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SCALING UP HIGH QUALITY LITERACY INSTRUCTION IN HIGH POVERTY SCHOOLS: RESOURCES AND ROUTINES FOR LEARNING

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Introduction 3
Conceptual Frame 5
  Organizational Routines and The AC Design 5
    Learning from Specified, Routine, Social Interaction: Cognitive Collaboration and Cognitive Apprenticeships 6
  Professional Practice Routines 8
    Learning by Doing Through Professional Practice Routines. 10
Data 12
The Research Base and the Design for America's Choice Instruction 14
  Instruction in the Writing Process 15
  Focus on Genre and Literary Technique 16
  Interactive Responses to Writing & Common Criteria for Quality 17
  The Integration of Reading and Writing 19
Results 20
  Putting the Designs into Practice: Change in Instruction in AC Schools 20
  Writing Versus Reading Instruction in AC Case Schools 22
  Resources and Routines for Professional Learning: Guided Practice and Cognitive Collaboration 27
    Guided participation 27
    Cognitive Collaboration with Colleagues and Coaches 29
  Variation and Challenges in the Implementation of School Routines for Professional Learning 31
    Implementation of Guided Participation Over Time 32
    Challenges in the Implementation of Cognitive Collaboration 36
  Quantitative Results: Change in Instruction and Organizations In AC Schools 37
  Variation and Challenges in the Implementation of Instruction Routines: A Closer Look at Instruction in Action 42
    Ms. Inge, Westwood Elementary 44
    Mr. Osar, Bonds Elementary 48
Conclusion 53

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Introduction

In 1966 Jerome Brunner, a seminal scholar in the cognitive science "revolution," wrote: "We begin with the hypothesis that any subject can be taught effectively in some intellectually honest form to any child at any stage of development." In essence, his argument asserted that cognitively demanding instruction and student performances rooted in rigorous, authentic, disciplinary knowledge were appropriate and possible for most, if not all children. This vision for education would have required a dramatic change from traditional professional practice in classrooms and schools.

But since that time, education reform attempts have had little success in fostering this kind of change on a large scale, at least in part because influencing the core of schooling—instruction—has proven to be very difficult (Berman and McLaughlin 1978; Stake and Easley 1978; Ball 1990; Peterson 1990; Wiemers, 1990; Tyack and Cuban 1995). While some school organizational reforms have been widely adopted, and a few instructional interventions have been implemented deeply, innovations aiming at more complex, widespread instructional change have often been implemented quite superficially (Elmore & McLaughlin 1981; Knapp, 1997; Spillane 2004; Spillane & Zeuli 1999; Barnes 2002; Cohen & Ball 1991).

The call for demanding instruction and high standards of academic performance by all children has escalated over the past two decades with George H. Bush's National Education Summit, The Commission on Chapter 1 report, and the Standards Based Reform (O'Day & Smith, 1993) movement, instantiated in policy through the Clinton Administration's 1994 reauthorization of the ESEA, and continued with the Bush

administration's NCLB. [SENTENCE OR TWO ON NAS AND CSR re: using " research based knowledge RBK].

Given the history of federal and state policy attempts at large scale planned change toward cognitively demanding work in classrooms, it seems clear that "high quality teaching" is not easily transferred or replicated in different contexts and especially not in schools enrolling poor, under achieving children who are often challenged by economic, language or other factors. But the Comprehensive School Reform (CSR) design in the study we report on here—America's Choice (AC)--provided educators with much more in terms of concrete resources for productively implementing instructional innovations than most past reform attempts (Cohen, Raudenbush & Ball, 2003).

This paper explores two sets of such resources for scaling up and sustaining research based, ambitious literacy instruction in high poverty schools as they influenced and were used in 31 schools enacting the AC design, 4 in which we conducted in depth case studies. The first set of resources is the instructional design: the performance standards, instructional frameworks, sample student assignments, assessments, and other materials or tools embedded in professional practice routines that orchestrate new patterns of teacher-student interaction, thinking or dialogue in classrooms (Cohen & Ball, 1999; Cohen, Gates, Glazer & Peurach (get citation); Lampert, 2001; Lienhardt & Greeno, 1986). The second set of resources is embedded in the organizational design: the professional routines that orchestrate teachers' and leaders' patterns of interactions focused on specific kinds of student work, ELA content, performance standards, and assessments.

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Conceptual Frame

Our paper is organized around a set of ideas about professional practice, professional learning and organizational learning. We assume that classroom instruction is a dynamic, interactive system of work in which students and teachers interact over time with subject matter content (Cohen & Ball, 1999; Cohen, Raudenbush & Ball; Glazer, 2005; Hiebert, Stigler et al.; Lampert, 2001). Professional learning can likewise be considered an interactive system of professional work in which colleagues and more knowledgeable school leaders interact over time with practice based content and specialized knowledge or tools. The history of education reform has shown that changing or improving these systems of work is a complex endeavor. We suggest that interacting sets of externally designed professional practice routines that embed research and specialized, content knowledge to structure patterns of social interaction (cognition as well as behavior), may hold the potential to advance such change. Just below we discuss some of the literature that informs our conception of professional routines.

Organizational Routines and The AC Design

Traditional conceptions of organizations, especially within the stability perspective, have suggested that routines are mechanical, free up mental space for more complex work, and work best under conditions of some certainty. In this literature, work within organizations has generally been viewed as conservative, stable, even rigid and discrete from innovation or learning (Feldman & Rafaeli, 2002). However, another line of more recent scholarship argues that working, learning and innovating are not separate domains, but are often closely related human activities (Argyris & Schon, 1996; Brown & Dugid, 1991). This scholarship focuses on routines in more complex domains, on their

flexibility, on how they change, and on what people actually understand when they are enacting them (Dutton & Heaphy, 2003; Dutton, 2003; Feldman, 2003; Feldman & Pentland, 2003; Leavitt & March, 1988).

From this more dynamic, learning perspective the collective performance of routines has the potential to create new, high quality connections among people and to structure knowledge exchanges. The use of routines embedding new tools and knowledge can motivate people, change their beliefs, improve competency and enable them to generate or expand their knowledge (Argyris & Schon, 1996; Dutton & Heaphy, 2003; Levitt & March, 1988; Feldman & Rafaeli, 2002). As Feltovich, Ford & Hoffman (1997) argue, "knowledge is not just about tasks, but about forms of participation, the who, what, where, and why of behavior" (p. 277).

Learning from Specified, Routine, Social Interaction: Cognitive Collaboration and Cognitive Apprenticeships

By specifying in reasonably concrete terms, who, what, where and why of thinking and action, designed routines such as those embedded in the AC organizational design, have the potential to create conditions conducive to work-embedded social learning (Putnam & Borko, 2000; Resnick, Levine & Teasley 1996; Sykes, 1999). We identify and briefly describe two forms of social interaction associated with building competence in professional practitioners: cognitive collaboration and cognitive apprenticeship or guided participation, both of which built into the AC organizational design.

The design supplied these learning resource for teachers, in the form of new roles—in-school coaches--and new organizational routines for reshaping the

"connections" or information exchange between teachers, leaders or knowledgeable colleagues. Teachers in AC schools were meant to connect with one another and with coaches in regularly scheduled work groups or model classrooms, as well as with coaches in their own classrooms.

Cognitive collaboration as we are using the idea here, is not just any form of social interaction. It is a process in which professional colleagues or other learners influence each others thinking (Resnick et al; Weick & McDaniels, 1989) about critical content related to their practice. Professionals do this in part by "elaborating one another's ideas," questioning those ideas and jointly creating knowledge of practice (Resnick, p. 2). Studies of professional practice communities for example, show that learning takes place as individuals try to do something novel then reflect on, discuss, revise, and elaborate practical details for their practice, in the company of other practitioners (Cohen, McLaughlin & Talbert 1993; Dutton & Heaphy; Lave, 1988; Putnam & Borko; Schon, 1983; Wegner et al., 2002).

The AC design orchestrated this kind of collective work and social learning through recurring grade level or cross grade work group meetings that focused teachers' attention on external performance standards, rubrics for judging their students' work compared to those standards, and the problems of practice teachers encountered as they were learning to implement AC instruction. AC teachers did this in discussion with more knowledgeable coaches and their colleagues.

Cognitive Apprenticeship or Guided Participation. The second idea is a more intentionally pedagogical form of social interaction informed by the literature on developing expertise in the professions (Rogof, 1996; Sykes, 2002). Patel, Kaufman &

Magder (1996) for example, found that competence in medical students is built through "guided participation" where a resident is regularly guided in applying information and making judgments about procedures by a more expert role model. Implementation studies of education reforms have also found this kind of guided practice, or "coaching" to be important in improving teachers' practice, and thus in determining the success of the reforms (Borko, Wolf, Simone, & Uchiyama, 2003; Newman, King & Youngs, 2000; Newman & Wehlage, 1995). An effective coach can demonstrate correct procedures, model ways of thinking about problems, "challenge counterproductive strategies" (Patel, Kaufman, et al., p. 159) and produce a degree of regularity for learning a professional practice (Abbott, 1988; Glazer, 2005).

The AC design orchestrated this kind of regular guided participation for teachers through sets of routines that were meant to place coaches in classrooms to model AC practices, observe more novice teachers' AC practice, provide feedback, and otherwise guide teachers in the interaction of classroom instruction. Literacy Coordinators or coaches also set up Model Classrooms in which teachers could observe their more competent colleagues' AC instruction, then discuss such observations with both the colleague and coach in follow-up sessions.

Professional Practice Routines

We consider designed instruction routines such as those in the AC program to be interactive guides for carrying out professional work and problem solving, with some regularity (Glazer, 2005, Abbot, 1989; Lienhardt & Greeno, 1986), but also for acquiring competence in performing that work (Patel, Kaufman, et al., 1996; Clancy, 1997; Resnick, 1996). Expertise in most professional domains is expert *practice*, in which there

exists some "coherence and regularity" in the doing of work: shared tools, procedures, common language, habits of mind, plans, and so on." (Clancy, p. 260; see also Abbot 1988; Glazer, 2005; weick/mcdaniels).

In a study of teacher expertise, Leinhardt & Greeno for example, found "the experts' behavior was more consistent over time than the novices. . . . not only in terms of time, but also in terms of the content of these action segments" (p 84). Importantly, "a major difference between expert and novice teachers was in the experts' *use* of well-practiced routines." (p. 94). Such routines are described as, "socially scripted pieces of behavior that are known by both teachers and students" (pg. 76).

We build on this work as well as the work of teacher educators such as Magdalene Lampert and others (Floden & Buchman; Clark & Peterson) who suggest that while most teachers use routines to structure classroom events, more *expert* teachers use higher quality routines. Skilled teachers are able to routinely identify and record student learning problems for one example, or to set complex tasks and intellectual dialogue for another, but they often specify such work implicitly (Lampert, XXX?; Lienhardt & Greeno; Lienhardt & Steele, 2005). We thus examine the potential for externally designed professional practice routines to make the knowledge in-action that skilled teachers implicitly employ, more explicit for novice or lesser skilled, in-service teachers.

Our use of the term professional practice routines thus refers to the regularity of applying "action segments," with embedded tools and knowledge, not simply to free mental space for more complex, cognitively demanding work (Bereiter & Scardamalia, 1993), but also to orchestrate such work, to gather critical information for diagnosing student learning problems and for addressing those problems.

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Learning by Doing Through Professional Practice Routines.

But of course, routines or protocol cannot guide all aspects of competent action; rather *expert use* of professional practice routines tends to be fluent, flexible, mindful, and in this way parallels the literature on routines in organizations. Such use consists of judgments about when to apply routines, how to use them in the face of contingencies inherent in human interaction, knowledge of content, and a grasp of principles underlying the routines (Abbot, 1988; Spiro, Coulson, Feltovich, & Anderson, 1988; Patel, Arocha, Kaufman, 1999). More specifically, to use the current language in policy debates related to this study, skilled or "high quality" teachers have "complex knowledge structure[s] composed of interrelated sets of . . . . organized actions" that are applied flexibly and with fluency in classrooms (Leinhardt & Greeno, p. 75).

The AC designers were aiming for, eventually, this kind of "mindful", knowledgeable, or "higher order" use of the instructional routines in which teachers used content knowledge, planning, text selection and informed judgment to apply AC practices to the action and "situated problems" of their classrooms (Bereiter & Scardamalia, 1987; Cohen, Gates, Glazer & Peurach (get citation); Glazer, 2007; Greeno, 1998; Lampert, 2001). Teachers would begin as novices in using AC instructional routines, but over time, develop more fluency and competence.

The literature on professional learning shows "conceptual knowledge for organizing competent behavior " is inherently formed as part of and within physical performances" (Clancey, p. 250). From this view "competence" is "the capacity to act appropriately in a given situation" (Resnick, p. 5; Siegal; Greeno, 1988; LampertXXX). This practice-based view of professional learning highlights the complexity and

flexibility of human performance and focuses on how people gain expertise from "doing" their work in uncertain contexts (Clancy; Feltovich, Spiro & Coulson, 1997; Spiro, Coulson, et al.,1988; Putman & Borko, 2000). Teacher educators have argued that learning in and from instructional practice can be important for building competence in student teachers (Ball & Bass; Cohen & Ball; Lampert; Grossman; Putnam & Borko). We apply this idea to in-service teachers using the AC instructional routines as a means for improving their practice.

We draw on the work reviewed in the sections above to contribute to the current policy debate on how to scale up high quality complex, literacy teaching in low performing American schools. We propose a frame for thinking about this longstanding problem using the idea of interacting sets of professional routines for simultaneously improving instruction, enhancing students' learning and, over time, developing a higher level of competence in teachers. Thus, we investigate the extent to which and how, the two sets of resources embedded in the AC design for classrooms and school organizations, shaped in-service teachers' instruction toward more demanding literacy practice, through practice. By this last we mean the repeated use of new professional instruction routines, not only in the isolation of individual classrooms, but also in the company of more knowledgeable others (AC literacy coaches), and through guided collaboration with peers. To that end we ask:

1) To what extent and how does the America's Choice (AC) design for demanding, research-based literacy instruction and professional or organizational learning shape instruction in a set of high-poverty elementary schools?

3) Are teachers in schools that adopt America's Choice more likely to engage in instructional routines advocated by the AC design?
4) Within schools that adopt America's Choice, are teachers who spend greater amounts of time engaging in the organizational routines for learning more likely to use the instructional routines advocated by the AC program?
5) How and why do teachers or leaders vary in the way they implement the two sets of resources for improvement embedded in the two sets of routines? What obstacles do they encounter in their change attempts?

Data

All the data for this paper are from the Study of Instructional Improvement (SII), a longitudinal quasi-experimental study in 115 public elementary schools enrolling high proportions of low income and minority students. Educators in Eighty-nine of these schools, were implementing one of three CSR designs, the remaining 26 were not. The qualitative data we use here is drawn from interviews and classroom observations in a sub-sample of the survey schools, a set of nested case studies of classrooms, in schools, in district and state environments where we collected data from the spring of academic year 2001-2002 to the winter of AY 2003-2004. In each school we conducted classroom observations of instruction, post observation interviews with teachers, and interviews with school leaders. The literacy coordinator and design coaches, vice principals, principals and teachers in the schools we focus on here were implementing the America' Choice design (AC). These AC schools were located in the Midwest, Southeast and Northeast.

The quantitative data come from two instruments: 1) a Teacher Questionnaire (TQ) sent to 2848 teachers in 31 AC schools and 26 comparison schools, from spring academic year 2000-2001- AY 2003-2004; and, 2) a frequently administered ELA instruction log. The log is a survey instrument including about 100 items representing a range of possible language arts and reading practices that would be typically observed in American elementary schools. Logs were completed by 782 AC or comparison school teachers from 2001-2002 through 2003-2004 (see Rowan, Camburn & Correnti, 2004, and Correnti & Rowan, 2007 for a more detailed description of logging instrument). The SII collected data on literacy instruction that two cohorts of randomly selected students received from kindergarten and third grade through fifth grade. Each log documented a day of instruction in the areas of word analysis, concepts of print, oral or reading comprehension, vocabulary, writing, grammar, spelling and research strategies. Log data were collected during three periods per year for four school years in a row beginning in 2000-2001. Logging periods typically lasted between six to eight weeks. Only teachers of sample students were selected for the log component so teachers in the log sample changed each year of the study as students changed grades. This feature of the design thus yielded longitudinal data on instruction for students and cross-sectional data on instruction for teachers. Analyses presented uses data from logs and teacher questionnaires. With these analyses we pooled data across all four years of the study.

We use a mixed method approach triangulating multiple data sources to produce and analyze evidence on the nature of teachers' use of the instructional and organizational designs, the former through the logs, the latter through the TQ (Newman & Benz 1998; Tashakkori & Teddlie 1998; Camburn & Barnes 2004). Through such

methods we provide a broad view of implementation outcomes in AC schools compared to matched non-AC, schools and classrooms, as well as more detailed portraits of the change process.[1]

The Research Base and the Design for America's Choice Instruction

At the time of our study, the AC instruction design specified students' tasks or performances and elaborated student-teacher interactions through a set of "rituals and routines" (NCEE 1999). These routines embedded rich literacy content, sample assignments and assessment tools. They were not tightly scripted in terms of teachers' actions, but they did provide a blueprint for teachers' and students' work together on cognitively demanding reading and writing. Our analysis of the AC design for literacy instruction identified five distinctive features: 1) a heavy emphasis on explicit instruction and student engagement in the writing process, 2) a content focus on genre and literary technique as a means for working with and understanding different text structures, 3) routines for producing interactive, interpersonal, responses to student writing, 4) the integration of reading and writing—especially in the area of genre studies and literary technique; and, 5) guided reading work routines, in which teachers work intensively with small groups of students on reading strategies, while other students work more independently. As implemented in our case sites, AC literacy instruction could focus students on text--their own writing, their teachers, or prominent authors of children's literature--using common language and literary conventions.

[1] Please see our website for an example of the ELA Instructional Log and accompanying Glossary under Project Instruments at http://www.sii.soe.umich.edu/. See also details on our analyses in the appendix A.

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Below, we briefly review some of the research on the literacy instruction we identified here, and discuss in more detail how these routines for "evidence based practices" are not only linked through the empirical literature to improved student literacy outcomes, but also how they are organized and reflected in the AC design for instruction.

Instruction in the Writing Process

Data from NAEP show that explicit instruction in the writing process is associated with higher writing proficiency achievement (Goldstein & Carr, 1996). A number of studies have demonstrated positive effects of the National Writing Project (NWP), a program that advocates the deliberate, systematic teaching of the writing process. A few of large-scale studies which include pre and post treatment writing samples from large student samples, have found that students with teachers that have been trained in NWP instructional methods have higher average writing achievement than students whose teachers did not receive NWP training (Hawkins & Marshall, 1981; Marshall, 1983; Pritchard and Marshall, 1994; Fanscali & Silverstein, 2002). [2]

The AC design for Writers Workshop, includes explicit instruction in an authentic writing process. It is divided into two sets of routine activities focused on specified content—Mini-lessons and Work sessions. Mini-lessons, which take between 10-15 minutes and define the instructional focus for the day, involve explicit instruction in writing strategies and writer's craft as embedded in prominent children's literature and English Language Arts (ELA) performance standards, the latter developed by professional organizations. Teachers explain or model writing strategies such as idea

[2] There are some limitations of this research. For example, there is not general agreement on what the writing process is, and the definition of the process as defined in the theoretical literature has changed over time (Pritchard and Honeycutt).

generation, organizing for writing, and the critique and revision of text. In "Work Sessions" students work on the focal topic or strategy covered in the mini-lesson, through a variety of routine activities: independent writing during which students refine, elaborate or reorganize their writing, teacher conferencing, and peer conferencing are the most common of these.

Focus on Genre and Literary Technique

Genres are recognizable forms of writing distinguished by the purpose of the writing and by distinctive linguistic and organizational structures. Professionals in literary discourse communities recognize and use genre in writing, interpreting and critiquing text. Children develop an understanding of genre over time, and students rely upon it when reading and writing (Donovan & Smolkin). A report by the RAND Reading Study Group (RSG) drew on research examined by the National Reading Panel (NRP) and concluded that a "knowledge of text structure is an important factor in fostering comprehension" (Snow, 2002). The report's authors argued that instruction in how different texts are organized, as well as in methods for questioning and responding to these texts, not only provided students with routines for monitoring their own understanding, but influenced their ability to recognize, and retain important information (Mandler & Johnson 1977; Meyer, Brandt et al. 1980). Likewise, Goldman and Rakestraw (2002) reviewed experimental studies and concluded that explicit instruction in how to identify text structures—ranging for example from how paragraphs mark discourse in different genre's, to authors' devices for setting and solving problems--can be effective in improving students understanding and recall of text content.

The AC design provides routines for students and teachers to work on writing within the context of literary genres such as narrative styles, informational formats, poetry, plays, and so on. More specifically, the AC design engages teachers in the use of writing instruction that is focused on how to identify and produce text structures embedded in different genres. The routines for engaging students in genre studies and literary techniques, in identifying different text structures, in actively responding to text in written literature extension projects, and in revising key features of its structure; all qualify as the kind of "comprehension–monitoring" and active engagement with text that improves not only students' recall of content, but their understanding.

Interactive Responses to Writing & Common Criteria for Quality

Interactive responses to writing, where students receive feedback by interacting with teachers or peers, is not only a more authentic representation of the process that authors use, but is also more effective in developing students' writing abilities. Such interaction prompts students to engage in the critical steps of self-assessment and revision (Beach & Friedrich). By *discussing* a piece of written work with students rather than simply providing written feedback, teachers can offer guidance that scaffolds a student's writing, probes students' strategy use, clarifies students' questions, and models the meta-cognitive skill of self assessment (Dyson; Beach and Friederich, Frank, 2001, Ferris, 2003). A number of researchers have likewise documented the importance of training students in how to provide specific, descriptive feedback to their peers (Beach & Friederich).

By design, in an AC classroom, the routine process of sharing student writing is intended to go beyond the traditional show and tell format used in most elementary

schools. In an ideal AC classroom, students read their drafts aloud, receive feedback, and revise their writing accordingly on a recurring daily schedule. Teachers are expected to hold regular conferences with students where they reinforce the topics of mini-lessons, work with students to develop writing goals, provide oral feedback to student writing, and ask students questions about their writing. According to the AC design, students are also expected to critique their peers' writing, and other work using rules for "accountable talk"—for example, students were expected to justify their comments with references to text, agreed-upon descriptive criteria for quality, or sound rationale. AC literacy instruction is intended to engage students in self-critique as well, through rubrics that offer indicators for where their writing performance stands in relation to the standard for high quality work.

Thus, embedded in the design's routines and elaborated student tasks, the Writers Workshop design has the potential to provide teachers and students with public, commonly shared, concrete criteria for assessing progress--performance goals, samples of high quality student work, and rubrics containing clear indicators for such work. Throughout Writers Workshop--from a "mini-lesson" in which teachers guide students through specified writing instruction, to the student work session in which students were required to be actively engaged in sustained writing, to the "Authors Chair" activity, in which students were meant to "share" their work with an authentic "audience" of peers--the AC blueprint for writing instruction relied upon criteria that was established externally, and elaborated within the classroom. AC thus provided interactive routines, assessments, materials and standards for judging quality work that could guide AC

teachers and students through a formative assessment process. Such a process has the potential to produce "substantial learning gains" for students (Black & William, 1998).

The Integration of Reading and Writing

Research suggests that "better writers tend to read better, and that more skilled readers tend to produce better quality writing" (Stotsky, XXXX, pg. X). Research also indicates that instruction in reading and writing can enhance students' abilities in both language systems (Shanahan). Cognitive scientists argue that reading and writing depend on a common set of cognitive abilities. Consequently, instruction that enhances these common abilities will tend to promote students' abilities in both language systems.

Through the Writers Workshop and Readers' Workshop instruction designs, the AC model provided students and teachers in our study with sets of routines for integrating reading comprehension with writing, focused on genre studies, literary techniques, and common performance standard. A key location for the integration of reading comprehension and writing was the focus on high quality children's literature, and commonly held conventions for writing, reading, interpreting and critiquing such literature. The design also included "guided reading" work sessions in which teachers were to work intensively with small groups of students, as they read aloud, while other students worked more independently. Small group discussions and teacher directed work included a range of reading strategies for comprehending text. The design charged teachers with documenting individual student's reading progress and with diagnosing their reading problems through conferencing.

These descriptions of AC practices above are examples of "mutually understood, socially scripted" routines (Leinhardt & Greeno) designed into the AC model that we

investigate in terms of their potential for supporting instructional improvement. Most of the practices or tasks we have discussed in this section are not low-level routines for teachers and students; rather they are intended to scaffold "intellectual dialogues" (Leinhardt & Steele, 2005) and other tasks mirroring the discourse embedded in the work of literary professionals or as Resnick (1994) argues the "enabling disciplines" of cognitively demanding reading and writing. As such, for teachers they are highly complex tasks requiring a good deal of professional knowledge (Glazer, 2005). The log that teachers used documented these and other types of instruction used over the course of each year of our study.

Results

Putting the Designs into Practice: Change in Instruction in AC Schools

Our study shows that the AC instructional designs and elaborated routines did influence teachers' instruction and in some cases, their capacity to do complex literacy work with students. In contrast to most past reform efforts, instruction in the four AC case sites changed and was shaped by the designs. In some instances instruction in these schools reflects versions of the "evidence-based" practices we just described; that is, practices that research reports suggest have a positive influence on students' learning. Logging data likewise show that teachers' instruction in AC schools differed from comparison schools in ways that reflect elements of the AC designs (see also, Correnti & Rowan, 2007).

But case data also shows that instruction in AC case sites changed primarily in ways that were consistent with what enactors—teachers and school leaders-- believed were clear and well defined elements of the design, delineated through student lessons,

material, tools such as rubrics and clear routines for instructional tasks. AC teachers most often identified the Writer's Workshop as the most specified or elaborated in terms of classroom routines, and content or tools. Conversely, respondents reported that Readers Workshop provided less concrete guidance and they had fewer development opportunities to make sense of that design than they did for Writers Workshop. This pattern held across schools in the East, Midwest and Southeast AC regions. Moreover, across all contexts, teachers more often reported that their reading practices were made up of composites of programs and instructional strategies, drawn from many sources in their environments and personal experiences. They were often bricoleurs when it came to their reading instruction. Our survey findings suggest these patterns may, to some extent, represent patterns in the larger sample of AC schools.

At the same time, while AC teachers' practices included many *similarities,* in writing instruction, case study teachers also varied greatly in terms of the quality with which they were able to *use* classroom routines in action. Likewise, while we found many features in common across schools in the AC organizational routines, the implementation of these routines such as coaching and recurring teacher meetings also varied in some important ways due to obstacles in schools and their environments.

We begin with interview data from teachers and in-school coaches across 4 AC cases to describe patterns of change, design-related resource use (in the form of the professional practice routines we described earlier), and challenges to implementation. We then provide the results from our quantitative data and discuss the implications for AC routines in 31 AC schools and their classrooms. Finally we look more deeply at instruction through classroom observations to show how and why the enactment of the

design for AC instruction could vary dramatically, within the overall survey and case study patterns.

Writing Versus Reading Instruction in AC Case Schools

Our case study teachers provided compelling change stories that were consistent with some features of the AC design. After two-three years in their respective models the majority of our AC case study teachers reported changing their writing instruction in accordance with the AC's Writers Workshop design. [3] Those that did not taught primarily math. But AC teachers reported a kind of instructional bricolage or eclecticism in their reading instruction. Likewise, teachers' satisfaction and reported capacity to use the two instructional designs reflect this pattern.

Our 4 AC cases include Westwood Elementary in Adderly, New York; Redmond Elementary, in Coverdale, a large urban district in Florida; Bonds Elementary in Sunnyside, New Jersey; and Forrest Hills in Markham, Minnesota.[4] Interviews with principals, coaches and teachers show not only that some elements of instruction in our case sites changed due to the designs, but begin to show *how* and *why* such instructional changes were supported and sustained.

When we interviewed AC teachers and school leaders in the spring and fall of 2002, the schools had been working with AC for two to four years. Teachers across all our case sites gave consistently strong endorsements for the efficacy of Writers Workshop instructional design and their ability to use its routines and content in their

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[3] Five out of seven 1st grade AC teachers and all six 4th grade teachers reported changing their writing instruction in convincing detail.

[4] After a year in the study, the Markham teachers stopped logging. While we use interview data for this school, we focus more on the other 3 cases where we have collected logging, survey and for full complement of qualitative data.

classrooms. School leaders concurred with this view. Many of our respondents gave detailed reports about how the AC writing program—the materials, tools and routines--dramatically changed their practice and their students' work. [5] For example, when we first interviewed teachers at Redmond Elementary in Florida at the end of its third year of implementation, one teacher told us:

> I feel that I'm a much, much better writing teacher . . .. Before [AC] . . . I couldn't . . . I hated doing it. And, because of the Writers Workshop program and the things I learned . . .I feel I am a much, much, better teacher . . . " (S02).

When asked about her instructional changes in terms Writers Workshop, another Redmond teacher was at first skeptical, but changed her mind:

> I was a little skeptical if they would be able to do it, but students have blown me away both years. They can and do very well. The children know . . . what's expected of them under the standard … and they are aware of not only what we're trying to teach them, but why, and why it's important (S02).

This teacher refers to an example of what our framing perspectives describe as a mutually understood, socially scripted routine for working together that the AC design supported. Classroom routines embedding performance standards and rubrics set student tasks, and common criteria for judging the quality of performances.

Teachers in all of our case schools describe classroom routines and tools in the Writers Workshop designs as they report the changes they've made in their instruction. When asked about changes in her practice due to AC, a fourth grade teacher at Bond's Elementary said:

> With my writing it was all [new] this year. I totally did not do anything even remotely near AC when I taught first grade. I think that just having the kids conferencing together is amazing. My kids would talk the talk. (S02).

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[5] Respondents across schools identified some, but very few problems in putting the writing component into practice in their schools.

Ms. Tait continued her description of change in her instruction when asked if she had changed the way she assessed student learning due to AC:

> Yes, yes, doing more. I never really did a rubric before . . . . So using the kids to say what we need to have to meet standards, and what their piece has to have. So the fact of getting my assessment from the children, you know, getting the ideas of what's going to be assessed from the kids. (S02)

At Westwood Elementary a fourth grade teachers explained that because of AC, "I spend more time [on writing] because I've been given more strategies to use to help students develop" (S03). The AC Literacy Coordinator there reported, "We paid very little attention to writing. …It wasn't a major part of the day. So now writing has taken a huge part of our day" (S02). As the comments above show, in their descriptions of change, most teachers told us that their practice as well as their students' performances had improved as a result of using the AC writing design.

Thus using AC Writers Workshop professional practice routines could not only change instruction toward a more demanding, research based practice, at least at the level of novice, but could also generate incentives that reinforced teachers' new practice, perhaps motivated them to sustain their improvement work. This was a resource that supported continued competence building in AC schools. As Black and William (1998) argue clear goals and support for reaching them can raise expectations for teachers and students alike.

Teachers at Forest Hills in Minnesota for example, reported that they were convinced to continue with AC because their students' writing was improving due to AC's Writers Workshop. At the end of the third year of implementation, Ms. Alem, a fourth grade teacher was not unusual in reporting that her students, "even the slowest

ones, even the lowest ones, even the non English speakers, are moving ahead because of the writing component" (S02). A fourth grade teacher at Redmond told us: "Oh they've [teachers] bought into it [AC] 100% because they're seeing the results. I mean writing scores are out of the roof" (S02). The Vice Principal at Bonds Elementary in New Jersey told us "the writing is definitely a strong point". At the beginning of the school's third year with AC, she, like respondents in our other AC cases, believed that the design had helped the staff improve students' scores in writing on the state test. She said: "Last year we saw a marked improvement in our students' writing ability on the ESPA. Even this year, we've seen noted improvement in all the grade levels as far as the students' ability to write" (F02). Thus, in the spring and fall of 2002, this general pattern of reported change as well as a sense of efficacy about and commitment to the AC writing program, held across contexts in our cases.

In contrast many of our respondents gave the AC reading component--Reader's Workshop—mixed reviews at best, especially in terms of concrete guidance for implementing it, and their ability to use it in their classrooms. For example, a first grade teacher from Bonds Elementary in New Jersey said: "The positive things [about the AC design] are the rubric: the writing rubric is wonderful. I love that. It's really good." (S02). She reemphasized her point the following fall adding her objections to the reading component of AC:

> Writing [instruction] has changed, way much for the better. It's a great program . . . . But reading, they just pretty much gave us a book, like a . . . big manual; and said here read this and just do what it says. And that's not my idea of being in-serviced . . .. We had nothing. … (F02).

Several of our AC case study teachers such as Ms. Alma above, complained about the lack of practical or "useable" guidance they received—from materials, clear routines, or even literacy coaches--in AC reading. After three years using the AC design, a literacy coordinator at Westwood reported:

> Well the writing was the most successful. It was the easiest to do and the guided reading was the most difficult. Because I don't think the teachers understood what guided reading was. And there's no book that you can look at and say do this, this and this…It's almost something that you can't teach…If you can't manage the class, you can't do guided reading.

She continued to explain that while teachers all used Writers Workshop this was not the case for Readers Workshop: "There are a few teachers who just never came on board. But they took pieces of it and so it made their classrooms different. They don't use Readers Workshop, they do writing, that was fine" (S03).

At Bonds Elementary the AC reading component scheduled to be implemented in year two, was delayed. The following fall (02) a fourth grade teacher reported:

> The [reading] centers were supposed to be America's Choice. I didn't do it. . . .We started it halfway though the year, and as a fourth grade teacher, I'm responsible for the ESPA. So (school leaders) kind of backed off us from doing the Centers. And we did, more or less, the old-fashioned teaching, and preparing for the test. So that's why it's [Guided Reading is] new for me this year.

This general pattern in teachers' reports about the "usability" and efficacy of the AC's writing design versus a less clear understanding or negative sense of the reading design, held in all our case sites—across both the east and southern AC regions. Likewise, respondents reported late or partial implementation of Readers Workshop, and even in Redmond where that component was implemented at that time, some teachers still reported that their reading program was "a conglomeration of everything."

From these interviews with teachers and school leaders about change and constancy over their first few years of implementing novel instructional practices, we see that the AC design for writing instruction shaped the views and the instruction of many teachers in our case study sample. Incentives generated by "doing" the Writers Workshop classroom routines in the form of improved performances by students, and incentives from the clearest, most "useable" design elements, influenced the way teachers thought about, planned and engaged with students and content.

Resources and Routines for Professional Learning: Guided Practice and Cognitive Collaboration

As we noted earlier, the AC designers expected that teacher-enactors would begin by simply "doing" the newly designed routines in a somewhat rote manner, but eventually surpass their initial implementation and, with the help of guided practice and "cognitive collaboration" with colleagues and coaches, go beyond a merely mechanical use of the resources the designs supplied (Glazer, 2005; Cohen et al., University of Michigan). To meet designer's goals, teachers would need more than the experience of simply "doing" the new routines or "using" novel materials and tools. Based on our framing perspectives, they would also need opportunities to learn in the company of colleagues or knowledgeable others.

Guided participation

As intended, on-site coaches played a role in how teachers learned to use, and become more fluent or competent in using, the AC professional practice routines. The AC design generated new work routines specifying patterns of interaction, the "who, what, where and why" (Feltovich, Ford & Hoffman, 1997), for teachers and leaders. The

latter were also new roles added to the school. When we first interviewed them (spring and fall 2002), many case study teachers reported that practiced based coaching routines had supported them as they first learned to use the AC materials and instruction routines. For example, at the end of Redmond Elementary School's third year of implementation, Ms. Lyon, a first grade teacher reported:

> "I had tons of support!. . . [AC literacy coordinator] helped me with lesson planning. She helped me actually in the classroom. She modeled things for me and then she would watch me and give me ideas. . ." (S02).

A fourth grade teacher, Ms. Bakko explained:

> Our design coach would come in and she'd show me how to do the lesson. I was able to watch her make notes, observe, and then I was able to do it and she watched me and then we could kind of discuss back and forth what we needed to do to improve that. (S02)

These in-classroom routines that the AC organizational design specified, provided teachers with opportunities to learn "in-action" from their own classroom performances, but also from the performances of a more expert guide. As our framing perspectives suggested, coaches could demonstrate a more competent use of the AC instruction routines, even model ways of thinking (during planning sessions for example), and point out problems in teachers' performances and thinking.

Teachers and leaders across our cases reported the benefits of such guided performances and practice-based learning. Like Redmond teachers, those in our Westwood sample said that the two literacy coordinators had helped them to learn and refine AC writing practices in the interaction of classroom practice. Ms. Inge, a fourth grade teacher in New York said:

> Prior to America's Choice I really kind of had to learn things [strategies for

> writing instruction] on my own by reading professional books, attending some workshops. But. . . you have to really see it in action. And when (AC Literacy Coordinator) came in here I could see her approach in action, and I could see it working. . . . The children blossomed. They really enjoy writing. (S02)

Also, like the teachers at Redwood Elementary, not only do we hear that she changed and that her students' performances provided an internal incentive to continue her writing instruction, but also how she benefited from practice based learning by working with the AC literacy coach. A first grade teacher Ms. Lowe, reported that the AC coach, and the core assignments in the writing design had helped her make a "huge and very beneficial change" (S02).

At Bonds Elementary, after two years with the program, at least one 4th grade teacher said: "I had a lot of support from. . . the design coach" (S02). When asked if anything helped her stay committed Ms. Rama, a first grade teacher said,

> Well I've had the help from [the literacy coach]. There are things that I would do that she would see and I would get correction right away. . . . The feedback has been great, she would say, 'oh well, wait until so and so' or 'it would be better if you did this way.'

Thus AC coaches, as our framing perspectives argued, could correct "counterproductive" practices and provide productive practice based feedback. But we also found across all the 4 cases, these coaches created incentives for teachers to stay committed to the novel AC practices and to learning to use them more fluently. Generally school leaders across our AC cases confirm these teacher reports.

Cognitive Collaboration with Colleagues and Coaches

The AC organizational design, as intended, also orchestrated collective work and social learning through recurring grade level or cross grade work group meetings. When

we first interviewed them, *some* AC teachers and all school leaders across all our AC cases reported that another key source of learning to use AC instructional practices involved these collaborative team meetings in which teachers interacted with coaches and colleagues over specific, practice based problems. They used their standards books, student work and rubrics for judging the quality of students' performances as content guides in these work sessions. The Design Coach at Forrest Hills in Minnesota provides an illustrative description of the focus of the work group discussions. At the end of this school's third year with AC these working meetings with teachers and coaches occurred two times a month:

> The literacy coordinator and I usually sit with them [teachers]. We usually ask them to bring some student work and to talk about it. Usually one teacher will bring a piece of student work and Xerox a copy for everybody. They all have their standards books so we look at the standard that they're working on and then we look at the student work and we read it and then they decide together or they decide individually what elements are there, what aren't there. Then we discuss it . . .. We talk about . . . 'what can I do with that student when I talk to her again.' . . . We plan together: 'where can we take that student?' And it's remarkable because others will say 'well I have one like that ' It's a lot of sharing and learning. People come with questions that they want answered. They come with concerns or—'I don't know how to get by this can you help me' kind of a meeting [S02]

The literacy coordinator for Westwood Elementary in New York illustrates the common focus and content of these teacher discussions across schools and regions. When we asked do you use these meetings to address particular problems in teachers classrooms? Ms. Sele responded:

> Oh absolutely. Sure. Just raising the level of student work was probably an ongoing question that we had. How do you make their work better? You had to show them what a good piece of work is. . . . We addressed the problem in a variety of ways. They [teachers] would always bring . . . a range of work so they would always comment, 'Wow, that's really terrific, I couldn't get my kids to do

> that.' Or 'how did you get them to do that?' Or they'd say 'look at this piece of work this child did and I can't get her to do any better.'

From the coaches' descriptions, these excerpts demonstrate the potential for routine interactions to organize the kind of professional learning experiences our framing perspectives sketched. Professionals influence each others thinking about key problems of practice, elaborate one another's ideas, and jointly create knowledge for refining their practice (Resnick et al.; Weick & McDaniels, 1989). Thus these routine discussions had the potential to provide teachers with knowledge of how to "repair" or revise the routine when he or she found that it "didn't work" in particular lessons, with particular students. Though guided practice and collective learning teachers in the AC case schools had the potential to not only become more competent in using the routines, but also more fluent in applying them across diverse circumstances.

Variation and Challenges in the Implementation of School Routines for Professional Learning

But the AC routines for professional learning were not always "institutionalized" or stable in schools. Our case schools varied in the extent to which they continued these ongoing practices and in cases they diminished over time as CSR grant resources ended. Moreover, patterns of implementation created obstacles to putting them into practice quickly in the first year of adoption. Thus our case schools varied in how well the designs for organizing professional learning were implemented, the length of time it took to reach teachers in any given school, and how stable the routines remained over the course of our study.

Implementation of Guided Participation Over Time

Patterns of interaction between AC school leaders and teachers, if considered as resources for sustained learning for teachers, were too thinly distributed across classrooms in some of the case schools we studied. AC Literacy coordinators reported spending time in classrooms with teachers and working with individual teachers to set up "model classrooms" where other teachers could observe a colleague putting the AC design into practice. Both of these tasks tended to be very "time intensive." They required intensive work in classrooms on the part of literacy coaches who sometimes reported working with an individual teacher almost every day, for months at a time. The AC coaches in our cases generally tried to cover most teachers but over an extended period of time; that is they would work with a few teachers, then move on to others.

AC teachers in some schools reported that coaches were not able to support everyone who needed help, and AC leaders concurred. For example at the end of Bond's second implementation year Ms. Tait, a teacher there said, "We're all teaching reading and writing. The Design Coach and the Literacy Coordinator just are stretched too thin. They can't reach all of us" (S02). The literacy coach at Westwood elementary reported modeling Writer's Workshop in most classrooms, by her account, "all K-2 or K-3 classrooms" the first year of Westwood's CSR grant—in the 1998-1999 school year. But in doing so she discovered that one literacy coach was not enough to cover all teachers, so the school principal sent another coach to be trained by AC for the upper grades. In this instance, the Design Coach lacked knowledge of AC instruction and was preparing to retire. The school eventually used two Literacy Coordinators for year; still, this situation delayed implementation of the design in some classrooms.

Generally, capacity building in our AC case sites also took more time than state or federal CSR policies anticipated: Even as teachers and coaches were "doing" the design's routines, they were learning to do them, in fact to construct them more knowledgeably. For example, Ms. Gall, the literacy coordinator at Bonds talked about the staged nature of her work:

> Right now I'm working with the model teacher. . . . I go in and model for her or we plan together. . . . So that's a stage. That can be several weeks at a time, up to six weeks.

But Ms. Tait, a fourth grade teacher in that school said she did not find the model classroom helpful the second year of implementation, because as she explained:

> The person that was modeling was at the same level as the person coming in to watch. So it wasn't like having a person who had a year under their belt modeling AC. So. . . how is this going to help me? (S02)

This "time lag", commonly reported in implementation studies, was obvious from reports across all of our AC cases. Schools implementing a novel instructional design, first required developing leadership capacity and then teacher expertise, even as teachers and coaches were "doing" the design's routines. The AC time lag was especially long in our case schools.

Coaches also used triage strategies early on, and especially over time. Ms. Calm the design coach at Bonds was not unusual in saying at the end of year two with AC: "We do that [model in classrooms] all the time" but "I have a teacher who doesn't know the program and she's having a difficult time. . . . I'm spending most of my time with her" (S02). Ms. Hart, the literacy coach at Redmond, in Florida said:

> This year we had two brand new third grade teachers coming into a year three school that had no clue of Reader's and Writer's Workshop. So I was in there most of the year trying to get that going" (S02).

Thus the school leaders in all of our cases tried to work their way through teachers' classrooms, but often employed a kind of triage (Lipsky, 1980); that is working with teachers who were new or struggling and needed them most.

While the first year or two of implementation were spent for the most part in learning new practices, and developing competence in using them, in some schools AC leadership resources were insufficient to cover all classrooms. Moreover, at the other end of the implementation timeline, in at least two of our cases, resources began waning--before Readers Workshop had been implemented in classrooms consistently or deeply. Both Redmond and Westwood lost one of their literacy coordinators after the third year of implementation. In Adderly, where Westwood was located, the district mandated a new program, replacing AC. Even the remaining literacy coordinator was shifted to the new program, a typical scenario in episodic, unstable education policy environments. But in Redmond, where over 60 AC operated as part of a district wide improvement strategy, one coach remained and a new AC principal was assigned in year 4. Thus though there was turnover and some instability at Redmond, in 2004 teachers were still reporting support from coaches, but used them much less frequently. For example, when we asked teachers about what supported their AC instruction a typical teacher at Redmond said:

> Certainly I go to other teachers, the coaches. When I first started here, the literacy coach really trained me and was an incredible resource and I will still call her to this day and say, "Hey, what do you think about this?" or "I need a good idea because what I'm doing is not working." So she's been a wonderful resource (W04).

In the winter of 2004, teachers at Redmond also discussed district literacy institutes for teachers that supported AC practices, each month. This too was due to the jurisdictional leadership approach that the Coverdale Florida district used.

Coaching routines remained stable at Bonds Elementary where resources were stable due to the state context in New Jersey (Abbot decision). Both the Design Coach and the Literacy Coordinator were working with teachers from the school entry into the AC program. By spring 2003 and winter 2004, the teacher at Bonds who complained about not getting the coaching support she needed reported: "I've received a lot of help from the design coach and the literacy coordinator with the reading program, how to use it and how to use some of the different questioning techniques." Notice that by the end of the third year and in the fourth year of implementation, Bonds teachers were using both Readers and Writers workshops, and coaches, by their reports had reached all of the schools teachers. Now, they were targeting their support. When asked if there were any changes in how she works with teachers at the end of implementation year three, the Literacy Coordinator said:

> I guess this year since I've worked with a few teachers extensively I've gotten to fewer classrooms which is not bad because it is the third year. So if we've had a new teacher or a teacher who is particularly struggling . . .they're the ones who need the attention. (S03)

Thus over time the cases varied in the extent to which coaching routines were implemented and sustained. Over time, coaching in a school could be "cumulative" as these school leaders slowly reached and worked intensively with more of the schools teachers. As some competence grew among teachers, coaches tended to work primarily

with new or struggling teachers, but were still responsive to some extent, to more experienced AC teachers.

Challenges in the Implementation of Cognitive Collaboration

While teachers' reported attending the regularly occurring collaborative discussions with coaches and colleagues in the early years of implementation, this routine for professional learning was not sustained over time. These kinds of meetings were not naturally occurring in the case schools and we found many obstacles to sustaining them. In fact, in most schools these working group meetings diminished after the first and second years of working with the design, or fewer teachers reported attending them for several reasons: First, unions demanded that teachers not attend such meetings as they could supplant planning time, or require after-school work. Second, teachers were often paid to attend these meetings when they occurred after school, and the funding for such pay ended after a couple of years.

Third, the meetings were sometimes supplanted with district mandates, or other school needs. Fourth, substitute teachers that would allow teachers to leave their classrooms were sometimes difficult to find and special teachers for art or music did not always show up to relieve the AC teachers. Thus teachers could not always attend the meetings. This was the case at Bonds Elementary in New Jersey. In some cases teachers continued to meet, but no longer focused on reform oriented instruction. Rather the meetings would take up an eclectic mix of topics—from making paper cranes for literature extension projects, to learning about brain-based booklets. This was the case in Westwood, New York for example, where the district mandated another program after the school had worked with AC for three years, no matter the improved test results.

Finally, in more mature schools, coaches became more "targeted" and focused on organizing these meetings with test taking grades, but not others. Thus, at Redmond Elementary in Florida, fourth grade teacher meetings were continued as students are tested at that grade, while lower grade meeting were discontinued.

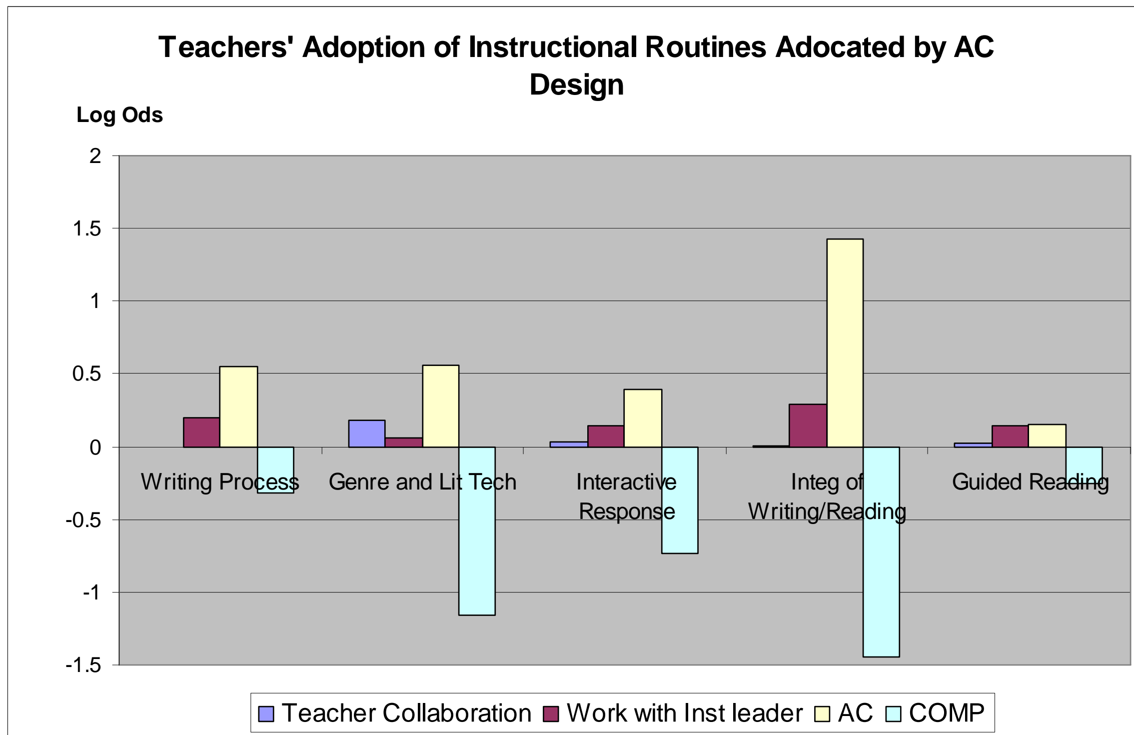
Generally we found the cases varied in using the guided practice routine, and the collaboration routines within schools and across schools. Generally, the implementation of the collaboration routines encountered more challenges than the coaching routine. In terms of overall implementation, Redmond, located in a large urban district in Florida, experienced some leadership instability losing their principal and one of their coaches. But by the forth year of the study at least some upper grade teachers were still attending collaborative meetings and teachers who were experienced with AC instruction were still calling on the schools remaining coach, though not frequently. Bond was the most stable case but followed the same pattern of using coaching for new or struggling teachers. Both Redmond and Bonds had implemented Readers workshop by their fourth year in the program. Westwood, a school in the New York City system was the most, unstable due to a very complex governance system and episodic policy environment. They never fully implemented Guided Reading, though some teachers used it by the end of our study as part of the City's and district's "Balanced Literacy" program.

Quantitative Results: Change in Instruction and Organizations In AC Schools

Survey and logging data collected over time on teachers in AC schools and comparison schools to some extent appear to reflect these reports of change and implementation challenges in the larger AC sample. To test our research question of whether teachers in schools that adopt America's Choice are more likely than comparison

school teachers to engage in instructional routines advocated by the AC design we used a form of multilevel "measurement model" (Raudenbush and Bryk, 2002). The models, nest multiple instruction log item responses per teacher (level 1), within teachers (level 2), within schools (level 3). The level 1 model estimates the log odds that a teacher focused on a particular area of literacy instruction while controlling for characteristics of the day on which the log was completed We used these models to examine the five instruction outcomes that correspond with the five areas of research based literacy instruction described earlier in the section on the AC instructional design. At level 2 we predict whether teachers' focus on a particular area of literacy instruction is related to collaboration with peers and work with instructional leaders while controlling for teacher and classroom characteristics. At level 3, we tested whether the average focus on an area of literacy instruction was higher for schools implementing the America's Choice program while controlling for pre-treatment school characteristics using propensity scores. The results of this analysis are displayed in the graphs in Figure 1. The graphs display model intercepts that indicate the overall log odds that a teacher focused on each of the five areas of literacy instruction.

Figure 1



As hypothesized, we found that teachers in schools that adopted the America's Choice DESIGN were significantly more likely than comparison schools to focus on the writing process, genre and literary techniques, interactive response to student writing, and the integration of reading and writing. Each of these four aspects of literacy instruction was a major focus of the America's Choice design at the time we studied it.

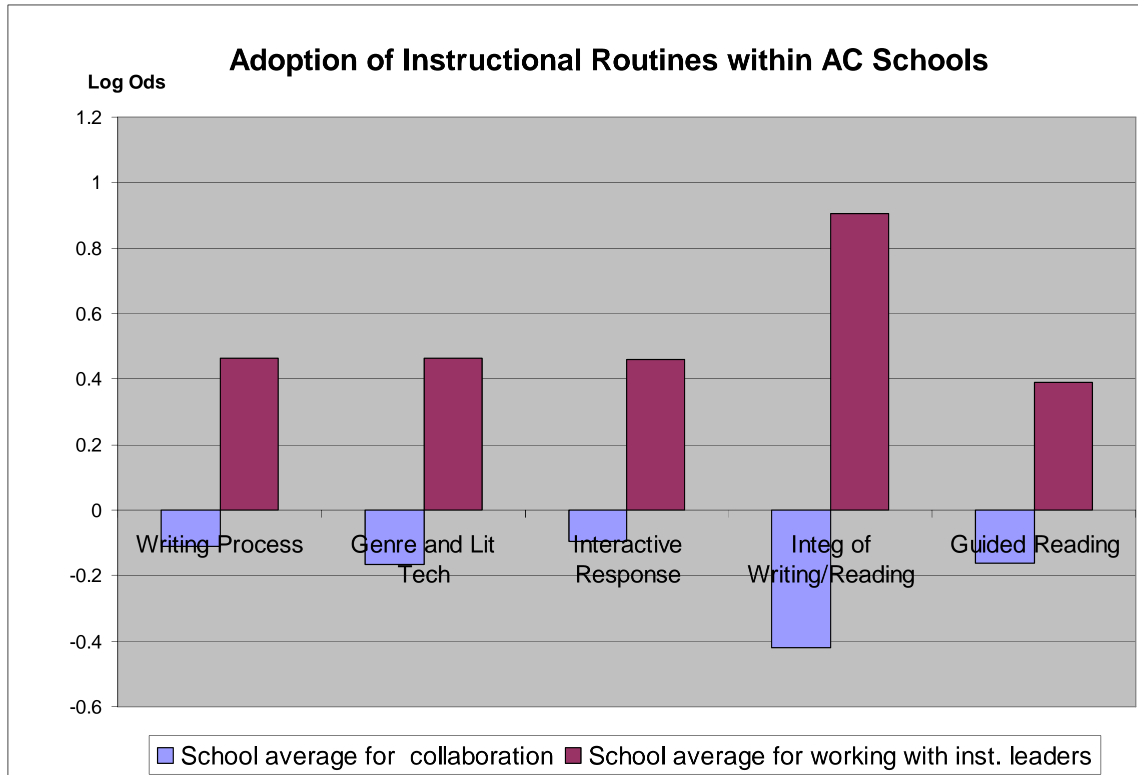
In contrast, teachers in schools implementing America's Choice were no more likely than teachers in comparison schools to focus on guided reading instruction. As we discussed, case data may offer some evidence for why, as both teachers and leaders found the Writers Workshop classroom routines or materials much more detailed and concrete in terms of guiding their practice, than Readers Workshop. Moreover, Readers' Workshop was implemented late, not well, or in one case not at all. Thus, educators in

these case schools typically reported a weaker implementation of the AC Reading program until the last years of our study.

By far, the greatest difference between teachers in America's Choice schools and their counterparts in comparison schools was in the area of the integration of writing and reading, a hallmark of the America's Choice design. While teachers in comparison schools were predicted to have a nineteen percent chance of integrating those two content areas on any given day, the likelihood an America's Choice teacher would integrate writing and reading was more than twice that high. Teachers in schools adopting America's Choice were also much more likely to focus on the writing process, another hallmark of the program. Overall, these findings appear similar to the pattern we found in our cases of implementation in terms of change or instructional improvement.

In our next set of quantitative analyses we sought to test the hypothesis that America's Choice teachers who engaged in organizational routines involving peer collaboration and work with instructional leaders were more likely to use instructional routines advocated by the America's Choice design. To test this hypothesis we limited the analysis to teachers in schools that adopted America's Choice schools. For this analysis we modeled the effects of collaboration and work with instructional leaders *at the school level.* Thus our results indicate the overall extent of these two kinds of organizational routines in a school over the four years of the study. We think the school level results shown in Figure 2 below lend themselves to the idea that sustained school organization routines were at work here, and not just a matter of individual teachers across all schools, working with a coach.

Figure 2



We found substantial school to school variation in the degree to which coaching occurred over time in AC schools, and this variation was a major predictor of the use of AC instructional routines. The school average of teachers' reports on how frequently they worked with instructional leaders was a strong, significant predictor of all AC instruction outcomes in that school, including guided reading.

Our qualitative data suggest that the "extent" of the coaching routine in a school could be considered not only how many coaches are working there, but also the stability of these coaches over time. Thus, over time coaching may have a cumulative influence in the school. While our cases are only suggestive, they do show that schools varied in terms of how many teachers who needed help were reached each year, in how many

qualified coaches a school had each year, and in how stable the coaches were in terms of sustaining the routine in later years of implementation. Recall that some schools lost one or more coach for a year or completely, while others implemented the coaching routine with two coaches over each year of the study. Guided Reading took a much longer time to implement than most respondents thought it would, but over time, a coach might move from Writers Workshop, to Readers Workshop as was the case in Bonds and Redmond Elementary schools. The qualitative data is thus suggestive in terms of our survey results.

Our quantitative analyses also showed the school average on teachers' reports of collaboration is negatively related to 4 out of 5 instruction outcomes at a marginal level of statistical significance. Again, our qualitative results suggestive as we just discussed that the collaborative meetings diminished after the first year in all our cases, and still more over time. Likewise, in some schools, fewer teachers attended the meetings when they did occur. Our qualitative data suggest that implementing and sustaining the collaboration routine faced many more problems than the coaching routine.

Variation and Challenges in the Implementation of Instruction Routines: A Closer Look at Instruction in Action

Classroom observations showed that all of our case study teachers were "doing" the AC instruction practices, at least some features of them, even in schools that were no longer officially working with a design due to a conflicting district mandate. But ten classroom observations of fourth grade AC teachers show these teachers' instructional exchanges with students varied a great deal even as they carried out the same or similar routines. We found a range in the quality of the enactment from a superficial and mechanical use of the instruction routines, or a more "competent" use, interrupted by

discipline problems, to a fluent, skilled use, with high student engagement. Here we look more deeply into the implementation of the instructional designs in a few teachers´ classrooms to understand more about how and why they varied in their use of designs. Our mini cases include three fourth grade AC teachers we observed in fall 2002 and again in spring 2003.

As we have described, all of our case teachers valued and used the AC writing program. They also all tended to recognize the reading-writing connection as a key characteristic of AC. For example, during our final round of interviews in Winter 2004 we presented all case teachers with a text and asked them to "think aloud" about how they would use it for instruction. AC teachers, unlike any of our others, tended to describe the text in terms of its usefulness for teaching literary techniques or text structures in different genre. Even when pressed to discuss how the book might be used for reading, AC teachers tended to refer to the text's value as an aid in teaching writing.

But we found that some teachers, even in the third year of implementation-- tended to use the Writers Workshop routines in a "surface" or rote manner: For example they would not elaborate much in terms of responding to students' work or in drawing out students' insights about their peers' writing. And, even more practiced, informed and knowledgeable AC teachers sometimes encountered classroom behavior problems they had to solve, problems beyond those the design could manage for them.

We begin with one fifth grade teacher at Westwood Elementary to illustrate how she put elements of the AC routines into action with some fluency and knowledge of the

design, in this instance, segments of Writers Workshop, but also how the classroom context also shaped the quality of instruction. [6]

Ms. Inge, Westwood Elementary

Ms. Inge began her lesson by writing two of the writing standards on the green board at the front of the room: LO): compose a memoir as a response to literature (E2b) (E2c). She spent about 20 minutes reading a book, "When I Was Young in the Mountains," stopping intermittently to interact with students and engage them in a discussion. She opened the lesson by discussing the authors' technique:

> I want you to listen to the way she writes, not only because of the story, but I want you to listen to her good beginnings . . . We've been working on beginnings . . . So I want you to listen to how she talks about being young in America…' (F02).

The excerpts above and below illustrate the content of her exchanges—literary technique and identification of text structure, embedded in a writing lesson. But the example below also shows the difficultly she had in maintaining such a discussion due to two students' disengagement.

> Ms. Inge looked out from the book and asked the group: 'Can anyone tell us as writers and authors ourselves, what we noticed about this author's craft or style of writing? What do you notice about Cynthia Rylants writing? K?'
> Student1/K: Most of the book started the same, uumm, when I was young in the mountains.
> Ms. Inge: 'good.' Then she looks at a boy and said: "Did you hear what she said?" He shook his head no and Ms. Inge asked: "Why not? Will you please put away what you're doing so we can focus on what we're doing now." The boy shoved something in his desk.
> Ms. Inge continued: "K noticed that most of the pages began with 'when I was young in the mountains'. She used *a pattern* when she was writing. How did she

[6] When we first interviewed Ms. Inge, she was teaching 4th grade having "looped" or followed her 3rd grade students. By Fall 2002, she was teaching fifth grade and was very unhappy about it. She told us that very few of her original students were still with her and thus, she was still trying to teach many of the students the "rituals and routines" that came quite naturally to those students who had been with her last year. Many of her students were new to the school and had not been exposed to AC.

> begin the story? What was her beginning?" She called on a boy asking: "How did it begin T? Do you remember?"
> He responded: "when I was young."
> Ms I: yes. It actually started with 'when I was young in the mountains.' Can anyone tell us…. (she stopped mid sentence and said) I'll wait; the talking has to stop. You are not going to be able to have fun Friday if you continue to do this."
> She paused for a while. Then asks the group: "What else did you notice about her style of writing; Kit?"
> A tall thin boy sitting at a small round table in the back of the room his long legs stretched out way beyond the table, said, "her style was interesting because she used rich language to describe the people and the place." Ms Inge asked if people had heard that and asked the boy to repeat it. There was some talking at this point. Inge asked: "What do you mean by rich language?" He began to say, "She used country words."
> But two girls at the writing center were talking rather loudly *[Inge later sent these two to the office; they were much older than their classmates and were very disruptive]*. Inge looked at the boy: "They missed a really good opportunity to hear what you had to say."

This small segment of Ms. Inge's instruction on a day that we observed her is one of many examples among our classroom observations showing an AC teacher enacting one or more the instructional practices represented by the five logging measures we described earlier. Ms. Inge is reading a text that was specially selected to provide examples of a particular author's craft and to highlight aspects of a particular genre, in this case a memoir. Notice the lesson is juxtaposed to particular standards, public criteria for judging quality. Later in this lesson the students shared their own writing and peers critiqued one another. This segment not only provided students with concrete examples of quality writing, but based on our earlier review of reading research could have also served to help students to comprehend text in this genre. To do this lesson Ms. Inge had to select a

text that would be fruitful for her objective and then use it to elaborate an oral exchange with students, connecting them to that text productively [7] (Snow 2002; Lampert 2005).

After the observation, when we asked Ms. Inge what she hoped students would learn from the lesson she told us she based it on knowledge of her students' work, and their "needs". Thus here and throughout her interview she described an understanding of the content underlying the design's routines. Below she notes aspects of the formative assessment cycle in her writing instruction and clearly makes the reading and writing connection:

> So when I read the story to them . . . I want them to focus on what the author is doing as a writer. . . . And I build my mini-lessons on things that I see that my children need. [Good beginnings] was one area that they needed help in. . . .So basically she models that, Cynthia Rylant, her stories. She also does a pattern sequence for her stories, which is an interesting way of presenting the memoir.

Ms. Inge's instruction and interviews also demonstrate her knowledge of other core elements of a formative assessment system embedded in AC. She explained how students' work is judged:

> I look at content, creativity, ideas, syntax, mechanics . . . I give them a rubric score of 1-4. And they give themselves a rubric score. If they've met all the pieces they get a 4. They don't know why they're getting the grades unless they're involved. I think it's really important to involve children in that part. And, that has changed for me because of AC.

Here and in other parts of the interview, Ms. Inge emphasized not only her own response to students, but also getting them to make judgments about their own and others writing. Based on our earlier review of the research, Black & William, 1998 and several other

[7] See Snow 2002 for comments on the importance of quality text selection for teaching particular comprehension strategies. Lampert (2005) spoke of the important decision a foreign language teacher must make in selecting texts that will be fruitful for representing the language conventions under study.

researchers argue that these can be critical to raising student-teacher expectations, and to improving achievement.

Ms. Inge attributes most of her instruction to resources from two sources: work on her masters degree in literacy and the AC literacy coaches at her school, who, due to CSR funds expiring, were no longer there when this observation took place. Just below she explains how the AC literacy coordinators worked with her, and gave her tools for documenting student results. She said:

> [The AC literacy coaches] were teaching us how to actually work with the students. And I said you know what, I'm going to use this. Because this is just like a lesson plan book set-up. I'm just going to use that to jot down some notes when I talk to the kids. [Now] if I see a student is really having trouble with a good beginning, I'm going to document that, and use that little piece, as a mini-lesson for the next day. That's how I plan my lessons. I base it on what the students need. Not what I think…they need.

Thus there is evidence that when Ms. Inge logs student engagement in the writing process, a focus on genre and literary technique, interactive response to student writing, or the integration of reading and wearing, her instruction is informed by her continual assessment of students' needs. Later in this lesson Ms. Inge circulated and talked to students one-on-one during the writing session. Then students shared their work and received comments from their classmates. When she and her students critiqued one another, they did so based in part on commonly held criteria for quality, made more concrete through high quality literary techniques in texts from multiple genre.

This teacher was able to articulate a clear understanding of the AC tools, materials and routines she used as well as the literacy content underlying them. And she was motivated to use them: AC she said, complemented her masters work. But For whatever

reason, she was unable to mange classroom discourse as a few, primarily two, very, disruptive students were clearly not engaged.

At this point Westwood Elementary was in its fifth year of implementation. The district had mandated a new reading program in the lower grades, CSR funding was gone—2 years ago—and thus the school no longer had its two literacy coaches. Ms. Inge could not receive help from "guided participation" even if she wanted it; and she did. Despite the teacher's knowledgeable use of AC routines and tools students in interaction with Ms. Inge, shaped the implementation of AC instruction, and to some extent, constrained it.

Mr. Osar, Bonds Elementary

In terms of a basic implementation of Writers Workshop, Mr. Osar was precise in his enactment of the AC Writers Workshop routine and his students who were engaged, never interrupted the lesson. He adhered to almost the exact time frame and sequence for each component of the Writer's Workshop design and included every element we expected to see—for example a mini-lesson, a work session during which students wrote while he conferred individually with them, and the Authors Chair in which students used established criteria to provide feedback. Mr. Osar's logging percentages are consistent with high implementation of the design: Like Ms. Inge, he out-scores comparison teachers—in terms of proportion of lessons logged--on each of the five measures we use to assess the implementation of AC writing practices. Mr. Osar for example, logged interactive response to writing for 75% of lessons compared to a fourth grade comparison teacher average of 37%).

While Mr. Osar and Ms. Inge logged higher than comparison teachers on AC logging measures, Mr. Osar's lesson shows a qualitatively different enactment of similar AC routines and formats. Like Inge and Nagy, Mr. Osar opened his lesson by discussing a book: Back Home, by Gloria Jean Pinkney and Jerry Pinkney. The observer notes that students are very attentive.

T: What did we do yesterday?
S: Look at setting.
T: Why we look at setting?
S: We make more details
T: What do we know about where this story takes place?
S: Train station.
T: We start at a train station. And then where did the story go?
S: We go to where the aunt and uncle live.
T: Where?
S: Down South.
T: Where down South?
S: On a farm.
T: What state?
S: North Carolina.
T: Yeah! Remember them talking about the swamp grass.
S: And rice.
T: And they have a different type of language. Do they sound like us?
Ss: No.
T: She is happy her cousin, what?
S: Likes her.
T: And he has just delivered a baby what?
S: Girl
T: No! A baby what?

A reader can easily notice that, rather than drawing out students' insights about the text, this teacher dominates the discourse in this discussion.[8] Though he focuses on his objective—illustrating a text structure, especially a story setting—this enactment of the design is quite rote and mechanical. His questions are low level and text based, not developed to illicit more cognitively demanding student performances. The excerpt below in which Mr. Osar provides students with feedback on their writing is similar.

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[8] Geoffrey Phelps, Internal communication within observation write-up, 2002.

> Teacher circulates around room working with students. Sits down with individual students and listens to them read their stories. For each student Mr. Osar takes a sticky note and divides it into four sections. He makes plus or minus marks in the sections and at times writes comments. After listening to the student read, he leaves the sticky note with the student.
> T: Lets see what you got.
> T reads and writes a few comments on the sticky note. The student waits quietly. There is little direction from the teacher about the specifics of what needs work and changing in the story.
> T: When I went to… Where?
> S: Georgia.
> T: You went to Georgia!!
> S: Yeah!
> T: Put this on your paper. Check your spelling. Ok. Lets see. Engage reader. Did you engage the reader?
> S: No.
> T: Ok fix that too.

Mr. Osar met with and gave interpersonal feedback to six students in this same manner, while the rest of the class wrote quietly at their seats. The subsequent dialogue during Author's Chair, enabled us to see that students could assess whether a story contained elements such as a setting and details to engage the reader. As AC intended, Osar relied heavily on standards to guide his instruction and his assessment of student work. Students were clearly "sharing" their work, but Mr. Osar's elaboration of the routine in interaction with students was rote-like, and did not make good use of students' thinking or comments. For example, after a student read his story Mr. Osar conducted this discussion:

> T: Did he engage?
> S: Yeah
> T: Did he give a setting?
> S: Yeah
> T: What did you have? A Chucky Cheese? Did you have a pizza?
> S: No
> T: Nothing to drink?
> S: No
> T: I want to commend you on your writing? Now some of you got questions?
> S: In 1998 play station wasn't out.
>
> T: So, what is your point?

S: He is probably fibbing because it wasn't out.
T: Is this your story?
S: No
T: We build him up and then we rip him down. We want constructive language. . . . We are going to build up our writers.

In this example Mr. Osar closed off a potential student-to-student discussion in which one student critiqued another with an insight about accuracy and timeline. This was typical of Osar's instruction. His wait time, and the way in which he did or did not intervene with particular students was critiqued by coaches at Bond. I these instances, though he was providing interpersonal responses to students' writing, one of the AC routines, the content of his feedback--helping students understand how to "close the gap" between their current work, and where they need to be (Black & William), was weak. These are what Lampert (2001) and others argue are the "problems of practice" that cut across all kinds of instruction.

Nevertheless, Mr. Osar was "doing" a version of the AC routines. His students were engaged throughout and virtually all the formats and routines of Writer's Workshop were in place in this classroom, as his logging clearly documents. Instructional time was configured to perfectly match the design, something Mr. Osar perceived to be critical.

But this teacher illustrates a less fluent or knowledgeable use of the design's routines than Ms. Inge did. His classroom elaboration of the design was thin in terms of drawing on students' insights or contributions, in part to stay on a pace he felt obliged to maintain. The discourse was rote-like and superficial, and closed compared to the AC designs intent to structure more demanding, intellectual dialogues centered in high quality literary technique and content. Though both teachers were "doing" the design's routines, in contrast to Ms. Inge's, Mr. Osar's lessons have a very different quality as

does his "talk" about instruction during interviews. For example, unlike Ms. Inge, in discussing his use of the designs Mr. Osar remained almost content free and focused on the "motions" or on the "surface" of the routines in terms of room organization, pacing of each element and so on.

Ironically, Mr. Osar was insightful about the nature of the help he needed to improve his instruction. In the spring 2003, the end of Bond's 3rd year of implementation, the literacy coaches were spending a lot of time in Mr. Osar's room. Though he grew frustrated with their critiques related to "timing" (wait time for students) he valued their help. He recounted his confusion, "your timing, your timing; that was getting on my nerves. I said well come in and show me. I'm open to that, show me." But he also complained, "This year [the literacy coordinators are] coming in and they're modeling but I just felt that it should've been going on all year long. A lot of teachers requested that too." Moreover, because the music or art teachers did not make it to his classroom in time, Mr. Osar had missed several of the work group meetings in which the coaches met with teachers. He recognized and regretted what he perceived to be insufficient support for learning to put the AC routines into practice. He said:

> All I know is that number one you have to stay well informed. You have to make it to those meetings. Modeling is very, very crucial you know especially for the teachers. . . . you can put it down in writing but not until they actually see it being implemented will they get a much clearer picture. . . at the same time. . . [others will] see things that maybe you're not really paying attention to.. . And they'll bring it to your attention. . . You know nothing is written in stone. . . . I read some of the information in some of the books and some of the things they left out and some of the things they left in.

Here Mr. Osar insightfully articulates the problem and potential of variation in the use of instructional designs: No matter how specified within materials and routines, "nothing is written in stone" and some important matters are left out.

Conclusion

Drawing on ideas in the literature on professional practitioners' and organizational learning we hope to contribute to the current policy debate on how to scale up high quality complex, literacy teaching in low performing American schools. Using an extant case of instructional change and a way of framing this case of reform our study provides insights into the possibilities and challenges for promoting cognitively demanding literacy work in many schools and classrooms. We have used the idea of interacting sets of professional routines for simultaneously improving instruction, enhancing students' learning and, over time, developing a higher level of competence in teachers. Externally designed professional practice routines, such as those embedded in America's Choice, have the potential to be an important tool for implementing instructional improvement because they carry some of the tools and "in-action" knowledge that skilled teachers use, but make such knowledge at least somewhat accessible for novice or lesser skilled in-service teachers.

Unlike policy and program reform principles that are often not concrete enough to guide practice, this kind of reform could be more "portable" or replicable than past reforms aimed at cognitively demanding instruction and learning. By replicable we do not mean in the sense of exactly replicating a set of behaviors or in-action cognition. Rather, we mean replicable in the sense of providing a common "scaffolding" for practitioners and students trying to dramatically change what they do. We have not used

"routine" to mean only low-level automatized behaviors. Instead we adopted the view that routines may have the potential to organize and support complex, cognitively demanding, interactive work by teachers and students around rigorous content, as well as organize lower level elements of that work (Ritchhart, Palmer, Church & Tishman, 2006; Leinhardt & Steele, 2005).

We found that in the first years of implementation teachers across all of our case sites did indeed change their instruction to more or less reflect some AC instructional practices, primarily the Writers Workshop routines. Based on interview data we found that the AC design for writing clearly shaped the views of case study teachers—for example their beliefs about the nature of text, the integration of reading and writing, or their expectations about students. In some instances our case teachers' instruction reflected versions of the "evidence-based" practices we described earlier; that is, practices that research suggest have a positive influence on students' learning.

But these teachers changed their practice for the most part, only in ways that were consistent with what they perceived to be the clearest, most well defined, concrete elements of the design; that is, the elements embedded in Writers Workshop. Many AC case study teachers reported they did not change their reading instruction much in the first few years of implementation.

We found several reasons for this pattern: Case schools implemented Writers Workshop first and that process always took longer than state or federal CSR policies had anticipated. This "time lag" was due in part to the challenge of implementing more than one workshop at the same time. Case study teachers and leaders reported that it was difficult to enact one of the workshops; enacting more than one was overwhelming. Thus

they would try to master the writing component and not engage as deeply with reading or math for the first two, sometimes 3 years. Moreover, AC's routines for teachers' learning through "guided performances" with literacy coordinators required intense work in classrooms and that too took a great deal of time. For these reason, reading implementation was delayed in two of our cases and in the latter, where the policy and resource environment was unstable never really began.

Second both teachers and school leaders reported they did not engage as strongly or well with readers workshop due to their perceptions that the AC reading framework provided less concrete guidance and fewer useful learning opportunities. Third, teachers and leaders found it difficult to manage guided reading due to large class size and weak capacity to manage small group work. Finally, some of our case study teachers believed they already used many of the reading practices, and thus reported not changing their instruction much.

Importantly, teachers logging data in 31 AC schools showed that teachers' instruction in AC schools differed from comparison schools in ways that reflect all of the AC design's instruction that we measured with the exception of Guided Reading. Our case study results above suggest potential reasons for this finding. Moreover, our quantitative findings show that within AC schools, the extent of the coaching routine in a school over the four years of the study, was a strong predictor of the AC practices, including Guided Reading. Our qualitative data show that case schools varied in how well they were able to implement and sustain the coaching routines. These data also suggest that the "extent" of the coaching routine could mean how many coaches were working in a school, but also the stability of these coaches over time. While our cases are

only suggestive, they show that schools varied in terms of how many teachers who needed help were reached each year, in how many qualified, motivated coaches a school had each year, and in how stable the coaches were in later years of implementation. Some schools lost one or more coach for a year or completely, while others implemented the coaching routine with two coaches over each year of the study.

The other key AC routine for professional learning, recurring teacher work group meetings focused on problems of instruction, were difficult to sustain in our case schools. Our quantitative analyses also showed the school average on teachers' reports of collaboration, was negatively related to 4 out of 5 instruction outcomes. In our cases, after the first two years of implementation, the time for these meetings was supplanted by district or school needs, unions argued to use the time for teachers' planning, and funding for reimbursing teachers to meet after school ran out. From the beginning, finding substitute teachers was a problem causing teachers to sometimes miss meetings due to lack of replacements.

Still, our study provides extant cases describing rich practice-based discussions that used detailed external performance standards for judging the quality of students work and during which teachers with their coaches could learn how, in the terms of our framing perspectives, to "repair" the instruction routines that "didn't work" in the interaction of their classrooms. Moreover, AC teachers across all contexts described in detail how they gained competence in using the instruction routines, especially in Writers Workshop, in the day to day performance of these practice routines, while guided by coaches, followed by discussion. Our frame suggests these kinds of experiences are

critical for building competence in professional practitioners and thus still hold potential for improving schools.

As we have shown and the developers hoped, in some cases teachers' competence and motivation to sustain the AC design in writing appeared to develop in a cycle of improvement as they used the design's routines, tools and content in their classrooms. Primarily through guided practice, and "doing" the routines teachers in our case schools learned to use the Writers Workshop instruction routines, at least at a novice level. In doing so they changed their instruction. Thus, we believe that as a tool for scaling up instructional improvement, these "routines" as we have used them here, at the level of school organizations and classrooms, have potential, if sustained, to provide some stability for teacher practitioners who must maintain a professional practice, while at the same time learn to make large changes in that practice. Further research in schools to investigate the routine use of specified designs for professional learning and practice would be helpful in identifying the influence of well implemented, sustained cases on instructional and student outcomes.

In this regard, our study raises compelling questions for research and policy. Just as the implementation of AC's organizational routines varied across schools and encountered challenges, classroom observation and teachers' logging data showed that case teachers' use of AC's instructional routines also varied, sometimes quite dramatically even as they were using the same routine. Differences ranged from quite superficial and mechanical use in the third year of implementation, to a more informed, knowledgeable and fluent use. In these cases, both teachers logged much higher proportions of their lessons consistent with AC instruction than comparison teachers.

Even in some cases of more knowledgeable, skilled teachers, who understood the routine's underlying content and theory of action, classroom context or discipline problems could present obstacles to implementation.

These findings raise a provocative question for further research: Does this kind of variation in the quality of the instructional routines, as enacted, matter for improved learning outcomes? If so, to what extent and how can implementation be improved? Respondents in all four of our AC cases reported improved test results on state or district assessments in writing (see Appendix X). Rowan, Correnti, Miller & Camburn (2008) also found significant differences in achievement growth for students in the SII AC schools, compared to comparison school students in the upper grades. From the beginning of 3rd grade to the end of 5th grade, for example, students in AC schools, on average, scored an additional 9-12 points on a reading comprehension measure. But the specific question of cause or how gains might be increased remains.

The weakest, most mechanical AC teacher in our case sample may still have set more complex, demanding tasks for students than he would have prior to using AC. He provided rudimentary feedback that may be as an improvement over his past practice. Alternatively, the two AC coaches were not pleased with the progress of this teacher's students and were spending a great deal of time in his classroom. Given the variation in "quality" of teachers' implementation of AC routines, could more sustained and competent use of the designs for literacy instruction be a more powerful treatment? We find these hopeful questions, and important for continued research and policy discussion.

We believe this study shows that designs for routines and accompanying content hold promise for organizing complex tasks for teachers, and improving instruction

without "de-skilling" in-service teachers. Our cases also seem to illustrate that teachers must be somewhat knowledgeable and have opportunities to "practice" the design's routines to construct generative and complex work with students to meet the designers' higher-level expectations. That means teachers must make conscious decisions to use the routines or tools, and thus must find some value in them. In this study, doing the instructional routines generated incentives internal to teachers' work in the form of improved student performances. These, as well as incentives from coaches, and clear, "useable" design elements; all influenced the way teachers planned, engaged with students or content and even the way they thought about instruction. We have argued that instructional designs hold more potential for improving schools at scale than is typical of education reform. But no matter how detailed or scaffolded, the quality of instructional routines as performed in classrooms depends upon teachers' competence in elaborating them. As Mr. Osar, the most mechanical enactor among our case teachers finally noted in the midst of working for months with two of his schools' AC coaches: "nothing is written in stone" and some important matters are left out.

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