions about what to include in the plan.

All three School Coordinators were experienced teachers and in positions of authority over the rest of the team, having been appointed by their principal to help lead these meetings. Both of these factors may have contributed to how their roles played out. Teachers with more experience have more knowledge to bring to both problem finding and problem solving discussions. Also, the School Coordinators may have felt more comfortable countering particular frames proposed by other teachers, for example, because of their positional authority. While it is difficult to tease these two factors apart, in two cases, the School Coordinator’s influence exceeded that of the other experienced teachers on the team, suggesting that positional authority may have added something beyond just teaching experience. This finding suggests that those leading adaptive implementation efforts should be thoughtful in whom they place in charge of facilitating
this work. And, if training resources are limited, they might consider investing additional training in this role.

The Promise of Adaptive Implementation

Finally, while much of this study highlights the ways in which this particular adaptive implementation effort did not proceed in an optimal fashion, that is not to lose sight of the positives and of what these findings mean for adaptive implementation efforts moving forward. That is, teams were required to meet and discuss READS and potential adaptations; they were not required to make adaptations. In fact, it would have been easier for teachers to have made no adaptations and/or to have stuck with adaptations that required very little additional effort on their part. Instead, all teams not only made adaptations, but also committed resources such as classroom and personal time and social capital to these efforts, suggesting that the will, if not always the skill, was present. This suggests that teachers, even teachers working in high-poverty settings, are willing to engage with researchers around adapting evidence-based programs to better meet the needs of their population and/or realize greater impact of existing efforts.

Limitations and Future Research

With any study design, there is always a tension between breadth and depth. This study digs deeply into the adaptation decisions made by teams of teachers within the context of one adaptive implementation effort and is thus necessarily focused on a small sample. Based on these findings, I offer suggestions for others who are interested in engaging in this type of work. Future studies will examine the extent to which findings bear fruit across different school teams and different adaptation efforts.
Also bearing on generalizability and with implications for future research, the schools that we worked in were all high-poverty schools—a setting where teachers frequently cite being overworked with little time for extras (Finnigan & Daly, 2012). It may be the case that teams in schools with more time in the schedule and/or experience with data analysis may function somewhat differently. In addition, while this study has implications for the implementation of evidence-based programs at scale, this effort was highly supported by the research team—who also developed the program being implemented. These findings do not generalize to a less supported effort.

Finally, it would be interesting to see what happens moving forward on a couple of fronts. First, at the schools that participated in this effort, what does READS look like in subsequent years? Do teachers continue to implement at all? What adaptations do they make? What are the longer-term effects of participation in this effort for READS at these three schools? Second, on a more theoretical front, what is the next stage for scale after adaptive program implementation? What tools should the research team leave these schools with and what should the schools do with these tools? How much further should teams take READS?
References


Table 1. Adaptations to READS implementation

<table>
<thead>
<tr>
<th>Core READS Component</th>
<th>Mountainside Elementary</th>
<th>North Shore Elementary</th>
<th>Riverdale Elementary</th>
</tr>
</thead>
</table>
| READS Lessons        | • more work with routine (more lessons and READS-like assignments)³  
                       • extra step to routine | • booster lessons and spread READS out  
                       • organize READS pep rallies | • booster lessons  
                       • promote READS at school pep rally |
| Family Engagement    | • additional recruitment strategy (multiple, based on teacher preference)  
                       • presentation of READS data  
                       • child care | • additional recruitment strategy (text to families)  
                       • child care | • additional recruitment strategy (classroom competition) |
| Summer Scaffolding   | • teacher-recorded tips (2 teachers) | • summer phone calls  
                       • organize READS event in the fall |
Appendix A
READS Activities

<table>
<thead>
<tr>
<th>Time Period</th>
<th>READS Activity</th>
<th>Description of READS Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>November 2014</td>
<td>Initial working group meeting (2 hours)</td>
<td>School teaching teams meet to (1) learn about the research-based principles underlying READS; (2) discuss their school-specific READS data; (3) identify problems of practice related to READS. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>December 2014</td>
<td>Online discussion forums</td>
<td>Working at their own pace, teachers learn more about the critical components of READS through a series of online modules. Teachers brainstorm adaptations to READS.</td>
</tr>
<tr>
<td>January- March 2015</td>
<td>Working group meetings (60-90 minutes per meeting)</td>
<td>School teaching teams meet to (1) discuss possible adaptations and why they want to make them; (2) finalize a set of adaptations that they will commit to. Research team member and/or implementation partner are present.</td>
</tr>
<tr>
<td>March-June 2015</td>
<td>READS implementation</td>
<td>Teachers implement their adaptation plan with support from their local implementation partner. Teachers meet monthly to prep for upcoming READS activities.</td>
</tr>
<tr>
<td>June-July 2015</td>
<td>READS conference in Boston</td>
<td>READS school teams gather in Boston to share their implementation experiences and what they learned.</td>
</tr>
</tbody>
</table>
Appendix B
READS Implementation Guidance

READS Lessons
- Teachers will teach at least 6 lessons (3 narrative texts, 3 informational texts).

Family Engagement
- Host at least 1 READS Family Night (RFN) after Lesson 1 has been taught.
- Send at least 3 invitations for the RFN event (paper, electronic, etc.).
- Convey information about the READS Reading Routine to parents/families at the event.

Summer Engagement
- Send 10-11 weekly tips to families during the summer (implementation partner will send the tips; teachers may change the content of the tips).
- Follow-up with parents whose children have not returned tri-folds (research team will lead; teachers may add or modify).
Chapter 4: Study 3

Examining teachers’ expectations for their students’ success with a teacher-adapted version of an evidence-based summer literacy program

Abstract

Research suggests that teachers are more likely to sustain evidence-based programs that they believe are effective for their students. Thus, in designing implementation strategies to support the sustainability of such programs, researchers might consider how they can generate greater teacher confidence in a program’s local effects. One strategy is to create opportunities for teachers to adapt programs to better meet students’ needs. Little research, however, has explored how this strategy might affect teachers’ expectations of a program’s effectiveness. The purpose of this exploratory case study is to examine how teachers who participated in an adaptive program implementation of an evidence-based summer literacy program described their expectations for the program’s effects on students’ literacy outcomes, prior to students’ completion of the summer program. Semi-structured interviews were conducted with ten fourth-grade teachers in three schools. Results suggest that teachers who grounded their expectations, at least in part, on the adaptations they made and/or observations of students participating in program activities during the school year, tended to be more positive in their outlook for students’ success with the summer program. Furthermore, the valence of teachers’ expectations differed by school, suggesting the importance of school-level characteristics in any given reform outcome. This study has implications for those who are interested in exploring adaptive implementation approaches as a strategy for addressing program sustainability.
Introduction

A pressing question in the education field today is how to sustain evidence-based programs in schools. While the field has been successful at identifying program that can work for some students under some conditions, it has been less successful at supporting teachers’ ongoing use of these programs in schools. Too often, teachers experience a vicious cycle of program churn in which a new set of programs is rolled out each year (Rowan, 2006). Thus, millions of dollars’ worth of formal research knowledge is underutilized. Furthermore, this churn means that teachers and schools are not given the opportunity to use and generate practical knowledge around how the program might work best locally (Choppin, 2011; Cochran-Smith & Lytle, 1999).

In an attempt to better understand this sustainability challenge, Kearns and colleagues (2010) conducted a review of the literature and identified four factors related to program sustainability: external technical support (e.g., training quality and flexibility), teachers’ implementation experiences (e.g., perceived program effectiveness and feasibility); teacher characteristics (e.g., ideology and classroom characteristics); and school and district support. With respect to the sustainability of their own evidence-based literacy program (K-PALS), the authors found that teachers’ perceptions of the program’s effectiveness for their students was one of the strongest predictors of whether or not teachers sustained the program the following year. This finding raises the question: How might those interested in the sustainability of evidence-based programs improve teachers’ expectations for a program’s local success?

For the sake of sustainability, we want teachers to believe in the potential of evidence-based programs to work for their students. However, as Kearns and colleagues
(2010) point out, the goal is not “to shape teachers’ perceptions of a program’s effectiveness, apart from its actual influence on student achievement” (p. 336). One potential strategy for improving teachers’ perceptions of a program’s effectiveness is to design professional development experiences that give teachers a deep understanding of the supporting research evidence, including empirical evidence for the inclusion of specific core program components. After all, the driving reason for using such programs is that there is strong evidence (data, formal knowledge) suggesting that, on average, this program will produce some desired student outcomes. Not all teachers, however, will interpret this research evidence in the same way (Coburn & Talbert, 2006) or believe that it is valid for their students (Stanovich, 2003).

Another potential strategy for improving teachers’ perceptions of a program’s effectiveness is to afford them some degree of flexibility over its implementation. Recently, scholars have suggested that some amount of adaptation may be necessary in order to increase a program’s effectiveness locally and to sustain evidence-based programs over time in diverse contexts (e.g., Datnow & Castellano, 2000; Gutiérrez & Penuel, 2014; Klingner, Cramer, & Harry, 2006; Lewis, 2015). Adaptive program implementations, which give teachers training in a program’s research-based principles as well as supports to make local adaptations, may increase teachers’ positive perceptions of a program already deemed effective and a good fit for the context.

The purpose of this exploratory study is to contribute to the conversation about program sustainability by examining teachers’ expectations for students’ success with a teacher-adapted version of an evidence-based program. Specifically, teachers in this study participated in an adaptive program implementation of a summer literacy program
called READS for Summer Learning (READS) where they were afforded opportunities to adapt program components. In so doing, I aim to generate hypotheses related to both the potential of adaptive approaches to affect teachers’ perceptions of program effectiveness, as well as to explore why perceptions might differ across teachers and schools.

Specifically, I ask:

1. How do teachers describe their expectations for students’ success with the program?
2. On what knowledge and beliefs do teachers base their expectations?

**Conceptual Framework**

To explore teachers’ perceptions of the effectiveness of READS for their students, I draw on two bodies of literature. First, I draw on literature that speaks to the relevance of teachers’ expectations for their students more broadly. I also draw on literature that examines the various factors upon which teachers base these expectations.

**Teachers’ Expectations for Students**

While teachers’ expectations for students may be related to the likelihood that they will sustain an evidence-based program over time (Kearns et al., 2010), there is another reason why we should care about and pay attention to the expectations that teachers formulate about their students’ likely success with an evidence-based program. That is, teachers’ expectations for their students’ success with a particular program may also impact students’ actual success with the program. Indeed, there is a large body of research suggesting that teacher expectations can become a self-fulfilling prophecy (for reviews, see Jussim & Eccles, 1995; Jussim, Robustelli, & Cain, 2009; Weinstein, 2002).
Research suggests that teachers’ expectations of their students can affect student outcomes and that this effect may be stronger for students of color and/or lower-achieving students (Jussim & Harber, 2005). Low socioeconomic status may also be related to lower teacher expectations and poorer language and literacy outcomes (Sorhagen, 2013; Speybroeck et al., 2012), and these effects can persist over time (Sorhagen, 2013). With respect to reading achievement, some studies have found that teachers’ expectations of student reading abilities predict later reading achievement (Brattesani, Weinstein, & Marshall, 1984; Hinnant, O’Brien, & Ghazarian, 2009; McKown & Weinstein, 2008). Furthermore, students whose parents hold low expectations of them may be doubly disadvantaged, as parental aspirations are related to teacher expectation bias (De Boer, Bosker, & van der Werf, 2010).

Given this, we might expect teachers at high-poverty schools serving large numbers of struggling readers to have lower expectations for students’ success with evidence-based programs. This is particularly troubling, given that students at these schools are most in need of and have the most to gain by the use of such programming. Moreover, high-poverty schools are more likely to employ inexperienced teachers (Lankford, Loeb, & Wyckoff, 2002), whom research suggests may be most in need of high-quality curricula to guide their instruction (Kauffman, Johnson, & Kardos, 2002).

**How Teachers Formulate Expectations**

In formulating expectations for students’ likely success with a particular program or on a particular assessment, teachers take part in a form of sensemaking (Weick, 1995). Sensemaking is concerned with how individuals, including teachers, make meaning of the world around them; for example, researchers have studied how teachers make sense
of reading policy (Coburn, 2005), science standards (Allen & Penuel, 2015), and student learning data (Bertrand & Marsh, 2015). When teachers formulate expectations or predictions, they draw on mental models they have constructed, which may be rooted in interpretations of empirical research evidence or classroom observations, for example, but also in prior beliefs about students and their families particularly with respect to race, gender, and socioeconomic status (Diamond, Randolph, & Spillane, 2004; Spillane & Miele, 2007).

In making sense of the world around them, including formulating expectations of students, teachers may draw on different types of knowledge. Formal or research knowledge is “logical, impersonal, and decontextualized,” while practical or local knowledge is “informal, personal, and situated…borne of teachers’ own experiences” (Fuchs & Fuchs, 1998, p. 127). This is not to say that one type of knowledge is inherently more useful than the other. Indeed, in a paper addressing the challenge of disseminating scientific research, Stanovich (2003) argues that different “styles” of reasoning, rather than being either right or wrong, exist on a “continu[um] (better viewed as parameters that we are constantly adjusting so as to facilitate the [scientific] process)” (p. 121).

Researchers, for one, tend to favor “probabilistic prediction,” while teachers tend to favor “a case-based approach.” While the former aligns closely with formal knowledge, the latter aligns closely with practical knowledge. Researchers, Stanovich (2003) argues, are often looking for a causal model, whereas teachers want a sequence explanation, that is, to understand what’s happening within their local context.

There are benefits and drawbacks to both types of reasoning. Goldenberg and Gallimore (1991) have argued that “research knowledge ignores particularities of persons
and places in order to be generalizable, but at the risk of applying to nothing in particular,” while “local knowledge is immediate and more tangible, but it is incomplete and runs the risk of blind and rigid insularity” (p. 11). When examining teachers’ sensemaking of their students’ likely success with an evidence-based program, we would hope to see evidence that teachers are drawing on both types of knowledge—that is, that their perceptions are influenced both by the empirical evidence that a program can work and local data that suggests that it is, or is not, working as intended. Thus, both causal explanations and sequential explanations potentially have a place in predicting the likely success of the local implementation of an evidence-based program.

The data use literature provides some insight into the different types of knowledge that teachers are and are not likely to use in making judgments. Ingram, Seashore Louis, and Schroeder (2004) conducted a longitudinal study of high schools using a continuous improvement approach. Specifically, they looked at the basis upon which teachers judged the effectiveness of their instruction. They identified a number of barriers to establishing a robust data culture. For one, there wasn’t always agreement about which outcomes to focus on when determining “effectiveness.” Also, teachers tended to value locally developed measures (e.g., teacher assessment, grades) more than standardized assessments. Finally, they found that when describing decisions related to effectiveness, teachers “often rel[ied] on anecdotal information, their experience, or intuition rather than on information they have collected in a systematic manner.”

Coburn and Talbert (2006) examined practitioners’ conceptions of data and data use practices. They found that practitioners have different conceptions of what counts as “high-quality” evidence or research—for example, some believed authenticity and
teacher judgment to be most valid, while others believed that assessments measuring relevant outcomes were most valid. There were also differing views on how much to trust research, with some putting great faith in researcher-developed programs or practices, while others wanting to withhold judgment until they could observe the program at work in their classrooms. Looking at patterns across respondents, the researchers found that conceptions of evidence-based practice differed along two lines: the individual’s role (e.g., teacher, principal) and participation in previous district reform efforts. Teachers tended to hold less well-developed conceptions of high-quality research and were most likely to value data sources that gave them insight into students’ thinking and reasoning. The authors theorized that this is because teachers need timely information that can inform day-to-day instruction and subsequent research echoes these findings (e.g., Farrell & Marsh, 2016). Conceptions about evidence and data use were also linked to participation in prior reform efforts, however, suggesting that a particular conception of evidence-use may be cultivated.

Taken together, this research suggests that practitioners don’t value all data equally. In particular, they may value data more if it is timely, local, and provides insight into students’ thinking. But data isn’t the only factor upon which teachers might base their perceptions of a program’s effectiveness. While we would hope that teachers ground their inferences in evidence, whether that evidence is coming from researchers or is collected locally, teachers’ expectations for their students may also be mediated by prior beliefs and experiences, which may or may not be grounded in evidence.

Study Context
All of the teachers in this study participated in an adaptive implementation of an evidence-based summer literacy intervention called *READS for Summer Learning* (READS). The goal of this experience was to support teaching teams to adapt READS in order to better meet the needs of their local context. In this section, I provide background information on both READS and the particular adaptation process in which they participated.

**READS for Summer Learning**

The mission of READS is to address the problem of summer reading loss by engaging students in books over the summer. The program theory underlying READS is that providing students with free summer books, matched to students’ interests and reading level, along with teacher and parent scaffolding will result in more voluntary summer reading and improved reading achievement (see Figure 1). This theory is operationalized by four core components: (1) at the end of the school-year, teachers teach students a comprehension routine to use with their summer books; (2) the school hosts a family event where parents learn about READS and how they can encourage their child to participate; (3) students receive ten books over the summer that are matched to their reading level and interests; and (4) during the summer, families receive “nudges” in the form of phone calls and/or text messages reminding them about READS, while students receive prizes for participation. During the summer, each book comes with a tool called a “tri-fold” that supports students’ use of the comprehension routine. Students return their tri-folds for prizes, and tri-fold returns are used as a measure of students’ engagement with their books.
READS is an evidence-based program—in other words, through a series of randomized controlled trials conducted over the last ten years, researchers have identified and validated the program’s core components. Experimental results suggest that READS is effective at improving students’ reading comprehension over the summer months, on average, especially for students in high-poverty schools (Kim, 2006; Kim et al., 2016; White, Kim, Kingston, & Foster, 2014). In short, formal knowledge suggests that READS, and in particular its core components can support students’ reading comprehension over the summer, at least on average. Research results also reveal, however, that many students do not participate in READS over the summer. For example, in a recent study involving 19 elementary schools, 55 percent of treatment students participated in the program (i.e., returned at least one tri-fold over the summer) (White et al., 2014). In short, although READS works on average, there are still many unknowns about why some students participate in READS while others do not.

**Structuring Teachers’ Adaptations of READS**

Bryk, Gomez, Grunow, and LeMahieu (2015) suggest that even evidence-based programs, and particularly programs with multiple components that interact heavily with local systems, likely need to be adapted to achieve results reliably at scale. We developed an adaptive implementation approach in order to support teachers to use both formal and practical knowledge to improve the effectiveness of READS for their students. Specifically, teams of teachers were supported to identify specific challenges related to student and/or family participation in READS and to come to consensus around particular strategies for addressing these challenges.
The work of crafting a team adaptation plan began in November 2014 and continued through March 2015 after which teams implemented their adapted version of READS. Teams met three times over the course of this period. These meetings took place in person and ranged from one to two hours. At the November meeting, I presented formal knowledge to teachers, including the research-based principles underlying READS and results of the empirical studies described above. I also presented school-specific READS data from previous years (e.g., the proportion of students who returned tri-folds, the proportion of families who attended the family event). In December, teachers participated in a series of online modules where they learned more about each of the four READS core components. In January, the team met to draft a proposed set of adaptations. In February, the team finalized their decisions and produced a written document outlining their plan.

Special emphasis was given to the tri-fold during these planning meetings. The READS tri-fold was presented as a lever or practical measure that teachers might use as an indicator of success. The idea of tri-folds as a measure of success was introduced as part of the practical improvement goal set before teachers in the November meeting—the goal that teaching teams would make adaptations to address the question: “How can we, as a school, foster student engagement with books over the summer (as measured by tri-fold data)?” While end-of-year standardized test scores are something that teachers are concerned about and hope to improve, teachers often feel powerless to do so. Thus, we introduced tri-fold returns as a lever, related to these test scores, that teachers might feel it was more in their locus of control to improve.
In the process of learning more about READS, drafting, and finalizing a plan, teachers were encouraged to bring their own practical knowledge into the conversation, including thoughts about why a particular program activity hadn’t been as successful and what they might do to make it more successful. For example, when data were presented to teachers, they were encouraged to use the following questions to think about and discuss the data: What do you see? What do the data suggest? What are the implications of this data for READS at our school? From March on, the team implemented their plan. See Appendix A for a detailed timeline of READS activities.

**Methods**

This exploratory case study examines how teachers who participated in an adaptive program implementation of an evidence-based summer literacy program describe their expectations for the program’s effects on their students’ literacy outcomes, as well as the knowledge and beliefs that influence those expectations.

**Participants**

This study is part of a larger case study of three school teams. This study includes 10 fourth-grade teachers working at three high-poverty schools in District M, a mid-sized urban district in one southeastern state. See Table 1 for characteristics of participating teachers.

**Mountainside.** Five teachers implemented READS at Mountainside. Three teachers were beginners (i.e., in their first or second year of teaching) and had never worked with READS before. Of the two experienced teachers, one had previously worked with the READS lessons. During the 2014-15 school year, less than 30 percent of Mountainside students scored at or above grade level on the end-of-year reading
assessment, compared to over 40 percent of students in the district. A working conditions survey provides additional context. Compared to all teachers in the district, teachers at Mountainside were less likely to agree that class sizes were reasonable or that they had sufficient instructional time to meet the needs of all students. Less than half agreed that “teachers are allowed to focus on educating students with minimal interruptions.” With respect to community support and involvement, while most teachers agreed that “parents know what’s going on in this school,” they were much less likely than teachers in the district to agree that “parents support teachers, contributing to their success with students” or that “community members support teachers, contributing to their success with students.”

**North Shore.** Three teachers implemented READS at North Shore. All three teachers were beginners, and only one had previous experience with the READS lessons. Similar to Mountainside, during the 2014-15 school year, less than 30 percent of North Shore students scored at or above grade level on the end-of-year reading assessment. Less than 40 percent of teachers at North Shore agreed that class sizes were reasonable to meet the needs of all students, and less than half agreed that teachers had sufficient instructional time to meet the needs of all students. Also similar to Mountainside, many teachers felt a lack of support from parents.

**Riverdale.** Two teachers implemented READS at Riverdale. Both were experienced teachers, and one teacher had previously worked with the READS lessons. Riverdale differed from the other two schools in several ways. For one, during the 2014-15 school, Riverdale served more students who were reading at grade level. Additionally, larger percentages of teachers agreed that they had reasonable class sizes and sufficient
instructional time to meet the needs of all students. In fact, these percentages exceeded those in the district as a whole. And teachers at Riverdale were much more positive about parental and community support. Again, these scores exceed those in the district.

**Data Collection**

All of the teachers who implemented READS at these schools participated in an in-person 60-minute interview at the end of the school year. At the time that the interview was conducted, teachers had completed all of the READS lessons and READS Family Night had taken place at their school. However, students had not completed the summer intervention. As part of this interview, teachers were asked the following question: “Imagine that we are checking in with your students in the fall—so, after they have received all of their books and their tri-folds. Given your knowledge of your students, your knowledge of READS, and your interactions with your students around READS this year—what do you think the READS team will find or observe with these students as they enter fifth grade?” Teachers’ responses to this question and to subsequent probes were recorded and transcribed.

**Data Analysis**

Data analysis proceeded through the following steps. First, I excerpted teachers’ responses to the question above. Then, I engaged in a round of open coding and memoing, allowing themes to emerge. I coded all outcome(s) that teachers predicted for their students, including both proximal outcomes and distal outcomes. Student outcome codes included: *read books over the summer, engage with the READS Reading Routine,* and *improve comprehension.* I also coded any concerns that teachers shared related to students’ participation and outcomes, as well as the knowledge and beliefs upon which
teachers based their predictions and concerns. Concern codes included: *support at home* and *student motivation*. Knowledge and beliefs codes included: *READS data, teacher or team adaptations*, and *local data*. See Appendix B for the full list and descriptions of codes.

To further explore the nature of teachers’ expectations for their students’ success with READS, I coded the valence of each teacher’s predictions. Specifically, I coded each teacher’s overall predictions for her students as either *mostly positive, mostly negative, or mixed*. Teachers who predicted positive outcomes for most students, even if they indicated that a few might not read or might not grow as readers, for example, were coded *mostly positive*. Teachers who predicted positive outcomes for some groups of students (e.g., girls, higher-level readers) but not other groups of students were coded *mixed*. Teachers who predicted a lack of participation in program activities (e.g., reading, tri-folds) or a lack of positive outcomes (e.g., improved comprehension) were coded *mostly negative*, even if they indicated that a few students would benefit from the program.

I then explored the relationship between the nature of teachers’ expectations and the knowledge and/or beliefs upon which they based these expectations. I accomplished this by coding how teachers’ used their knowledge and beliefs—that is, as evidence to support a positive prediction and/or a negative prediction or concern. For example, one teacher predicted that few students would return tri-folds with the parent side completed. She based this negative prediction on her observations during the READS lessons—i.e., only one or two students returned homework with the parent side completed. Thus, this is an instance of local READS data being used as support for a negative prediction.
Finally, to facilitate pattern matching, I entered all of the codes into a series of matrices, organized by teacher and school (Miles, Huberman, & Saldana, 2013). Specifically, I looked for patterns and relationships between the valence of teachers’ predictions, teachers’ concerns for students, and the bases of teachers’ predictions and concerns. I wrote analytical memos to record my thinking and to further explore patterns and themes (Strauss & Corbin, 2008).

**Findings**

Findings are presented by research question. First, I describe the types of outcomes that teachers predicted for their students, as well as the concerns that they held. Then, going school by school, I describe the valence of teachers’ predictions and the knowledge and beliefs upon which these were based.

**Research Question 1: How do teachers describe their expectations for students’ success with READS?**

**Predicted outcomes.** In describing their predictions for students, most teachers named outcomes that are part of the READS program logic; although, some teachers were more comprehensive than others in their descriptions. At one end of the spectrum were teachers who described both process and long-term outcomes, including: Ms. Kelley and Ms. Park at Mountainside; Ms. Pine at North Shore; and Ms. Maddow and Ms. Armstrong at Riverdale. In addition to naming “improved comprehension” as a long-term outcome, all of these teachers talked about students engaging in the READS Reading Routine and most mentioned tri-folds explicitly. Four of the 5 teachers also named “read books,” a process outcome. Furthermore, all of these teachers except Ms. Pine specified outcomes for specific subpopulations of students, including lower-level
readers and boys. For example, Ms. Park said: “I think we will see greater growth in the group of males.” Interestingly, most of these teachers were experienced teachers and Ms. Pine and Ms. Maddow, both beginning teachers, had worked with the READS lessons in the past.

On the other hand, Ms. Carpenter, Ms. Campbell, and Ms. Pearson named fewer outcomes—improved comprehension (Carpenter, Campbell); engage with the READS Reading Routine (Pearson); interest in reading (Carpenter); read books (Campbell, Pearson). And while Ms. Gunn mentioned improved comprehension and engagement with the READS Reading Routine, she also talked about interest in writing and improved writing, while Ms. Rogers mostly talked about students’ appreciation for free books—outcomes which READS was not designed to address.

**Concerns.** The most common concern that teachers raised was around the degree of support that students would receive at home. This concern was raised by 6 of the 10 teachers, including all three teachers at North Shore. For example, Ms. Pearson said:

> Reality, I think a lot of my fourth graders take care of infants, take care of younger siblings; sometimes Mom doesn't make dinner until 10 at night, when they should be in bed by 8:30pm. They have to get up in the middle of the night and go to Grandma's house because someone has to work. There's oh, gosh – I know of abuse in the home of three of my students. That's not to say the abuse that goes on in other homes. The students who I think have the support they need to be successful are four students in my class.

Three of these 6 teachers also raised concerns about students’ motivation to participate in READS over the summer. For example, Ms. Carpenter confirmed that she
thinks parental support is key and named student motivation as a reason why her hopes didn’t quite match her predictions for students: “I think [parental support] is [important]. Yeah. I think so, too, because if you think about kids, left up to their own on the summer, would they really read, unless you're a motivated reader?” Beyond that, there were idiosyncratic concerns: Ms. Kelley worried about one student’s forgetfulness, while Ms. Campbell thought that one student who “isn’t able” would struggle to participate fully in READS. Ms. Maddow thought some students might be too busy for READS over the summer, while Ms. Rogers had concerns that students didn’t fully appreciate the READS program.

The valence of teachers’ predictions for students tended to differ by school and were closely tied to particular types of knowledge and/or beliefs, thus we present these results together and by school.

Research Question 2: On what knowledge and beliefs do teachers base their predictions and concerns for students’ success with READS?

Mountainside. The four Mountainside teachers were generally positive when asked for their predictions about what researchers would find when they came back in the fall. Ms. Kelley was most clear and positive, predicting that the vast majority of her students, and in particular her lower-level readers and boys, would engage with READS, return tri-folds over the summer, and improve their reading comprehension. Ms. Park was also positive—although she qualified some of her predictions with “if,” she predicted that most students would follow through with READS in the end.

These teachers’ positive predictions were rooted in local READS data, specifically both actions that they had taken to adapt READS and/or what they had
observed in their own classrooms. For example, Ms. Kelley cited the actions that she had taken this year: “Because we have done so many READS lessons this year. I mean like there’s no excuse. They know how to do it. They are going to be able to do it by themselves. They don’t need their parents to help them.” Ms. Park cited local data as well as program theory, combining what she saw in her classroom with the READS causal model:

I think if they do the READS program, and do it accordingly, doing the reading and the tri-fold, I’m expecting to see growth, a great amount of growth for those students, for the groups we were looking at, the males versus the females. From what I saw in the classroom I saw the males doing more, and I think we will see greater growth in the group of males, when it looks at the connection, with the correlation between, looking at the tri-folds, and performance on the [state test], and those types of standardized tests.

Ms. Carpenter and Ms. Gunn were also mostly positive; however, both teachers expressed more concern around what students would actually do over the summer. While they referenced the positive early indicators that they had observed at their school (e.g., “they show excitement now and they engage”; “I’ve seen that we’ve changed the dynamic as far as the family involvement and the student involvement”), other knowledge and beliefs led them to pause and wonder if their students had the parental support at home and were motivated enough to read over the summer and complete the tri-folds. Ms. Gunn’s concerns were also rooted in local data. Ms. Gunn had heard her students talk about their past participation in READS, but the data shared by the researchers told a different story. This contradiction makes her pause: “I’ve had several
of them say, oh, we’ve done this program last year and I’ve seen the data from the year
before so that is why I am like – the data doesn’t lie. The data says they really weren’t
involved.” Ms. Carpenter’s concerns, however, were rooted in her “personal experience”
as an aunt. Ms. Carpenter considered what she knew about her nephews and how they
typically behaved over the summer: “Because like I just know from my own personal
experience I have nephews that need managing…” When pressed to make a prediction,
however, both of these teachers responded positively, if not specifically. Ms. Gunn
predicted improved reading and writing outcomes and Ms. Carpenter predicted that her
students would be “on point.”

**North Shore.** The teachers at North Shore were more pessimistic, a pessimism
which was often rooted in knowledge and beliefs about students and their families. Ms.
Pearson was the most negative. She didn’t name any specific benefits from READS and
predicted that only four students had the support needed to do READS over the summer:
“The other students, although they are extremely intelligent, they don't have enough
structure and support at home to really be 100 percent successful for READS.” Ms.
Rogers predicted that about seven of her students would be excited about the books. For
her too, students’ participation in READS “just depends on what their home life is like.”

Ms. Pine was more explicit about the READS program logic: “I think their
comprehension skills will be better if they actually, if they actively participated in the
story guesses and answering the questions and getting their parents involved.” Unlike the
other two teachers, she also cited specific evidence from her observations of students’
participating with READS to ground her predictions about what would happen over the
summer. She noticed that only a few students were returning their READS homework
with the parent side completed and this, coupled with her knowledge of her students’ home lives, made her think that only a few students would have parents participate over the summer: “That's what happened when I sent home the homework. But over the summer, they might get, maybe five on a regular basis might get their parents to fill out that part.”

**Riverdale.** Predictions at Riverdale were more idiosyncratic. One teacher, rather than making predictions, explained what she had told students she expected of them over the summer. The expectations that she shared with students were high and rooted in the culture of the school. Riverdale was using the Scholastic Reading Inventory (SRI) to monitor students’ reading growth across the school year. Ms. Campbell had told students exactly where they needed to be on this assessment, exactly where they were, and exactly where she expected them to be when they returned to school in the fall. Moreover, according to her, students were aware of what they needed to do to maintain or improve their reading level over the summer—i.e., read books at their level. Ms. Campbell rooted her these expectations for students in this logic as well, which is both the READS program logic and a logic that is promoted by the school, and in her knowledge that students were reading books on their level. She also highlighted the opportunity that Riverdale teachers had been given to review their students’ book lists: “But since we as the teachers can go in and get them books based on what their Lexile is, we’re able to go in and make changes to whatever their book list is they received.” Ms. Campbell did not mention parents or families.

Ms. Armstrong also mentioned the SRI—specifically, she cited the fact that all but one of her students had grown in reading across the year, as measured by the SRI, as
evidence that students would continue to grow over the summer. But Ms. Armstrong cited other evidence that made her think this as well. For one, she had spoken with a few of her students who were very positive about READS. For another, thinking back across the school year, she remembered that her students (and especially her boys) hadn’t liked reading at the beginning of the year but by the end, “I had as many boys as girls that were reading books, wanting to take test on Accelerated Reader.” Ms. Armstrong cited what the Riverdale team had done, with the help of READS, to address the needs of their boys, as well as the results: “…the boys got interested, we finally got matched up books for each boy, what they like to read, and the READS program helped that a lot…”

Ms. Maddow was less positive than Ms. Armstrong, nor did she report sharing high expectations with students like Ms. Campbell. She believed that some of students would participate in READS activities, while others “won’t do anything.” Here she cited lack of parental support, and she was the only teacher at Riverdale to do so. Ms. Maddow’s predictions were rooted neither in her knowledge of READS nor in her knowledge of students’ interactions with READS but rather in her knowledge of her students more generally:

I know for some of them, a high reading level, being that they're constantly reading, either high, or it doesn't slide as much as it does. So if not high, it will stay the same, just from the constant interaction. I can imagine they're not going to do it every day. They're going to do something to mail those tri-folds back, and get the new books.

Discussion
Several themes emerge from these findings. First, teachers seemed more or less clear on the program theory—that is, the kinds of process and outcome objectives that they should be predicting or hoping for students to achieve. Second, teachers’ local knowledge played a major role in their predictions for students’ participation with and benefits from READS over the summer. Third, a major concern for many teachers—and the concern most often raised by teachers—was the degree to which students would be supported at home over the summer. Finally, while there were teachers at each school who were more clear on program theory, who used local knowledge to inform predictions for their students, and who had concerns about parental support over the summer, the valence of teachers’ expectations differed by school, suggesting the importance of school-level characteristics. In this discussion, I consider each theme in turn and the implications of that theme for researchers and practitioners interested in exploring adaptive implementation approaches as a strategy for addressing program sustainability.

READS program theory—that is, how READS is supposed to work—is part of the formal knowledge underlying the intervention. It includes inputs (e.g., access to books), process outcomes (e.g., reading the READS books), and the desired long-term outcome (i.e., reading comprehension). In describing their predictions for students, some teachers named both process outcomes and long-term outcomes, while others did not. A few teachers cited unrelated outcomes like appreciation for free books or improved writing skills. Most of the teachers who described both process and outcome objectives were either experienced teachers or beginning teachers who had worked with the READS lessons before. Moreover, teachers demonstrating a more robust vision of the READS program theory were generally more positive in their predictions for students.
Prior research suggests that teachers do not always agree on which outcomes to focus on when determining the “effectiveness” of an instructional practice or program (Ingram et al., 2004). My findings suggest that some teachers were focused on more relevant outcomes than others, which has implications for the sustainability of evidence-based programs. It is problematic if teachers are focused on a process or long-term outcome which the program was not designed to—and therefore may not—address. In such a case, teachers may unfairly judge a program to be less effective than it actually is. Although all teachers in this study received training in the READS program logic, it may be that experienced teachers and/or teachers who were already somewhat familiar with the program were better able to internalize this formal knowledge, suggesting that less experienced teachers may need more intensive professional development around theorized program pathways.

Teachers may look to formal knowledge for guidance around what to attend to in their classrooms as they are implementing. When it comes to predicting their own students’ program participation and outcomes, however, my findings align with previous research suggesting that teachers may rely more heavily on practical knowledge, including evidence that is timely, local, and provides insight into students’ thinking (Ingram et al., 2004). In particular, there were three subcategories that emerged from within this larger category of practical or local knowledge—knowledge of what the teaching team had done to locally adapt READS, evidence from teachers’ own observations of student and family participation with READS during the school year, and teachers’ knowledge of students and families apart from READS, which was sometimes grounded in evidence and sometimes not. Teacher who cited either their own adaptive
efforts and/or evidence of students’ participation with READS activities tended to be more positive in their predictions for students’ likely success with the program over the summer. Teachers who relied more heavily on their knowledge of students and families apart from READS tended to be less positive in their predictions for the summer.

Finally, the concern most often cited by teachers was the degree to which students would receive support from families at home. In one case, this concern was rooted in the teacher’s observations of her students’ homework completion rates during the school year. In most cases, however, this concern was rooted in previously held beliefs about students’ families. Given school-level indicators on the teacher working conditions survey, this finding is not surprising. Both Mountainside and North Shore teachers rated parental and community support very low on this survey, much lower than the district on the whole and much lower than teachers at Riverdale. Thus, it makes sense that this concern was expressed by all of the teachers at North Shore and half of the teachers at Mountainside, perhaps reflecting more general concerns about home-school partnerships.

Findings about teachers’ use of local knowledge and concerns for students go hand-in-hand, as both contributed to teachers’ ultimate expectations for students’ success with READS over the summer. In assessing students’ likely success, teachers seemed to weigh various sources of local knowledge and their concerns for students. In some cases, for example at Mountainside, teachers’ concerns regarding lack of support at home were outweighed by adaptations that they had made or positive indicators of student engagement in READS that they had observed in their classrooms. This finding is heartening, given the low parental and community support scores at Mountainside, and suggests that adaptive implementation approaches might be able to generate greater
teacher confidence in a program’s local effects, despite local conditions that might otherwise cause teachers to have lower expectations for students’ success with an evidence-based program. At North Shore, on the other hand, teachers’ concerns for their students appeared to win out. Although this team had made adaptations to the program, none of the teachers cited these adaptations when thinking through their predictions for students’ success. Rather, teachers were caught up in their concerns that most students would not have the support that they needed to be successful over the summer.

**Conclusion**

This study speaks to researchers and practitioners who are currently tackling the challenge of sustaining evidence-based programs in schools. While the study’s small sample size limits the strength of its conclusions, we are able to generate several hypotheses that warrant further exploration. Kearns and colleagues (2010) challenged the field to explore strategies for “shaping” teachers’ perceptions of effectiveness, while at the same time encouraging them to be critical consumers of research-based practice. This study suggests that one strategy for doing this might be to encourage teachers to give more weight to local outputs and process outcomes, when considering students’ likely success with a particular program, and to give less weight to factors outside of their control. Additional research should be undertaken to test these hypotheses with a larger sample size. Future research should also consider how teacher characteristics like teaching experience and prior experience with the evidence-based program may influence teachers’ perceptions of program effectiveness. Finally, future research should consider the role of school culture in priming teachers feel more or less positive about their students’ likely success with an evidence-based program.
References


Kim, J. S., Guryan, J., White, T. G., Quinn, D. M., Capotosto, L., & Kingston, H. C. (2016). Delayed effects of a low-cost and large-scale summer reading intervention


Speybroeck, S., Kuppens, S., Van Damme, J., Van Petegem, P., Lamote, C., Boonen, T., & de Bilde, J. (2012). The role of teachers' expectations in the association


Access to matched and interesting books with tri-folds

Teacher-directed, end-of-year lessons and parent/family support with tri-folds

Amount of home-based summer book reading routines with tri-folds

Reading comprehension

Figure 1. READS Program theory for improving reading comprehension by fostering children’s engagement and participation in home-based summer book reading routines with tri-folds.
Table 1. Teacher characteristics

<table>
<thead>
<tr>
<th>Teacher</th>
<th>Teaching Experience</th>
<th>READS Experience</th>
<th>School</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms. Gunn</td>
<td>beginner</td>
<td>none</td>
<td>Mountainside</td>
</tr>
<tr>
<td>Ms. Carpenter</td>
<td>beginner</td>
<td>none</td>
<td>Mountainside</td>
</tr>
<tr>
<td>Ms. Kelley</td>
<td>experienced</td>
<td>none</td>
<td>Mountainside</td>
</tr>
<tr>
<td>Ms. Park</td>
<td>experienced</td>
<td>1 year</td>
<td>Mountainside</td>
</tr>
<tr>
<td>Ms. Pine</td>
<td>beginner</td>
<td>1 year</td>
<td>North Shore</td>
</tr>
<tr>
<td>Ms. Pearson</td>
<td>beginner</td>
<td>none</td>
<td>North Shore</td>
</tr>
<tr>
<td>Ms. Rogers</td>
<td>beginner</td>
<td>1 year</td>
<td>North Shore</td>
</tr>
<tr>
<td>Ms. Campbell</td>
<td>experienced</td>
<td>none</td>
<td>Riverdale</td>
</tr>
<tr>
<td>Ms. Maddow</td>
<td>beginner</td>
<td>1 year</td>
<td>Riverdale</td>
</tr>
<tr>
<td>Ms. Armstrong</td>
<td>experienced</td>
<td>1 year</td>
<td>Riverdale</td>
</tr>
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Appendix A
READS Timeline and Activities

<table>
<thead>
<tr>
<th>Month</th>
<th>READS Activity</th>
<th>Description of READS Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov</td>
<td>Teacher working group meeting (2 hrs.)</td>
<td>Teacher team meets to (1) learn about research-based principles behind READS; (2) discuss school-specific READS data; (3) identify problems of practice related to READS. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Dec</td>
<td>Online discussion forums</td>
<td>Teachers learn more about the core components of READS through a series of online modules. Teachers participate in discussion forums. Teachers brainstorm adaptations to READS that they are interested in discussing with their team. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Jan</td>
<td>Teacher working group meeting (1.5 hrs.)</td>
<td>Teacher team meets to (1) discuss possible adaptations and why they want to make them; (2) decide on a set of adaptations that they would like to make. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Feb</td>
<td>Teacher working group meeting (30 min)</td>
<td>Teacher team addresses any questions/concerns that the research team has about their plan. Research team member and implementation partner are present.</td>
</tr>
<tr>
<td>Mar</td>
<td>Implementation check-in (30 min)</td>
<td>Teachers check in with each other to talk about – how it’s going, what’s working/not working, what they are learning.</td>
</tr>
<tr>
<td>Apr</td>
<td>Implementation check-in (30 min)</td>
<td></td>
</tr>
<tr>
<td>May</td>
<td>Implementation check-in (30 min)</td>
<td></td>
</tr>
<tr>
<td>Jun</td>
<td>Implementation check-in (30 min)</td>
<td></td>
</tr>
<tr>
<td>Jul</td>
<td>READS conference in Boston</td>
<td>READS teacher teams gather in Boston to share their implementation experiences and what they learned.</td>
</tr>
</tbody>
</table>
### Codebook

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>student outcomes</td>
<td>predicted outcomes</td>
</tr>
<tr>
<td>engage with RRR</td>
<td>that students will use the READS Reading Routine</td>
</tr>
<tr>
<td>improved comp</td>
<td>that students' reading comprehension will improve</td>
</tr>
<tr>
<td>TFs</td>
<td>that students will return tri-folds</td>
</tr>
<tr>
<td>state test</td>
<td>that READS will affect students’ state test scores</td>
</tr>
<tr>
<td>subpop boys</td>
<td>that READS will affect male students in particular</td>
</tr>
<tr>
<td>subpop lower-level learners</td>
<td>that READS will affect lower-level learners in particular</td>
</tr>
<tr>
<td>subpop higher-level learners</td>
<td>that READS will affect higher-level learners in particular</td>
</tr>
<tr>
<td>interest in reading</td>
<td>that students will become more interested in reading</td>
</tr>
<tr>
<td>interest in writing</td>
<td>that students will become more interested in writing</td>
</tr>
<tr>
<td>read books</td>
<td>that students will read books over the summer</td>
</tr>
<tr>
<td>appreciation</td>
<td>that students will appreciate READS</td>
</tr>
<tr>
<td>unspecified “benefit”</td>
<td>teachers hopes/predicts that READS will “benefit” students or that it will be a “success” but is not specific as to what this means</td>
</tr>
<tr>
<td>knowledge and belief codes</td>
<td></td>
</tr>
<tr>
<td>READS data</td>
<td>formal knowledge of READS (e.g., empirical support for READS program theory, READS program theory, school-specific data presented to teachers)</td>
</tr>
<tr>
<td>local data</td>
<td>local knowledge of READS, students, families</td>
</tr>
<tr>
<td>-------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>READS</td>
<td>observations of students engaged in READS activities (e.g., homework returns, attendance at READS Family Night)</td>
</tr>
<tr>
<td>non-READS</td>
<td>knowledge of students separate from READS (e.g., student reading ability, what student’s home life is like)</td>
</tr>
<tr>
<td>teacher or team action</td>
<td>actions that the teacher or her team have taken during READS implementation (e.g., adaptations, things they have told students)</td>
</tr>
<tr>
<td>teacher belief</td>
<td>beliefs that teachers hold about students or their families generally</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>concern codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>ss forgetfulness</td>
</tr>
<tr>
<td>ss motivation</td>
</tr>
<tr>
<td>ss mindset</td>
</tr>
<tr>
<td>support at home</td>
</tr>
<tr>
<td>ss schedule</td>
</tr>
<tr>
<td>ss ability</td>
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</tbody>
</table>
Chapter 5: Recommendations

The papers that comprise this dissertation are part of a larger effort to support the implementation of researcher-developed knowledge at scale. The Project for Scaling Effective Literacy Interventions (hereafter referred to as the Project), run by Professor James Kim at the Harvard Graduate School of Education, seeks to engage researchers, practitioners, and policymakers together in this work. In developing, implementing, and testing one instantiation of an adaptive program implementation, the Project has taken a step forward in identifying strategies for bringing evidence-based programs to scale.

The papers in this dissertation expand on promising experimental findings that suggest that adaptive implementation approaches can have positive effects on student outcomes. Each study in this dissertation focuses on a different aspect of one adaptive implementation approach, as described in the chapters above. Studies 1 and 2 explore the implementation process in detail, providing insight into what success might look like when it comes to adaptive program implementation, as well as how researchers and school leaders can support these kinds of efforts.

- Study 1, which focuses on eight teachers’ enactments of the READS Lessons, explores the relationship between fidelity and adaptation, suggesting that teachers can and will adapt evidence-based programs, that they will do so for different reasons, including to enhance student engagement and to address local instructional goals. But while fidelity and adaptation can co-exist, not all adaptations are equally “productive,” that is, some adaptations may do more than others to advance the core objectives of a particular curriculum or program.
• Study 2 focuses on the adaptations that teachers made in teams, suggesting that teams may find more success in these sorts of collaborative inquiry efforts if they can achieve resonance around well-defined implementation challenges.

• Study 3 explore one outcome of the implementation process—teachers’ perceptions of the effectiveness of READS for their students. Findings suggest that teachers who rooted their predictions, at least in part, on adaptations they had made and/or process outcomes they had observed in their classrooms, tended to be more positive in their outlook. At the same time, many teachers expressed concerns about one more students, especially regarding support from families over the summer.

In this chapter, with these findings in mind, I present specific recommendations for practitioners and researchers. In particular, I address (1) schools of education and other organizations that are responsible for training pre-service teachers, (2) school and district leaders and others who are responsible for the development of in-service teachers and the improvement of teaching and learning in their buildings, and (3) researchers who develop and evaluate programs. In so doing, I take a pragmatic stance. My goal is to put some stakes in the ground around what individuals might do right now to improve the chances that an evidence-based program will work, and be sustained, in a local setting. While most of the recommendations suggested below are not new ideas—see citations for further expansion on these ideas—these recommendations have not always been made in the service of supporting successful adaptive program implementation efforts.

Recommendations for Schools of Education
• Ensure that pre-service teachers have a basic level of data literacy (Mandinach, Gummer, & Friedman, 2015)

• Give teachers hands-on experience adapting evidence-based programs to fit a local context (e.g., their pre-service placement site) (see for example, Beyer & Davis, 2012)

• Consider the different component skills that are part of this work—e.g., understanding the critical components of an evidence-based program, understanding why certain pieces are considered “core,” assessing one’s own adaptation ideas in light of these core components

**Recommendations for School and District Leaders**

• Consider the evidence-base underlying any program that you are considering implementing at your school—how clearly are the core components defined for users?

• Consider how you will support your teachers to (1) implement core components with fidelity and (2) make productive adaptations—How will you monitor fidelity? Adaptations? Do teachers have guidance around what they might adapt? Are teachers well-versed in the program theory and the core components of these programs? Are you monitoring the success of these programs for your students?

• Employ a data improvement process to evaluate the success of any changes that are made (Boudett, City, & Murnane, 2005; McMaster et al., 2014)

**Recommendations for Intervention Researchers**

• Provide program users with as much information as possible with respect to what can be changed and what cannot be changed
• Provide suggestions about potential adaptations or areas for adaptation

• Provide rationales for various components of the program and also implementation strategies—teachers should be clear about why they are being asked to do something
References


