



National Evaluation of Writing Project School Partnerships

Final Report
September 2012

Research conducted by SRI International

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Executive Summary

Although communication is central to any list of essential “21st-century skills,” writing instruction has been deemphasized in American classrooms. As Applebee and Langer (2011) describe it, “[T]he actual writing that goes on in typical classrooms across the United States remains dominated by tasks in which the teacher does all the composing, and students are left only to fill in missing information, whether copying directly from a teacher’s presentation, completing worksheets and chapter summaries, replicating highly formulaic essay structures keyed to the high-stakes tests they will be taking, or writing the particular information the teacher is seeking.” The results are not surprising. According to National Assessment of Educational Progress data (Salahu-Din, Persky & Miller, 2008), just one-third (33%) of U.S. eighth graders write proficiently. There is some evidence that state and federal school accountability policies that have focused educators’ attention on student achievement in reading and mathematics have exacerbated the problem. Most specifically, by calling for accountability systems based on annual testing in English language arts and mathematics, the No Child Left Behind Act of 2001 (NCLB)—and the states’ responses to it—appears to have contributed to a narrowing of the curriculum (Center on Education Policy, 2005).

Concerns about the quality of students’ writing are not new, however. The National Writing Project traces its history back to 1974, when the University of California, Berkeley, sponsored a small team of faculty and K–12 educators to provide professional development for teachers with the goal of improving the writing skills of incoming freshmen. It has since grown into a national network composed of nearly 200 university-based Local Writing Project sites. These sites work to build local teacher leadership capacity through Invitational Summer Institutes and continuity programs for the teacher leaders who participate in these institutes. Local Writing Project sites also offer inservice programs and

a range of youth, family, and community programs led by the teacher leaders who have participated in Invitational Summer Institutes. Through their inservice programs, Local Writing Project sites seek to improve writing instruction by providing locally customized professional development to teachers in local schools and districts.

Partnerships are an emerging area of work in the portfolios of many Local Writing Project sites. Partnerships are defined in the National Writing Project network as a relationship of more than 1 year wherein a Local Writing Project site and its partner (typically a school or district) share responsibility for setting goals, planning work, and supporting the partnership activities. Partnership work with middle-grades schools makes up a small proportion of the overall National Writing Project portfolio, comprising 3% to 4% of the work. To learn more about this emerging area of its work, the National Writing Project contracted with SRI International to conduct a study of Local Writing Project site partnership work with schools serving middle grades.

Research Design

The study design included a cluster randomized controlled trial (RCT) to estimate the effects of partnerships on teacher practices and student writing, combined with a multimethod study to document how partnerships were developed and implemented in participating schools and sites. The study began with a baseline year (2007–08) during which partnership schools could plan the work with their Local Writing Project sites but could not commence professional development. From 2008–09 through 2010–11, the Local Writing Project sites and partner schools could implement their partnerships. The emphasis on describing implementation in this study is critical because planful variation is core to the National Writing Project model of co-designed partnerships. RCTs, which provide an unbiased estimate of the average impact of a specified treatment, assume that uniform implementation of the intervention is desired. We knew that would not be the case (because it was not a goal of the intervention). As a result, the implementation data provide a critical lens for documenting the variation and explaining findings from outcome analyses.

To establish criteria for assessing partnership implementation, SRI conducted a focus group with site directors identified by the National Writing Project as experienced with partnership work. The following four criteria emerged from the focus group as defining the minimum characteristics of a partnership *for the purpose of the study*:

1. A partnership is co-designed. Both the Local Writing Project site and the school must share an understanding of the goals and strategies of the partnership.
2. A partnership is co-resourced. There must be evidence, over multiple years, of district and/or school leaders' commitment of resources to the partnership.
3. A critical mass of teachers (35% to 100%) must participate in the professional development, regardless of how teachers are selected into a partnership. The strategies for recruiting teachers to participate in Local Writing Project site programming may include (but are not limited to) recruiting volunteers or targeting specific groups of teachers (e.g., grade level or department).
4. Participating teachers must receive sufficient professional development. As a rule of thumb, the critical mass of participating teachers (defined above) should receive at least 30 contact hours of professional development (delivered by Local Writing Project staff and/or local teacher-consultants) each year.

The study sample included 14 Local Writing Project sites and 39 schools. We refer to the 20 schools in the treatment group as “partnership” schools because they were randomly assigned to form partnerships with their Local Writing Project sites. We refer to the 19 schools in the control group as “delayed partnership” schools because they were eligible to form partnerships with their Local Writing Project sites after the study concluded.

We used multiple data collection strategies to gather comparable data from the partnership and delayed partnership schools, including teacher surveys, teacher logs, teacher assignments, student work, on-demand writing prompts, and interviews. These instruments included measures of school context, teacher professional community, teacher professional practices, instructional practices, student opportunities to learn writing, student outcomes, and professional development. We collected additional information from the Local Writing Project sites on partnership planning and implementation. The full report explains each instrument in greater detail. We turn now to our key findings.

Implementation

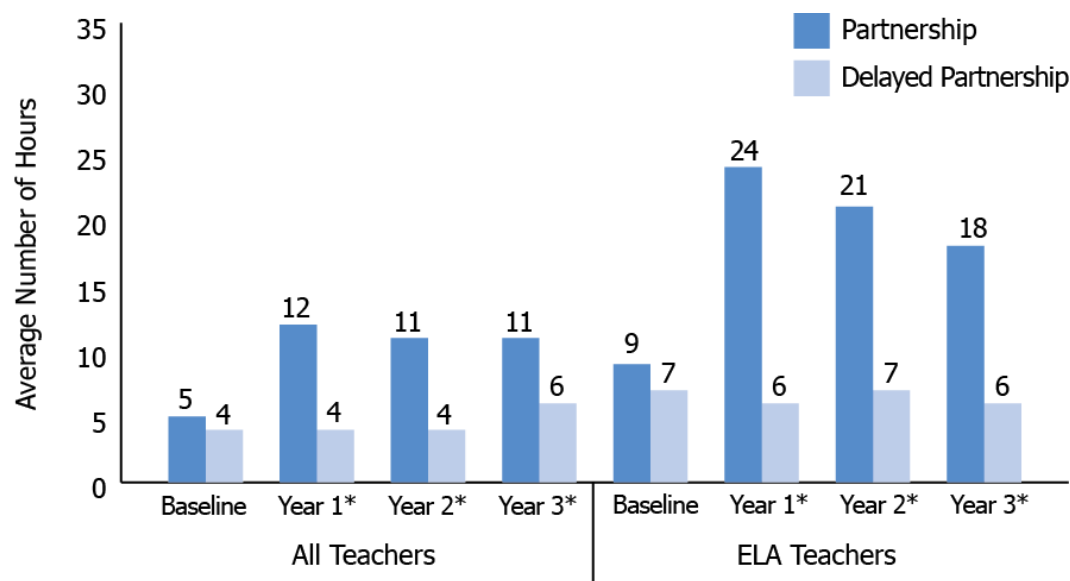
In short, we learned that implementing partnerships between Local Writing Project sites and middle schools is extremely difficult. Schools typically did not place a top priority on writing instruction, reflecting prevailing policy trends (i.e., increasing focus on reading and math under NCLB) and results of studies on the place of writing in the curriculum of American secondary schools (e.g., limited instructional time devoted to writing; see Applebee and Langer, 2011). As a result, even when Local Writing Project sites met schools at the level of their stated needs and interests, the duration of professional development provided did not meet the study's definition of a partnership. As a result, no schools and Local Writing Project sites attained the level of partnership professional development anticipated in the study design. Partnership schools did, however, receive a greater amount of writing professional development than did delayed partnership schools. We next review these main implementation findings.

Schools assigned to form partnerships increased the amount of writing professional development that teachers received, compared with schools assigned to delay partnership formation.

The amount of writing professional development that partnership and delayed partnership teachers reported receiving was equivalent at baseline (Exhibit ES-1). In contrast, during each of the 3 years of partnership implementation, teachers in partnership schools participated in an average of 5 to 8 more hours of writing professional development than their counterparts in delayed partnership schools; English language arts (ELA) teachers participated in an average of 12 to 18 more hours per year of writing professional development than their counterparts in delayed partnership schools.

Exhibit ES-1

Average Duration of Writing Professional Development for Teachers



Source: Teacher surveys, 2007–08 through 2010–11.

* $p < 0.05$.

By the conclusion of the study, the depth and breadth of teacher participation in partnership professional development varied considerably, both across and within those schools that were assigned to form partnerships.

Looking school by school, average cumulative hours (over 3 years) of partnership professional development for the entire faculty ranged from 4 hours per teacher at one school to 53 hours per teacher at another. The range was greater when examining average cumulative hours for seventh- and eighth-grade ELA teachers across the schools—partnership professional development for these teachers averaged from as few as 7 cumulative hours at one school to as many as 194 cumulative hours at another.

The proportion of teachers who participated in 30 or more hours of partnership professional development in a given year varied across and within partnership schools. Exhibit ES-2 shows the distribution of the percentage of teachers participating in 30 or more hours of partnership professional development in each year of the study.

- Each dot represents a school and shows the percentage of teachers (all teachers or seventh- and eighth-grade ELA teachers, depending on the section of the graph) participating in 30 or more hours of partnership professional development in a

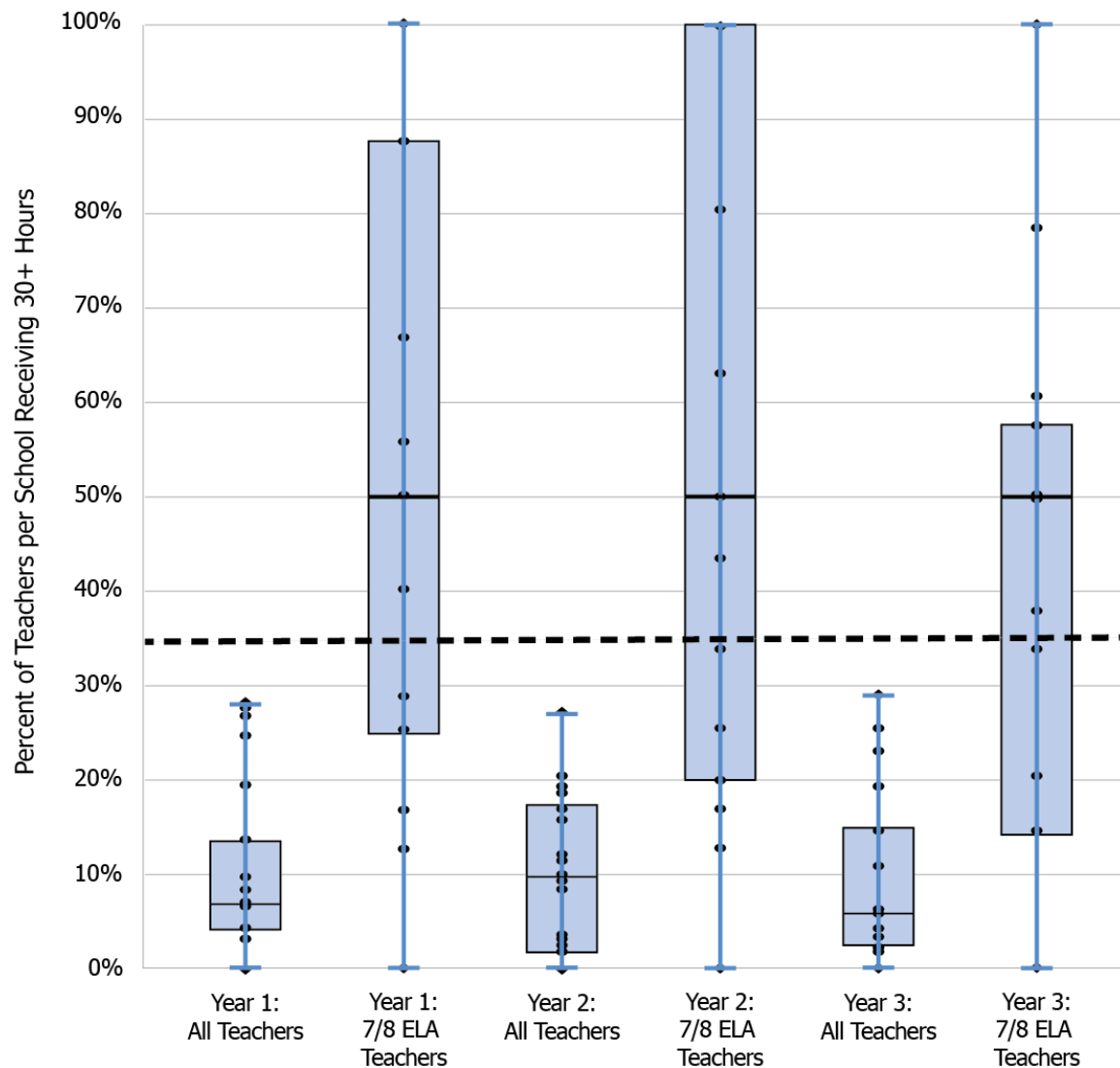
given year of the study. (Note that when more than one school has the same value, only one dot is visible.)

- Each vertical line spans the entire range of average schoolwide participation rates, from the school with the lowest participation rate to the school with the highest participation rate for that category (all teachers or seventh- and eighth-grade ELA teachers, depending on the section of the graph).
- Each shaded box represents the middle 50% of schools in terms of participation rates: the solid line at the bottom of the box shows the 25th percentile, the solid line inside the box shows the median, and the solid line at the top of the box shows the 75th percentile.
- The dashed line across the entire graph indicates the implementation criterion of 35% of teachers receiving 30 or more hours of partnership professional development.

For all faculty, the proportion participating in 30 or more hours per year ranged from 0% to 29% of teachers. Restricting the analysis to seventh- and eighth-grade ELA teachers only, the proportion of teachers participating in 30 or more hours of partnership professional development in a given year ranged from 0% to 100%.

Exhibit ES-2

Distribution of Partnership Schools by Percentage of Teachers Participating in 30 or More Hours of Partnership Professional Development in Each of 3 Years



Source: Partnership-monitoring reports, 2008–09 through 2010–11.

Exhibit reads: In Year 1, the proportion of all teachers per partnership school who participated in 30 or more hours of partnership professional development ranged from 0% to 28%. The school in the 25th percentile had 4% of teachers participate in 30 or more hours, the school in the 50th percentile (indicated by a horizontal median line) had 7% of teachers participate in 30 or more hours, and the school in the 75th percentile had 13% of teachers participate in 30 or more hours.

Note: The median line for ELA teachers is in fact at 50% each year. Given that many schools have a small (and even) number of 7th/8th-grade ELA faculty (e.g., two or four 7th/8th ELA teachers), several schools are at 50% participation rate each year.

Partnership professional development covered a wide variety of topics both across and within schools.

Partnership professional development included many topics. Across the schools, writing to learn (i.e., using writing for the purpose of learning other content) was the most frequently covered topic. Given the variation in content, the extent to which the professional development content was aligned with the specific teacher and student outcome measures used in the study varied as well.

Across the partnership schools, the format of the professional development often involved engaging teachers in writing themselves and experiencing specific instructional strategies and activities before implementing them in their classrooms.

High-quality professional development provides teachers an opportunity to deepen their content knowledge and see how to apply what they are learning to their instruction (Desimone, 2009). One way partnership professional development provided teachers the opportunity to learn about both content and pedagogy was by engaging them in writing themselves. The two main goals of engaging teachers in writing were to help them better understand what writing is like for their students and to develop their own skills as writers. Similarly, teachers often participated in writing activities that they could then engage in with their students.

Variation in participation and content appears to result from a combination of the national policy context, schools' baseline practices, Local Writing Projects' experience and expertise, and efforts to adapt professional development to school contexts and teacher needs.

More specifically:

- The broader accountability and policy context—particularly whether and how states assess student writing in the middle grades—influenced the priority some schools placed on participation in partnership professional development.
- Variation in the content covered in partnership professional development stems from the specific nature of site expertise, and from efforts to engage a broad group of teachers, offer experiences that deepen over time, and respond to different school contexts.

- At baseline, the frequency of writing instruction was limited and practices varied greatly, contributing to the nature and variety of content covered in partnership professional development.
- Partnership formation requires substantial expertise, and many Local Writing Project sites participating in the study had limited prior experience with school partnerships.

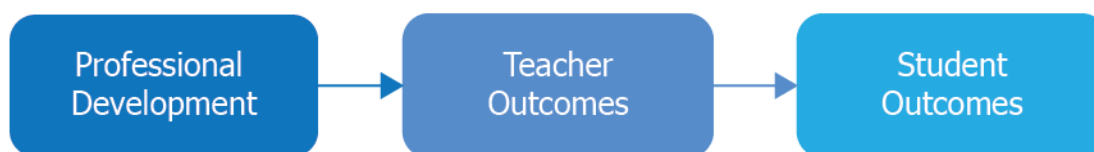
These factors all contributed to the variation in partnership professional development described previously.

Outcomes

The ultimate goal of partnership professional development is to improve student writing ability. Presumably, teacher professional development cannot by itself alter student writing outcomes; professional development can influence teacher outcomes (specifically, teacher knowledge and instructional practices), which in turn can influence student outcomes (in this case, student writing). Therefore, the outcome analyses focus on the causal theory that is core to the conceptual framework, namely, the idea that professional development (the intervention) could lead to changes in teacher outcomes (the proximal outcome), which could lead to improved student learning (the ultimate outcome) (Exhibit ES-3).

Exhibit ES-3

The Basic Causal Theory



Taking advantage of the experimental design, we first conducted an intent-to-treat analysis of the impact of the intervention (as implemented by schools that were assigned to form partnerships) on teacher and student outcomes. However, given that the intervention was not implemented at a level that met the study's definition of a partnership, we explored the

question of whether partnerships might show promise for affecting teacher and student outcomes by conducting exploratory analyses examining the causal theory of how partnership professional development could affect student outcomes.

Key findings from the experimental analysis: The impact of being randomly assigned to form partnerships

Through an intent-to-treat (i.e., experimental) analysis, an RCT provides an unbiased estimate of the impact of being randomly assigned to a treatment versus control (or other experimental) group. The intent-to-treat analysis does not take into consideration that schools assigned to the intervention may not fully implement it. In the case where participants experience with high fidelity the conditions to which they were assigned, an RCT also provides an unbiased estimate of the effectiveness of the intervention. However, in the current study, the intervention was not implemented at a level that met the study's definition of a school partnership, so the RCT cannot estimate the effectiveness of partnerships. This analysis instead addresses the question: "What is the impact of being randomly assigned to form a partnership on teacher practices and student outcomes?"

Assignment of schools to form partnerships had an impact on teachers' perceptions of the influence of professional development on their writing instruction.¹

An annual teacher survey asked teachers who provided writing instruction to indicate the extent to which professional development activities during the current year influenced the writing instruction they provided to their students. All teachers in the second and third years of implementation and ELA teachers across all 3 years of implementation in partnership schools were more likely than their counterparts in delayed partnership schools to report that professional development influenced their writing instruction.

Assignment of schools to form partnerships had a positive impact on the frequency and length of student writing.

The teacher log asked seventh- and eighth-grade ELA teachers whether a target student was engaged in a writing-related activity and the length of the writing assignment that the

¹ Unless otherwise noted, all impacts, correlations, and differences presented in the text are statistically significant at the 0.05 level.

student planned, composed, edited, or revised. In the first and third years of the intervention, seventh- and eighth-grade ELA teachers in partnership schools were more likely than their counterparts in delayed partnership schools to report that students were engaged in a writing-related activity.

In the third year of the partnership implementation, the survey asked teachers to describe how many times per week students typically wrote text that was one paragraph or longer. Compared with teachers in delayed partnership schools, partnership school teachers in general were more likely to report that students wrote at least one or two one-paragraph responses/compositions rather than less extended writing in a typical week. However, no statistically significant differences were found when ELA teachers in partnership schools were compared with ELA teachers in delayed partnership schools.

The analysis yielded no significant difference between schools assigned to form partnerships and schools assigned to delay partnership formation in the extent to which teachers reported that students engaged in writing-to-learn activities.

Because it was a frequent focus of partnership professional development, the third-year teacher survey asked teachers how frequently students engaged in writing-to-learn activities. The results did not identify statistically significant differences between partnership and delayed partnership teachers in reporting student engagement in writing-to-learn activities.

Random assignment to form a partnership had an impact on collaborative writing in seventh- and eighth-grade ELA classes. However, the analysis yielded no significant differences between schools assigned to form partnerships and schools assigned to delay partnership formation on other writing process measures.

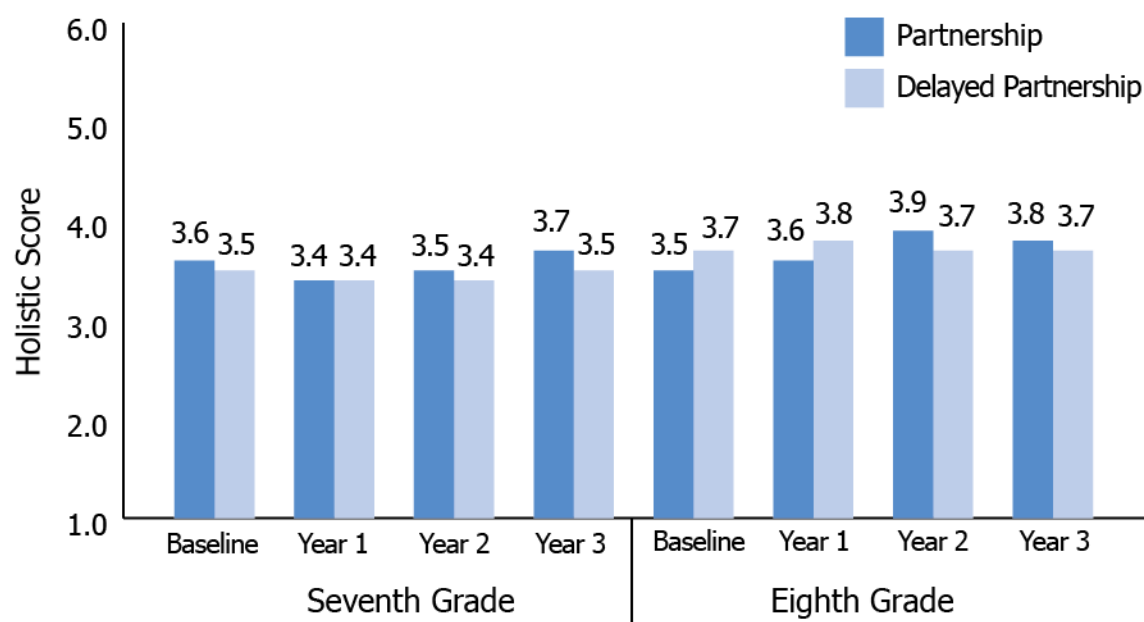
The teacher log and the teacher survey included measures that we analyzed both individually and as part of scales representing the frequency of four key writing processes and student engagement in writing processes. Log results reflecting individual components of the writing process showed that seventh- and eighth-grade ELA teachers in the third year of implementation in partnership schools were more likely than their counterparts in delayed partnership schools to report that students worked collaboratively on a writing assignment, either helping produce a group writing product or giving or receiving help or feedback on individual writing tasks. The other analyses of teacher log and survey items and scales about writing processes found no statistically significant differences for all teachers or for ELA teachers between partnership and delayed partnership schools.

Results show that there were no statistically significant differences in student outcomes between schools assigned to form partnerships and schools assigned to delay partnership formation.

Across the entire sample and across the 3 years of partnership implementation, the analysis of student writing prompt data found no significant impact of being assigned to form a partnership on a holistic measure of writing quality (Exhibit ES-4) and no impacts on any of six individual measures of writing attributes. The analysis of the impacts on student writing in response to naturally occurring writing assigned within ELA classrooms found no significant impact of assignment to form a partnership on the holistic measure of writing quality or on two additional measures of writing attributes (construction of knowledge and development of expository writing).

Exhibit ES-4

Holistic Scores on Student Writing in Response to On-Demand Writing Prompts (Model-Adjusted Means)



Source: 2007–08, 2008–09, 2009–10, and 2010–11 student on-demand writing prompts.

There are several plausible explanations for not finding an impact of partnership assignment on student writing. A lack of impact could well be caused by the low levels of partnership implementation described previously; it could be that the teacher practices supported by professional development were not positively associated with student outcomes; it could be that the focus of partnership professional development did not align with the student outcomes that were measured in this study; or the answer could involve a combination of these and other plausible explanations.

To better understand the effect of partnership professional development on teacher and student outcomes, we conducted analyses to explore the causal theory of change by first looking at the relationship between partnership professional development and teacher instructional practices, and then examining the relationship between teacher instructional practices and student outcomes.

Key findings from the correlational analyses: The relationship between participation in partnership professional development and changes in teacher practices

The hypothesis that professional development will affect teacher and student outcomes is based on the premise that teachers participate in a sufficient amount of partnership professional development (in this case, 30 hours per year). The most plausible explanation for not finding a positive impact on student outcomes in the intent-to-treat analyses is that most teachers simply did not receive a level of professional development that met the study's criteria for partnership implementation. It is therefore essential to explore whether teachers who did take part in a sufficient amount of professional development benefited from it—the first step in the causal theory. To do this, we conducted regression analyses using covariates and propensity score matching as two statistical strategies for creating a comparative reference for teachers in partnership schools who received a sufficient level of professional development to test the hypothesis about the impact of partnership professional development (as opposed to the impact of school assignment to partnership). The strength of these analyses is that teachers in the treatment group received a sufficient level of the intervention. On the other hand, research has shown that statistical adjustments do not typically mirror the results of experiments, which by definition are unbiased (Glazerman, Levy, & Myers, 2003; Cook, Shadish, & Wong, 2008).

Compared with all teachers in delayed partnership schools, teachers with 90 or more hours of partnership professional development reported an increased frequency on instructional practices measured.

We compared teacher outcomes for teachers who participated in 90 or more hours of partnership professional development during 3 years of partnership implementation with those for all teachers in the comparison group, adjusting for ELA teacher status and school-level baseline teacher practices. Because teachers who voluntarily took part in more hours of partnership professional development may differ from the general teachers in the delayed partnership schools on unmeasured characteristics, the results from the analysis should not be considered to indicate causal relationships.

Compared with all teachers in delayed partnership schools, teachers with 90 or more hours of partnership professional development had increases on all instructional practice measures that we investigated (length of student writing, writing to learn, class time devoted to four key writing processes, and student engagement in writing processes). Adjusting for ELA teacher status and school-level baseline practice, teachers with 90 or more hours of partnership professional development were 15.8 times as likely as all teachers in delayed partnership schools to report that students wrote at least one or two one-paragraph responses/compositions in a typical week. Using the same adjustments, teachers with 90 or more hours of partnership professional development also reported a higher frequency of engaging students in writing to learn and the writing processes that made up our survey scales than all teachers in delayed partnership schools (Exhibit ES-5).

Exhibit ES-5

Differences between Teachers with 90 or More Hours of Partnership Professional Development and All Delayed Partnership Teachers for Teacher Practice Scales, Ranging from 0 (“Never”) to 5 (“Daily”) (Coefficients and Standard Errors from HLM Models)

Outcome	Coefficient	Standard Error
Writing to learn	0.43*	0.20
Class time on four key writing processes	0.40*	0.20
Student engagement in writing processes	0.58**	0.20

Source: 2007–08 and 2010–11 teacher survey; partnership-monitoring reports, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$

Exhibit reads: Adjusting for ELA teacher status and school-level baseline practices, the average teacher with 90 or more hours of partnership professional development had a score that was 0.43 point higher—on a scale from 0 (“Never”) to 5 (“Daily”)—in response to a question about the frequency with which students engaged in writing-to-learn activities, compared with all teachers in delayed partnership schools.

Among teachers in partnership schools, duration of professional development was positively related to almost all teacher practices investigated on the survey.

Because our data show that participation varied across and within partnership schools, we conducted correlational analyses of the relationship between the duration of partnership professional development and teacher practices in the third year of partnership implementation, while adjusting for ELA teacher status and baseline teacher practices. These correlational analyses examine the relationship solely within the treatment group and thus do not address the impact of partnerships; rather, they explore the variation in outcomes within partnership schools. The analyses investigate the question: “What is the relationship between receiving a longer duration of partnership professional development (compared with a shorter duration of partnership professional development) and changes in teacher practice?” Results from these analyses by no means indicate causal relationships, because unobserved factors, such as motivation to improve, may contribute to both the outcomes and the duration of professional development in which teachers participated.

Duration was indicated by cumulative hours of partnership professional development for individual teachers, as well as by a dichotomous variable indicating whether a teacher participated in 90 or more hours of partnership professional development. Both analyses found that a longer duration of partnership professional development was associated with students’ engaging in writing at least one or two one-paragraph responses/compositions in a typical week and with increases on both writing process scales (i.e., class time on four key

writing processes and student engagement in writing processes as measured on the teacher survey). Writing to learn was the only teacher practice measure that was unrelated to the duration of professional development.

These methods of comparing teachers between partnership and delayed partnership schools and within partnership schools found positive relationships between partnership professional development and teacher practices. None of them support causal inferences that speak directly to the original question, namely, the impact of partnerships on teacher practices. Combined, however, they suggest that partnership professional development, when of sufficient duration, is promising for positively affecting teacher practices.

Key findings from the correlational analyses: The relationship between teacher instructional practices and student writing performance

As suggested in the basic causal theory, we consider the instructional practices used by participating teachers to be the mediating factor between writing professional development and student writing outcomes. Therefore, it is worth exploring the relationships between specific teacher practices and student writing—the last step in the causal theory. We took teacher practice indicators among seventh- and eighth-grade ELA teachers in partnership and delayed partnership schools in the baseline and final years of implementation and correlated each of them with changes in student writing (as measured by holistic scores of fall and spring on-demand writing prompts) during these two years.² Note that these analyses do not attempt to model the effects of professional development in any way.

More frequent student engagement in writing at least one or two one-paragraph responses/compositions and more frequent student engagement in composing text were associated with improved performance on writing in response to prompts.

Across partnership and delayed partnership schools, teacher reports that students wrote at least one or two one-paragraph responses/compositions in a typical week and the number of days teachers reported that students composed text were positively associated with

² Because of the lack of a pretest measure, we cannot associate teacher practices with student performance on writing prompts during the first and second years of implementation

holistic scores on on-demand prompts for students in seventh- and eighth-grade ELA classes (Exhibit ES-6). Other teacher practices were not found to be associated with student writing performance.

Exhibit ES-6

Relationship between Seventh- and Eighth-Grade ELA Teachers' Practices and Holistic Scores on Student Response to Writing Prompt (Coefficients and Standard Errors from HLM Models)

Teacher practice	Coefficient	Standard Error
Survey Measures		
Length - at least 1 or 2 one-paragraph responses/compositions	0.27*	0.12
Writing to learn	0.02	0.05
Class time on four key writing processes	0.05	0.03
Student engagement in writing processes	0.06	0.04
Log Measures		
Major goal - improving skills in writing processes	-0.06	0.10
Length - at least 1 or 2 one-paragraph responses/compositions	0.13	0.12
Collaborative writing activities	0.20	0.13
Brainstorming or organizing ideas	0.12	0.12
Composing text	0.23*	0.12
Revising text	0.09	0.11
Editing Text	0.05	0.10

Source: 2007–08 and 2010–11 on-demand writing prompts; 2007–08 and 2010–11 teacher survey; 2007–08 and 2010–11 teacher log.

* $p < 0.05$

Conclusions

Writing is critical to success in college and careers. The performance of U.S. students suggests that schools and teachers will need ongoing support to increase the proportion of students who develop strong writing skills. The Common Core State Standards bring a new focus to writing, but standards alone will not improve student learning (Loveless, 2012). A concurrent focus on developing the knowledge and skills of educators to improve the quality of instruction students receive is likely to be needed. Professional development is a key strategy for improving instruction. One of the main findings of the current study, however, is that merely offering an external partner with expertise in writing instruction and teacher professional development is insufficient for increasing the priority schools

place on writing instruction and for promoting sufficient participation in professional development.

Given professional development duration that was below levels desired for an RCT, this study offers exploratory findings to address the question of whether partnerships could potentially have positive effects on teacher practices and student outcomes. The results suggest that the theory holds some promise if teachers receive sufficient professional development, and if the professional development targets instructional practices that measurably affect student writing.

Chapter 1. Introduction

Although communication is central to any list of essential “21st-century skills,” writing instruction has been deemphasized in American classrooms. As Applebee and Langer (2011) describe it, “[T]he actual writing that goes on in typical classrooms across the United States remains dominated by tasks in which the teacher does all the composing, and students are left only to fill in missing information, whether copying directly from a teacher’s presentation, completing worksheets and chapter summaries, replicating highly formulaic essay structures keyed to the high-stakes tests they will be taking, or writing the particular information the teacher is seeking.” The results are not surprising. According to National Assessment of Educational Progress data (2007), just one-third (33%) of U.S. eighth graders write proficiently. There is some evidence that state and federal school accountability policies, which have focused educators’ attention on student achievement in reading and mathematics, have exacerbated the problem. Most specifically, by calling for accountability systems based on annual testing in English language arts and mathematics, the No Child Left Behind Act of 2001 (NCLB)—and the states’ responses to it—appears to have contributed to a narrowing of the curriculum (Center on Education Policy, 2005).

Although these concerns may be gaining in intensity, the quality of student writing has been an issue for several decades. In the early 1970s, faculty and administration at the University of California, Berkeley, realized that an increasing number of incoming freshmen were unable to pass the University’s writing exam and, thus, had to take remedial classes when they started college. One response to this problem stemmed from the recognition that (a) K–12 schools were not preparing students sufficiently for college writing, (b) typical teacher preparation and professional development did not support K–12 teachers in helping students learn to write, and yet (c) some expert teachers in K–12 schools had developed highly successful strategies that should be shared with their

colleagues. In 1974, Jim Gray (a former secondary school English teacher and UC Berkeley staff member), Albert Lavin (a secondary school English teacher), and Bill Brandt (a UC Berkeley professor in rhetoric) hosted a multiple-week summer program sponsored by UC Berkeley. This first “Summer Institute” brought together expert teachers of writing to share and reflect on effective practices. Through this program, the Bay Area Writing Project was born (Gray, 2000).

The Bay Area Writing Project has since expanded into the National Writing Project, a national network composed of nearly 200 university-based Local Writing Project sites. Local Writing Project sites share a common model that includes university collaboration with K–12 expert teachers to plan and provide locally customized professional development with the goal of improving the quality of writing instruction and student writing. The sites work to build local teacher leadership capacity through Invitational Summer Institutes and continuity programs for the teacher leaders who participate in these institutes. Local Writing Project sites also offer customized inservice programs and a range of youth, family, and community programs led by the teacher leaders who have participated in Invitational Summer Institutes. While all Local Writing Project sites offer locally designed and implemented professional development opportunities, they also adhere to a common set of core principles:

- Teachers are at the center of instructional improvement; schools and universities can support teachers in this work by providing professional development.
- Writing should be taught across all grade levels. If teachers collaborate across grades in professional development, they can build a richer understanding of how students’ writing develops.
- Theory, research, and practice all generate knowledge about effective writing instruction. Therefore, professional development should give teachers systematic opportunities to examine knowledge from all of these sources.
- There is no one best way to teach writing; however, some approaches work better than others. An informed, reflective community is in the best position to develop an effective program of writing instruction.
- Teachers are the best teachers of teachers.

In addition to the network of Local Writing Project sites, the National Writing Project has a national office that serves as a network hub. It supports Local Writing Projects by

convening site leaders and teachers, offering programs and opportunities around special areas of interest, and providing technical assistance and performance monitoring to all Local Writing Projects. In addition, the national office provides more intense support in emerging and complex areas of work through its initiative model. In initiatives, Local Writing Projects are selected through application or nomination processes to participate in a particular type of work and then receive 2 to 4 years of funding and focused technical assistance to develop, carry out, and refine programmatic approaches, as well as to disseminate that work.

Given the range of professional development offerings that compose the National Writing Project model, it is not possible for any single study to provide conclusive evidence of the efficacy of the National Writing Project as an organization. Studies conducted prior to the current one, however, have generally had positive findings using a range of designs to study a variety of professional development programs. Lieberman and Wood (2003) and Whitney (2008) conducted case studies describing the transformational power of the Invitational Summer Institute. Olson and Land (2007) used a quasi-experimental design to examine the effects of the Pathway Project, an 8-year district partnership focused on professional development to support secondary teachers in implementing a cognitive-strategies approach to reading and writing instruction for English learners. They found positive effects on student writing (assessed through on-demand writing prompts), grade point average, and performance on state standardized tests. In a subsequent multisite cluster randomized field trial of the Pathway Project, Kim et al. (2011) and Olson et al. (2012) studied impacts on mainstreamed English learners' ability to comprehend and write analytical essays.³ In this study, teachers were randomly assigned to receive either 26 hours of district writing professional development or the district professional development plus an additional 46 hours of Pathway training (including a toolkit of materials, workshops, and follow-up coaching). The study showed positive effects after 1 year of the Pathway Project on English learners' performance on standardized tests of English proficiency, literary analysis, and the state standardized test in English language arts. Teachers were able to replicate the positive results with a second cohort of students the following year (Olson et al., 2012). In addition, the National Writing Project has sponsored the Local Site Research Initiative (LSRI), a program in which local sites submit proposals to receive grants and technical support to conduct small-scale, quasi-

³ Kim et al. (2011) presents findings from the first year of the study; Olson et al. (2012) presents findings from the second year.

experimental evaluations of some aspect of their work. As a set, the LSRI studies show that professional development offered by the National Writing Project has positive effects on a range of outcomes (National Writing Project, 2010). In summary, the body of prior research on National Writing Project professional development shows the diversity of professional development supported by the organization and provides evidence of positive effects of some specific programs.

The purpose of the current study was to estimate the effectiveness of one type of National Writing Project programming—partnerships with schools serving the middle grades. Partnerships are defined in the National Writing Project network as a relationship of more than 1 year wherein a Local Writing Project and its partner (often a school or district, but also including other types of organizations, such as museums or community-based organizations) share responsibility for setting goals, planning work, and garnering resources to support the partnership activities. Additionally, it is expected that the programming that Local Writing Projects provide in partnerships evolves over time to meet the changing needs of teachers and students. Widely disseminated definitions of partnerships in the National Writing Project context (e.g., the definition of partnership on the Continued Funding Application) do not specify the type of organization a Local Writing Project site may partner with, the substantive focus of the work, the number of hours of activity in a given year, or, if a school-based program, the percentage of faculty who must participate in the program.

Specifying the Intervention

Partnerships are an emerging area of work in the portfolios of many Local Writing Projects. Moreover, partnership work with middle-grades schools makes up only 3% to 4% of the overall National Writing Project portfolio. The National Writing Project network has had an evolving definition of partnerships during the course of the study, but all definitions included several key ideas described in the preceding paragraph, including:

- that partnership work lasts more than 1 year;
- that the work evolves in response to each partner's changing needs;

- and that Local Writing Project sites and their partners share responsibility for developing goals and a plan for meeting those goals and finding the necessary resources to support work toward them.

At the outset of the study, the SRI team that was contracted to conduct the study recognized the need to create a definition of “partnership” for the purposes of the study. Defining the treatment *a priori* was particularly important given the desire to use the most rigorous possible design—a randomized controlled trial—to estimate the effectiveness of partnerships in teacher practices and student writing.

To create a definition, we worked with the National Writing Project to convene a focus group of site directors whose sites were well established in the network and who had experience with some type of partnership work. The focus group discussion both enabled us to create a definition of partnership for the study and illuminated the variation in how Local Writing Project sites understood partnerships even among this select group of site directors. For example, one site director asserted that all teachers within a school should participate in partnership professional development; another site director countered that school partnerships could focus on a single department within a school. During the focus group, we sorted through the variation to arrive at a middle ground between these and other factors that site directors agreed were central to how they thought about partnership work. The discussion resulted in using the following criteria as a frame of reference *for this study*:

1. A partnership is co-designed. Both the Local Writing Project site and the school must share an understanding of the goals and strategies of the partnership.
2. A partnership is co-resourced. There must be evidence, over multiple years, of district and/or school leaders’ commitment of resources to the partnership.
3. A critical mass of teachers (35% to 100%) must participate in the professional development, regardless of how the teachers are selected into a partnership. The strategies for recruiting teachers to participate in Local Writing Project site programming may include (but are not limited to) recruiting volunteers or targeting specific groups of teachers (e.g., grade level or department).

4. Participating teachers must receive sufficient professional development. As a rule of thumb, the critical mass of participating teachers (defined above) should receive at least 30 contact hours of professional development (delivered by Local Writing Project staff and/or local teacher-consultants) each year.

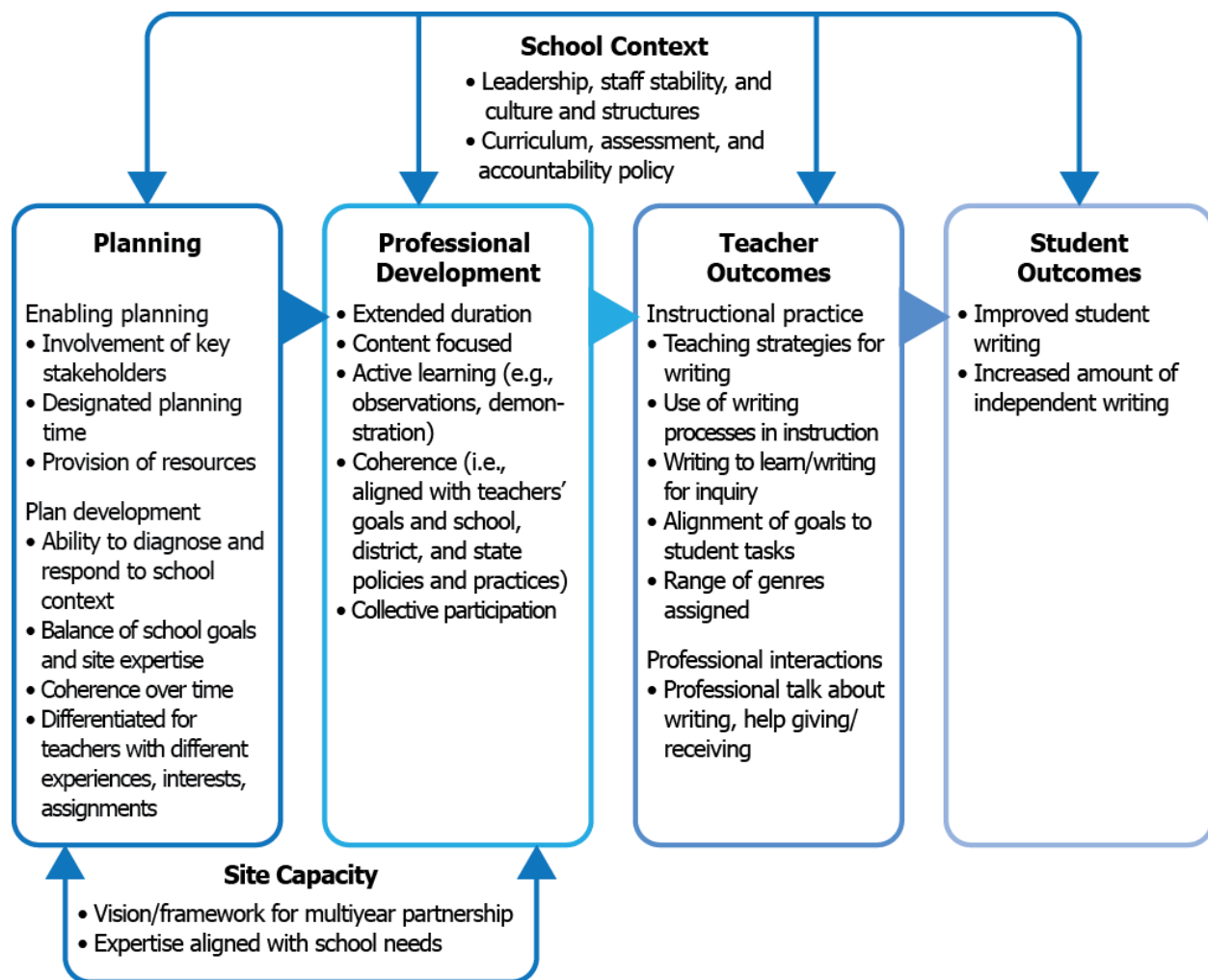
The four criteria were presented to participating site directors during November of the baseline year of the study (2007–08), after recruitment and random assignment had occurred. (Neither schools nor Local Writing Project sites committed to meet these criteria when they agreed to participate in the study.) It is notable that these criteria included the concepts of co-design and co-resourcing, which are central to the definitions of partnership in use in the National Writing Project network. However, the idea of specifying the breadth (“critical mass”) and depth (“sufficient” professional development) of teacher participation is unique to the evaluation. These latter criteria were critical for the design of an impact study in that it seemed likely that, if partnerships met these criteria, there would be sufficient contrast between schools in the treatment and control groups to detect an effect if the professional development was indeed effective. The converse is also worth noting, namely, that if partnerships did not meet the breadth and depth criteria, the treatment was not considered to be fully implemented (per the evaluation criteria), and there might be insufficient treatment/control contrast to find any substantial effects of the partnerships. Nonetheless, it is not accidental that the partnership definitions in use within the National Writing Project network do not specify the level of participation necessary for work to be considered a “partnership.” Although not all professional development offered by the National Writing Project is voluntary for participants, the National Writing Project seeks to build a community of lifelong learners, writers, and teachers of writing. As such, the professional development through which teachers join the National Writing Project community is frequently voluntary. Thus, the idea of specifying the breadth and depth of teacher participation in partnerships for the purpose of the evaluation was in tension with operating assumptions in some Local Writing Project sites. Moreover, unlike other areas of emerging work, the National Writing Project did not provide technical assistance through an initiative process for the evaluation because the study was conceived of as a study of partnerships as opposed to a study of a National Writing Project partnership initiative.⁴

⁴ The National Writing Project did monitor sites to verify that the funds were expended in accordance with federal guidelines.

Conceptual Framework

To develop the conceptual framework (Exhibit 1-1), we relied on recent research on effective professional development to define dimensions of quality that affect the extent to which professional development is likely to influence teacher practices. The foundation of this work is a seminal piece by Garet et al. (1999) that lays out best practices for professional development. Building on this work, Desimone (2009) outlines five key features of effective professional development: content focus, active learning, coherence, duration, and collective participation.

Exhibit 1-1
Conceptual Framework



We turned to existing research on effective practices in writing instruction for guidance on which teacher practice outcomes would be likely to influence student outcomes. Building on their earlier meta-analysis of experimental and quasi-experimental studies that identified effective practices for teaching writing to adolescents (Graham & Perin, 2007a), Graham and Perin (2007b) conducted a meta-analysis that included randomized controlled trials and single-case designs, and also analyzed recurring themes in qualitative studies. Their findings suggest that explicit instruction in strategies for planning, revising, and editing writing tends to have the largest effects on student writing. This meta-analysis also supports the use of writing for inquiry and writing to learn (though effect sizes are smaller than for explicitly teaching students strategies for various writing tasks). To teach writing for inquiry, the meta-analysis suggests that teachers should provide a clear goal, ask students to analyze information using specific strategies, and then expect them to apply what they learned. In writing to learn, for which the meta-analysis also found some support, the goal is for students to write in order to deepen and refine their understanding of the content rather than for them to improve their writing skills. This can be done through asking students to summarize information, respond to questions, expound on knowledge, comment on or interpret information, share what they do not understand, and talk about any changes in their beliefs (Perin, 2007).

The National Writing Project is sometimes associated with an approach to teaching writing in which students expand and refine their writing by using specific rhetorical strategies, including feedback from others, to improve it (see, for example, Whitney et al., 2008; Swain, Graves, & Morse, 2007; Kaminski, Hunt-Barron, Hawkins, & Williams, 2010). Graham and Perin (2007a, 2007b) and Perin (2007) found that introducing students to specific strategies for writing that they then learn to apply independently is a particularly effective way of improving student writing. Perin (2007) suggests that teachers can accomplish this by providing structured peer support, clearly established and reachable goals for writing, well-designed writing assignments, and models of good writing. Combined, these studies suggest the importance of measuring a range of instructional strategies that might have the potential to positively influence student outcomes.

Finally, we understood that school context and site capacity would be likely to interact with the partnership. Both Local Writing Project sites and their partner schools would affect partnership planning and professional development, including the content of the professional development, how participants would be recruited, and the extent of professional development offered. Additionally, the framework represents the idea that

school context can be a potent force in shaping instructional practice, both through formal policies and structures (e.g., state accountability policies, adopted curriculum, common planning time for teacher collaboration) and through norms (e.g., the extent to which teachers regularly discuss their instruction and collaboratively examine student learning). School context, especially in terms of student characteristics and students' initial skills, could also influence student outcomes.

Two considerations informed our thinking about how the conceptual framework would guide analysis and interpretation of results. First, we reasoned that the precise content focus of the professional development would be likely to determine the precise teacher and student outcomes that could be achieved. As a result, it would be critical to describe implementation in this study because planful variation is core to the National Writing Project model of co-designed partnerships; yet, randomized controlled trials are designed to provide an unbiased estimate of the average impact of a specified treatment. If partnerships varied too much in terms of the content of professional development, it might diffuse the average impacts on outcome measures. Absent good data on implementation, we would be unable to explore this issue.

Second, given that the precise content of the professional development could not be determined in advance, the evaluation needed to cast a wide net in terms of the outcomes measured and use the content of professional development that was provided to develop a lens through which to interpret results. The measured outcomes that would drive the report findings would be those related to the content of the professional development delivered. The converse would also be true: if professional development did not cover content related to specific outcomes, we would not interpret the professional development as “ineffective” if no effect on those outcome measures was detected, because any hypothesis that those outcomes might be affected would be illogical.⁵

⁵ Results on such outcomes are not included in the body of the report. They are presented in the appendices for transparency.

Overview of the Report

Chapter 2 presents an overview of the study methodology. Chapter 3 describes partnership implementation. In short, we learned that implementing partnerships between Local Writing Project sites and middle schools is extremely difficult. Schools typically did not place a top priority on writing instruction, reflecting prevailing policy trends (i.e., increasing focus on reading and math under NCLB) and results of studies on the place of writing in the curriculum of American secondary schools (e.g., limited instructional time devoted to writing; see Applebee & Langer, 2011). As a result, even when Local Writing Projects met schools at the level of their stated needs and interests, the duration of professional development provided did not meet the study's definition of partnership. In Chapter 4, we turn to study outcomes. Because of the level of implementation, we report the experimental analyses (i.e., the intent-to-treat analyses), which do not help us understand whether National Writing Project partnerships, if implemented at the level of duration that the study specified, would affect teacher or student outcomes. To explore that topic, we conducted additional analyses examining the causal theory that suggest that partnerships have promise for affecting teacher and student outcomes.

Chapter 2.

Study Design and Methodology

To fulfill its purpose, the study design needed to provide data to describe Local Writing Project sites' and schools' efforts to develop and implement partnership, and to estimate the impact of the resulting partnerships. The basic design for the study is a cluster randomized controlled trial in which pairs of schools were recruited to participate in the study. Schools that were randomly assigned to form partnerships with their Local Writing Project sites became known as partnership schools while schools that were assigned to the control condition became known as delayed partnership schools because they were eligible to form partnerships with their Local Writing Project site after the study concluded. Importantly, the design allowed for substantial data collection in both partnership and delayed partnership schools and involved in-depth study of partnership implementation.

This chapter describes the evaluation design and methodology beginning with the research questions. This is followed by a discussion of the study design, including how Local Writing Project sites and participating schools were recruited. We then describe the site and school samples and address questions of attrition. We conclude with a description of data collection activities and our overall analytic strategy.

Research Questions

We address three types of research questions in this evaluation: questions about implementation, teacher outcomes, and student outcomes.

Implementation

- How was professional development implemented across the partnership schools? What were the content and duration of the professional development that teachers experienced in the partnership schools?
- How did professional development experienced by partnership school teachers differ from the writing professional development that teachers in delayed partnership schools experienced?

Teacher Outcomes

- What are the effects of partnership professional development on teachers' perceptions of the influence of professional development?
- What are the effects of partnership professional development on teachers' instructional practices?
- What implementation factors (e.g., duration of professional development) are related to teachers' instructional practices?

Student Outcomes

- What is the impact of partnership professional development on measures of student writing in the middle school grades (grades seven and eight)?
- Are changes in teacher practices resulting from partnership professional development responsible for the partnerships' impacts on student writing?
- What factors associated with the implementation of partnership professional development (e.g., the amount and breadth of professional development) predict higher-quality student writing?
- Which instructional practices are associated with higher-quality student writing?

Design for the Randomized Controlled Trial

To address the research questions, we employed a randomized controlled trial (RCT) involving 14 Local Writing Project sites and 39 schools. We refer to the 20 schools in the treatment group as “partnership” schools in this report because they were randomly assigned to form partnerships with their Local Writing Project sites. We refer to the 19 schools in the control group as “delayed partnership” schools because they were eligible to form partnerships with their Local Writing Project sites after the study concluded.

The study follows an experimental design with a baseline year (2007–08) during which partnership schools could plan the work with their Local Writing Project sites but could not commence professional development. From 2008–09 through 2010–11, the Local Writing Project sites and partner schools could implement their partnerships. As described in greater detail below, delayed partnership schools could continue with “business as usual,” but could not seek new writing professional development unless required to by their state or district.⁶

Site and school recruitment and eligibility

SRI began recruiting Local Writing Project sites and schools for the 4-year evaluation in spring 2007. The National Writing Project defined the population of Local Writing Projects eligible for the study as those that had been in existence for at least 3 years and were not receiving technical assistance from the national office because of insufficient capacity. Of the 197 Local Writing Project sites in operation, 169 (or 87% of the sites) were considered eligible for the study. The National Writing Project sent site directors a link to an SRI survey assessing preliminary interest in participating in a randomized trial to study Local Writing Project partnership work with schools serving middle grades. SRI received responses to this survey from 168 Local Writing Project sites, with 124 of the sites indicating preliminary interest in participating. In June 2007, SRI sent a second survey to these 124 Local Writing Project sites asking the sites to recruit two or four schools that met the following requirements:

⁶ We measured the extent of writing professional development in delayed partnership schools to assess the extent to which this reduced the treatment/control contrast.

1. They served middle-grade (seventh- and eighth-grade) students.
2. They had “minimal or no prior experience” with the Local Writing Project site. More specifically, they could not have more than two teacher-consultants (teachers who had completed an Invitational Summer Institute, or ISI) on staff at the school, no administrators could have attended an ISI, and the school could not have received more than 30 hours of Local Writing Project professional development over the preceding 2 years.⁷
3. They were willing to be randomly assigned to either the treatment or control condition.

The second and third requirements were imposed so that a school could appropriately function as an experimental control in the study. SRI recruiting materials stated that it was preferable for Local Writing Project sites to recruit schools with no prior experience with the National Writing Project so that the sample would not be contaminated at baseline. However, the second requirement also limits the generalizability of study findings because many partnerships that form outside of the study have prior experience with their Local Writing Project sites. The third requirement may also limit the generalizability of the study because a school that was strongly committed to receiving professional development in writing instruction over the course of the study might not be willing to participate (because it would not want to be randomly assigned to delay professional development).

Thirty-four Local Writing Project sites responded to the second survey, each nominating two or four schools for participation. To be eligible, principals in those schools needed to sign a form indicating an understanding of study terms and eligibility. SRI received signed forms from principals in 98 schools, recruited by 32 of the Local Writing Project sites. From those 32 Local Writing Project sites, SRI selected a stratified (by three geographic regions of the country) random sample of sites with interested, eligible schools and randomly assigned pairs of schools to the treatment and control groups using a random-number generator in Excel. SRI visited each Local Writing Project site and school prior to the start of data collection to verify school eligibility, confirm understanding of the study, and train

⁷ The ISI prepares teachers to become teacher-consultants—that is, to assume teacher leadership roles at the Local Writing Project site and in schools. A school that entered the study with more than two teacher-consultants might not be able to fully assume “control” status because those teachers might share Local Writing Project ideas in their schools.

English language arts (ELA) teachers on reliable use of data collection instruments specific to them.

Some Local Writing Project sites and schools that were initially selected were determined through visits to be ineligible or withdrew prior to the start of data collection. In these cases, replacement Local Writing Project sites and/or schools were selected from the same geographic regions as the ineligible sites and schools and subsequently randomly assigned to experimental conditions. The final sample included 14 Local Writing Project sites. (Gallagher et al., 2008, provides more details on this process.)

Eight sites brought in a single pair of schools and six sites brought in two pairs, for a total of 40 schools. In fall 2007, before data collection began, one delayed partnership school dropped out of the study because of concerns about data collection burden, leaving the study with 39 schools at the start of data collection.

Incentives and study participation guidelines

As an incentive for participating, control schools received \$8,000 per year to spend on educational purposes aside from writing professional development, and at the conclusion of the study they would be able to undertake a subsidized partnership with their Local Writing Project sites if funding were available.⁸ To participate in the study, delayed partnership schools agreed not to seek out new professional development in writing or participate in Local Writing Project professional development during the life of the study. Delayed partnership schools were allowed to continue existing initiatives in writing and participate in writing professional development that was mandated by the state or district. Individual teachers were also allowed to pursue writing professional development provided by sources other than the Local Writing Project.⁹

As an incentive for participating and to provide a level of financial stability that would increase the likelihood that partnerships would be sustained over 3 years, Local Writing Project sites received \$12,000 per year to subsidize each partnership. Stabilizing funding

⁸ Funding for these delayed partnerships was not available because of the loss of the National Writing Project's congressionally directed funding.

⁹ One teacher in a delayed partnership school did attend the Invitational Summer Institute offered by her Local Writing Project site during the summer of 2010. Attendance was the final requirement for her to receive a master's degree, and we could not justify denying her permission to complete a graduate degree for the sake of the study.

was important given National Writing Project data, which show that the vast majority of partnerships end after 1 or 2 years. Unlike other National Writing Project grants, sites receiving the funds were selected at random from all volunteers.¹⁰

Characteristics of the Sample

To describe the sample, we first look at key characteristics of the participating Local Writing Project sites. Then we examine characteristics of participating schools to assess comparability at baseline.

Sample of Local Writing Project sites

The random sample of Local Writing Project sites, selected from the pool of applicant sites as described above, appeared relatively typical of all Local Writing Project sites in terms of their budget, the number of teacher-consultants, the number of participants served in 2006–07, and the average hours of professional development participants received (Gallagher et al., 2008). Of greater relevance for understanding Local Writing Project sites' likely capacity to form school partnerships is their prior partnership experience. We analyzed data from a review of Local Writing Project sites' Continued Funding Applications and Site Reports to the National Writing Project and data from interviews with participating Local Writing Project site leaders during which we could probe the nature of prior ongoing work with schools and districts.¹¹ On the basis of those data, we classified the prior partnership experience of the 14 participating Local Writing Project sites (Exhibit 2-1). In classifying prior work as a "partnership," we did not use the definition of partnership used in our study because the Continued Funding Applications did not necessarily specify the information we would have needed to categorize prior work based

¹⁰ Like the decision to provide basic monitoring of partnerships instead of more intense technical assistance, the decision to select Local Writing Projects randomly from those eligible was made because the evaluation was conceived as a study of the effectiveness of partnerships, not as a study of the efficacy of a partnership initiative.

¹¹ Information from the Continued Funding Applications and Site Reports did not always agree fully with our assessment of prior partnership experience, most frequently because the Continued Funding Applications and Site Reports focused on the preceding year while we included older partnerships. In two cases, the disagreement between the Local Writing Project site's documents and our rating resulted because we considered the duration of professional development provided in classifying work as being a "partnership," whereas the Continued Funding Application and Site Report definition of partnership does not include any indicator of duration.

on the study’s definition (i.e., co-design, co-resourcing, critical mass, and duration of the professional development). For example, we excluded ongoing relationships with schools or districts in which the duration of professional development provided was low (such as a few workshops per year, even over more than 1 year).

Exhibit 2-1
Prior Partnership Experience at Baseline of Local Writing Project Sites Participating in the National Evaluation

	Number of Local Writing Project Sites
No Prior Partnership Experience	3
Prior Experience with School Partnerships Only	0
Prior Experience with District Partnerships Only	6
Prior Experience with School and District Partnerships	5

Source: Interviews and National Writing Project Continued Funding Applications.

As Exhibit 2-1 shows, 3 of the 14 participating Local Writing Project sites had no experience with partnership work coming into the study. Although all had provided school and/or district professional development, it was of shorter duration than could reasonably resemble a partnership (per the evaluation’s definition). Additionally, another six Local Writing Project sites had partnership experience, but solely with districts instead of schools. The five Local Writing Project sites that had prior school partnerships also had prior district partnerships.

Characteristics of participating schools

Schools participating in the study could be of any grade configuration that included seventh and eighth grades. Most schools in the study (16 of 20 partnership schools and 11 of 19 delayed partnership schools) were what could be called middle schools (i.e., schools serving grades 6–8 or 7–8); five more delayed partnership schools served an expanded notion of middle grades (i.e., were configured as 4–8, 5–8, or 7–10). The partnership and delayed partnership groups had four and three schools, respectively, with much broader configurations (PK–12, K–12, or 7–12). The schools serving almost all grades were matched partnership/delayed partnership, so this variation did not lessen baseline equivalence.

At baseline, the schools in the partnership and delayed partnership conditions were comparable with respect to size and demographic characteristics (Exhibit 2-2). None of the differences between partnership and delayed partnership schools were statistically significant.

Exhibit 2-2

Size of Schools in the Sample

Outcome	Partnership schools (<i>n</i> = 20)	Delayed partnership schools (<i>n</i> = 19)
Mean total enrollment	678 (366)	565 (261)
Mean faculty size (full-time equivalent)	48 (24)	42 (23)
Mean student-teacher ratio	15.4:1 (3.0)	14.2:1 (2.9)
Mean number of seventh- and eighth-grade ELA teachers	4.7 (3.0)	4.2 (3.0)

Source: NCES Common Core of Data. Note: Numbers in parentheses are standard deviations.

As Exhibit 2-3 indicates, the schools were also comparable with respect to student demographics. The percentages of students who were from low-income families, as measured by the percentage of students in each school eligible for free or reduced-price lunch, were comparable, as were the percentages of White students and students from communities of color.

Exhibit 2-3

Demographics of Students in Sample Schools at Baseline

Outcome	Partnership schools (<i>n</i> = 20)	Delayed partnership schools (<i>n</i> = 19)
Mean percent eligible for free or reduced-price lunch	46 (25)	53 (25)
Mean percent White	62 (28)	58 (30)
Mean percent Black	25 (25)	29 (29)
Mean percent Hispanic	9 (13)	10 (14)
Mean percent Asian	3 (5)	3 (5)
Mean percent American Indian	1 (1)	1 (1)

Source: NCES Common Core of Data. Note: Numbers in parentheses are standard deviations.

The schools in the two groups were also comparable with respect to overall achievement levels, as defined by whether a school met Adequate Yearly Progress (AYP) targets for all of its subgroups. Finally, the partnership and delayed partnership groups were equivalent at baseline in terms of teacher characteristics, teachers' instructional practices in writing, and teachers' experiences with writing professional development (see Gallagher et al., 2008).

School attrition and staff turnover

It is important to describe attrition and turnover because they can influence the study both in terms of the methodology (Does the sample change over time?) and, relatedly, in terms of the consistency with which the partnership schools proceeded through the intervention (Was there continuity of leadership? Did teachers have the opportunity to participate in professional development over the length of the study or were they at their school for only some of the time period? Did teachers who participated in professional development leave?).

School attrition. In spring 2010, two partnership schools dropped from the study. One left because the Local Writing Project site closed; the other, a school that had been reconstituted after the first year of the study and continued to face significant

accountability pressure, discontinued the partnership and all data collection because writing professional development was no longer a priority.¹² As a result, the school sample for the baseline through the end of the second year of partnership implementation was 39 schools (20 partnership, 19 delayed partnership), and the sample for the final year was 35 schools (18 partnership and 17 delayed partnership).¹³ Although there was differential attrition in the sample (with both schools that dropped out coming from the partnership group), in both cases it appears that the schools' perceptions of the partnership did not cause the attrition.

Principal turnover. Principal turnover could potentially be a challenge for partnerships because Local Writing Project sites might (depending on who is hired to replace the outgoing principal) need to forge entirely new relationships with school leaders who may or may not have a commitment to the work of the partnership. Exhibit 2-4 shows how many principals schools had over the course of the study. Overall, there did not appear to be a clear pattern in terms of the challenges posed by principal turnover (Gallagher et al., 2011).

Exhibit 2-4

Number of Principals per School over the Course of the Study, by Treatment Status

Outcome	Partnership schools (n = 18) [†]	Delayed partnership schools (n = 17) [†]
One principal	5	9
Two principals	10	6
Three principals	3	2

Source: Interviews.

[†] Because these counts reflect cumulative data, the two attriting partnership schools and their paired delayed partnership schools are not included. For those partnership schools, one had one principal during its years in the study and the other had three principals; both of the paired delayed partnership schools had one principal over the course of the study.

¹² All quantitative data, and some qualitative data, were collected from both partnership schools through 2009–10; neither school contributed data in the final year of the study, 2010–11. Although we collected data from the schools' paired delayed partnership schools in 2010–11, we opted not to include that data in any analyses.

¹³ To verify that findings were not affected by the change in sample, we ran analyses both with all schools participating in the study at each point in time and with the subset of schools that participated all 4 years. In no case did differences in the sample change the findings of the study; as a result, the findings of the main analyses (those conducted with all data collected each year) are the ones presented in the report.

Teacher turnover. Teacher turnover represents a substantial issue in a longitudinal study of teacher professional development.¹⁴ First, teacher turnover affects how we must think about our estimates over time. Although we have estimates for instructional practices in each school over 4 years, the individuals from whom we get those estimates change from year to year.

Second, there are several ways (all other things being equal) that teacher turnover could reduce the extent to which professional development had an impact on teachers' instructional practices. If teachers whose practices have been positively affected by the professional development leave the schools, estimates of impact will underestimate the effectiveness of the professional development. Additionally, when teachers join the schools in the later years of the study, they have had less opportunity to be affected by the professional development, which could also potentially lead to an underestimate of effectiveness. A compounding factor is that schools' communities can support or inhibit professional growth and student learning. In schools with very high turnover, the ability of schools to support the improvement of instructional practices could be hampered. Recent research (Ronfeldt, Loeb, & Wyckoff, 2012) found that teacher turnover has a negative impact on student achievement above and beyond any effects attributable to differences in effectiveness between those leaving the schools and their replacements.

For these reasons, a key contextual factor in participating schools is the extent to which their teaching staff was stable from the period when partnership professional development began (2008–09) through the end of the study (2010–11). Exhibit 2-5 shows the partnership and delayed partnership means for the percentages of all teachers and ELA teachers who had been at their current school for 1, 2, or 3 or more years as of spring 2010–11.

¹⁴ To verify that teacher turnover—in terms of the loss of teachers who participated in professional development and the arrival of teachers who had not participated in prior years of professional development—did not drive the findings of the evaluation, all analyses were run for the subset of teachers who were in the study for all 3 years of the intervention. In no case did this change the findings of the study; as a result, the findings of the main analyses (those conducted with all data collected each year) are the ones presented in the report.

Exhibit 2-5

Percentage of Teachers by Years of Experience at their Current School in 2010–11

	Partnership schools (<i>n</i> = 18) [†]		Delayed partnership schools (<i>n</i> = 17) [†]	
	All Teachers	ELA Teachers	All Teachers	ELA Teachers
1 year	8	7	13	14
2 years	7	8	7	6
3 or more years	85	86	79	81

Source: Teacher Survey 2010–11.

[†] Note: Because these frequencies are from the 2010–11 teacher survey, the two attriting partnership schools and their pairs are not included.

As the exhibit shows, 85% of all teachers and 86% of ELA teachers in partnership schools reported being at their current school for the entire time partnership professional development was offered.

Data Collection and Analytic Strategy

Randomized controlled trials require comparable measurement of implementation and outcomes in the treatment and control conditions in order to ascertain the extent to which the treatment condition (partnership) was different from the control condition (delayed partnership) and to measure the difference in outcomes. This section provides a brief summary of data collection instruments and the constructs they measured, as well as the samples from which those measures were collected. This section concludes with an overview of the basic analytic strategies employed by the research team.

Data collection activities

We used multiple data collection strategies to address the research questions. Exhibit 2-6 describes the data collection activities for the study, the topics covered, the respondents, and the frequency. By collecting data from multiple sources over time, the design enabled us to describe partnership work (implementation of the intervention) in detail and compare partnership schools with delayed partnership schools over time. Appendix A presents response rates for the various data collection activities.

Exhibit 2-6

Data Collection Activities

Data collection activity	Topics covered	Respondents	Frequency
Teacher survey	School context, teacher professional community, teacher professional practices, professional development	All certified staff	Annually
Teacher log	Instructional practices	7th- and 8th-grade ELA teachers	2 weeks/year [†]
Teacher assignments	Instructional practices	7th- and 8th-grade ELA teachers	None in 2008–09; 4 times/year all other study years
Student work	Student opportunities to learn	7th- and 8th-grade ELA teachers' students	None in 2008–09; 2 times/year all other study years
On-demand writing prompts	Student outcomes	7th- and 8th-grade ELA teachers' students	Fall, spring of 2007–08 and 2010–11 (baseline and final years); spring only in 2008–09 and 2009–10
Interviews	National Writing Project site context, school context, partnership planning, professional development, teacher professional community, teacher practices	Site directors, professional development providers, teachers, administrators	Fall, spring each year
Partnership-monitoring reports	Partnership goals, professional development provided, teacher participation in professional development, resource expenditures	Site directors, professional development providers	Summer, fall, spring each year of partnership implementation (2008–09, 2009–10, 2010–11)
Document review: Site Reviews and Continued Funding Applications	Site context and service area, the work of the site, including continuity and inservice programs, partnerships, evaluations, goals, and leadership	Site directors, National Writing Project staff	Collected for 2006 and 2007

[†] During the 2007–08 school year, we collected 4 weeks of teacher logs from participating seventh- and eighth-grade English language arts teachers.

The teacher surveys, teacher logs, teacher assignments, student work, and on-demand writing prompts and data collection procedures were identical in partnership and delayed partnership schools. Interviews were conducted in partnership and delayed partnership schools, using semistructured interview protocols designed to capture key aspects of the study's conceptual framework and data needed to test emerging hypotheses. However, the number of in-person interviews was greater in partnership schools. Finally, because partnership-monitoring reports focused solely on the treatment, it did not include delayed partnership schools.

Sampling ELA teachers and classrooms

Within each school, we focused some of our data collection (i.e., teacher logs, teacher assignments, student work, and on-demand writing prompts) on seventh- and eighth-grade ELA teachers. Because partnerships may focus on a subset of teachers in the school (e.g., teachers interested in improving their writing instruction, social studies and science teachers, sixth- through eighth-grade ELA teachers), it was not immediately apparent that seventh- and eighth-grade ELA teachers were the most appropriate sample.¹⁵ The decision to focus this subset of data collection activities on seventh- and eighth-grade ELA teachers was based on balancing three factors: the necessity of sampling comparable teachers across schools, the resources available for the study, and the assumption that for a partnership to truly succeed it must ultimately affect the instructional practices of language arts teachers.

To reduce bias, we selected classes for teachers at random, using a random-number generator keyed to the number of periods in a day. All seventh- and eighth-grade classes in which ELA instruction took place were eligible, with four exceptions: (1) self-contained classrooms exclusively serving students with disabilities who were exempt from state testing, (2) classrooms that included 30% or more students with disabilities, (3) classes with 50% or more English language learners who completed their mandated state testing in their native language, and (4) classes that included students who were not in seventh or eighth grade. The primary reason for excluding classes with a high percentage of students

¹⁵ When we report based on survey data, we typically report on “all teachers” and “ELA teachers.” These are not mutually exclusive groups. “ELA teachers” includes all teachers who self-reported that they taught ELA at any grade level, which is a larger population than the seventh- and eighth-grade ELA teachers from whom we collected instructional logs.

with disabilities is the difficulty of interpreting results, given the wide range of accommodations likely to be required when students respond to writing prompts. We did not include classes with a high percentage of students who could not write in English because a class with a majority of such students would be unable to complete our writing prompts and would therefore complicate our data analysis. We did not want to exclude classes with a high percentage of English language learners who were capable of being tested in English because some partnerships may focus on strategies for teaching writing to English learners. Because many middle school classes are tracked (and even when they are not, some classes have combinations of personalities that may make them easier or harder for a given teacher to teach), randomly sampling students from one class instead of from all classes introduced noise into our estimates. For example, a given teacher could have an honors class selected one year and a remedial class the next; a given teacher who taught multiple grades could have his or her seventh-grade class selected one year and an eighth-grade class selected the next. The selection was not biased (because it was random); however, the proportion of higher- vs. lower-performing classes could be different across conditions in any given year. Although such variation does increase measurement error, it is unlikely to distort overall findings given the sample size.

Overall analytic strategy

To measure implementation, we relied on data from three main sources: the teacher survey, partnership-monitoring reports, and interviews. The strength of the teacher survey is that it is generalizable and facilitates measurement of the treatment/control contrast of professional development. The partnership-monitoring reports seemed to provide the most accurate records of teacher participation in partnership professional development and Local Writing Project sites' perspectives on the content and strategic decision-making shaping the partnership work. Interviews provided more in-depth data on how participants perceived the professional development they experienced (for teachers who participated in partnership professional development and/or other professional development in writing instruction), as well as other contextual factors (e.g., curriculum, accountability policies) that affected writing instruction. At the end of each round of interviews, the research team that was assigned to each school analyzed all interview and partnership monitoring data and used a site debriefing guide to create a structured report on that school. The research team then coded debriefing guides to identify trends in cross-case analyses. In final analyses, we used the quantitative data to describe overall trends

and examine variation across partnership schools; we then turned to interview and partnership monitoring data to build an understanding of what factors shaped partnership development and implementation and to identify the content covered in the professional development.

Given that (as will be described in the next chapter) the intervention was not implemented at a level that met the study's definition of partnership, the outcome study focused on the causal theory of how partnerships might have an impact. We first looked at the impact of schools' being randomly assigned to form partnerships on student outcomes, then examined the relationship between participation in partnership professional development and changes in teacher practices, and finally investigated the relationship between teacher practices and student outcomes. This approach enables us to explore whether partnerships might show promise for affecting teacher and student outcomes. Cross-case analyses (generated by using the process summarized above) of qualitative data from interviews also contributed to the outcomes analysis by providing school and Local Writing Project site perceptions of outcomes as well as perceptions of facilitators and barriers to changes in teacher practices and student outcomes.

Chapter 3. Implementation of Partnerships in the Study

Partnerships are collaborative ventures between a Local Writing Project site and a school in which they engage with each other to plan and implement professional development. As explained previously, for the purposes of the evaluation, schools serving middle grades were assigned to form partnerships with Local Writing Project sites that met implementation criteria specific to the evaluation. Although these multiyear partnerships hold promise for providing professional development that leads to improved writing outcomes for middle-school students, the extent to which partners were able to create such partnerships seemed to depend on their ability to understand and leverage each other's goals, resources, and expertise as they planned and implemented the professional development.

Overall, no partnership met the criteria the study established for both breadth and depth of participation in partnership professional development in any year of the study; however, being assigned to form a partnership increased the level of writing professional development that teachers received. Partnership schools also varied in both teachers' rates of participation in writing professional development and the amount of professional development in which teachers participated, as well as in the nature and content of partnership professional development.

This chapter begins by looking at the depth and breadth of teacher participation in partnership professional development. We then turn to an examination of the content focus of the professional development. We conclude by positing some explanations for the variations in participation levels and content. To allow for an examination of trends over time, the analyses presented in this chapter include only the schools in the sample for the entire study (18 partnership schools and 17 delayed partnership schools).

Depth and Breadth of Participation in Partnership Professional Development

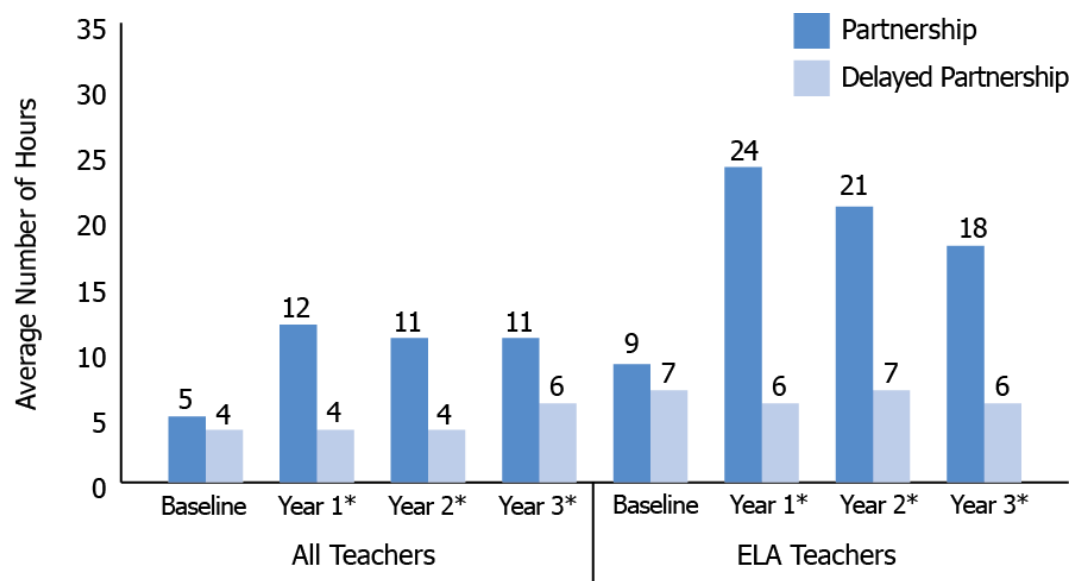
In this section, we first compare participation in writing professional development between teachers at partnership and delayed partnership schools. We then examine teacher participation in partnership professional development relative to the criteria for partnership implementation established at the outset of the study. Finally, we take a closer look at the variation in professional development participation within and among the partnership schools.

Being assigned to form a partnership increased the amount of writing professional development that teachers received.

At baseline, there was no statistically significant difference between the amount of writing professional development that partnership and delayed partnership teachers reported receiving. In contrast, during each of the 3 years of partnership implementation, teachers in partnership schools participated in an average of 5 to 8 more hours of writing professional development per year than their counterparts in delayed partnership schools, who (as described in the preceding chapter) provided a “business as usual” control group for the study. ELA teachers in partnership schools reported participating in an average of 12 to 18 more hours per year of writing professional development than their counterparts in delayed partnership schools (Exhibit 3-1).

Exhibit 3-1

Average Duration of Writing Professional Development for Teachers



Source: Teacher surveys, 2007–08 through 2010–11.

* $p < 0.05$

In the next section, we restrict our analysis to look at the variation in participation in partnership professional development among teachers in the partnership schools. Note that here we are reporting on partnership-monitoring data (i.e., data provided by Local Writing Project site leaders on actual contact with teachers in partnership schools).

No schools and Local Writing Project sites attained the level of partnership professional development anticipated in the study design, although this threshold was met within the ELA departments in some schools during one or more years.

The proportion of teachers who participated in 30 or more hours of partnership professional development in a given year varied across and within partnership schools. Exhibit 3-2 shows the distribution of the percentage of teachers participating in 30 or more hours of partnership professional development in each year of the study.

- Each dot represents a school and shows the percentage of teachers (all teachers or seventh- and eighth-grade ELA teachers, depending on the section of the graph) participating in 30 or more hours of partnership professional development in a given year of the study. (Note that when more than one school has the same value, only one dot is visible.)

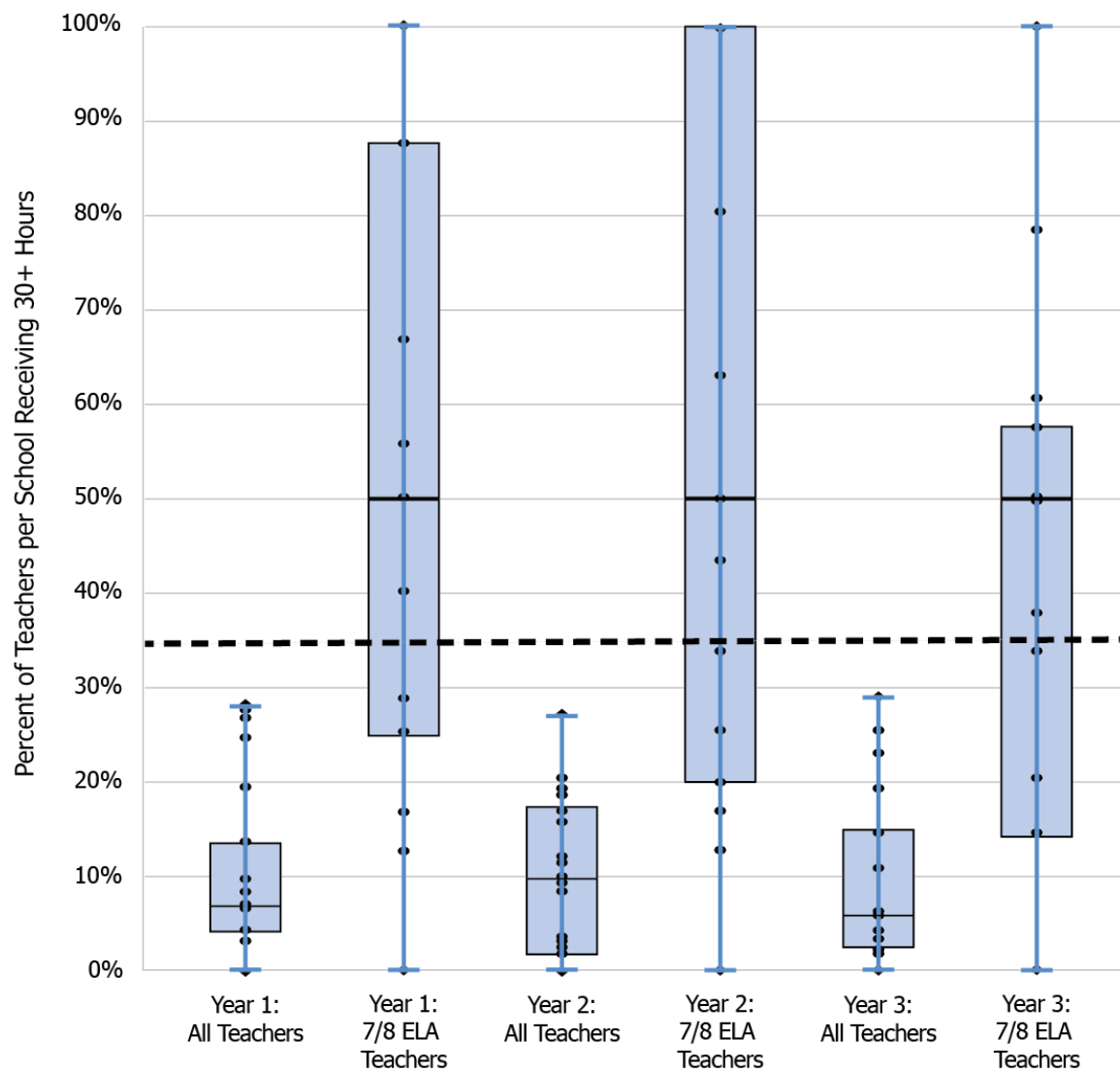
- Each vertical line spans the entire range of average schoolwide participation rates, from the school with the lowest participation rate to the school with the highest participation rate for that category (all teachers or seventh- and eighth-grade ELA teachers, depending on the section of the graph).
- Each shaded box represents the middle 50% of schools in terms of participation rates: the solid line at the bottom of the box shows the 25th percentile, the solid line inside the box shows the median, and the solid line at the top of the box shows the 75th percentile.
- The dashed line across the entire graph indicates the implementation criterion of 35% of teachers receiving 30 or more hours of partnership professional development.

Exhibit 3-2 shows that for all teachers, the proportion participating in 30 or more hours in a given year ranged from 0% to 29%. Accordingly, although no school reached the 35% participation threshold for all teachers that was anticipated in the study design, some schools did approach that participation threshold in one or more years.

Focusing more narrowly on seventh- and eighth-grade ELA teachers, many ELA departments reached a level of participation in partnership professional development that did meet this criterion. The proportion of teachers participating in 30 or more hours of partnership professional development in a given year ranged all the way from 0% to 100%, with a median participation rate of 50% for seventh- and eighth-grade ELA teachers receiving 30 or more hours of partnership professional development in a given year.

Exhibit 3-2

Distribution of Partnership Schools by Percentage of Teachers Participating in 30 or More Hours of Partnership Professional Development in Each of 3 Years



Source: Partnership-monitoring reports, 2008–09 through 2010–11.

Exhibit reads: In Year 1, the proportion of all teachers per partnership school who participated in 30 or more hours of partnership professional development ranged from 0% to 28%. The school in the 25th percentile had 4% of teachers participate in 30 or more hours, the school in the 50th percentile had 7% of teachers participate in 30 or more hours, and the school in the 75th percentile had 13% of teachers participate in 30 or more hours.

Note: The median line for ELA teachers is in fact at 50% each year. Given that many schools have a small (and even) number of 7th/8th-grade ELA faculty (e.g., two or four 7th/8th ELA teachers), several schools are at 50% participation each year.

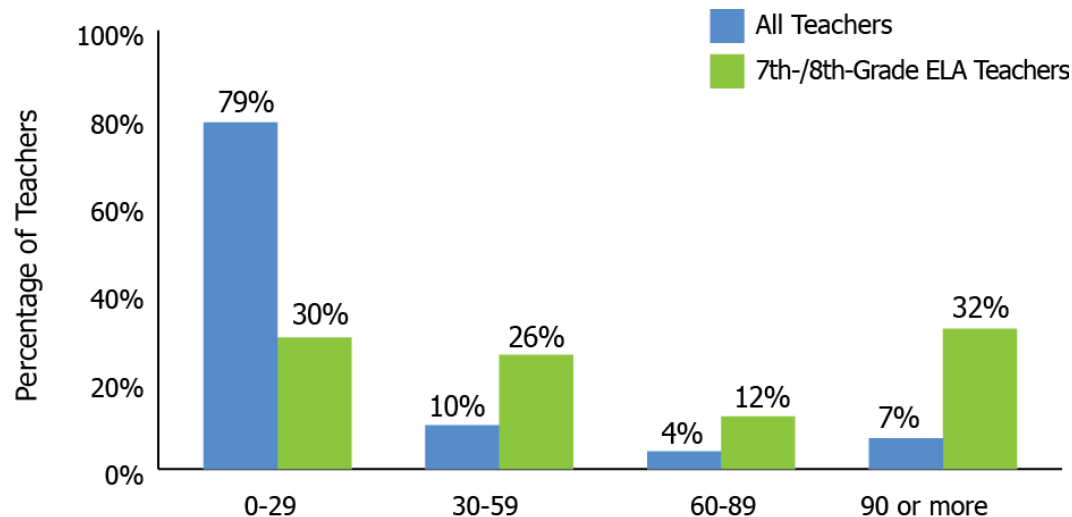
The depth and breadth of teacher participation in partnership professional development varied considerably, both across and within partnership schools.

Looking school by school, average cumulative hours (over 3 years) of partnership professional development for all teachers present at the school in the study's final year ranged from 4 hours per teacher at one school to 53 hours per teacher at another. The range was even greater when examining average cumulative hours for seventh- and eighth-grade ELA teachers across the schools—partnership professional development for these teachers averaged from as few as 7 cumulative hours at one school to as many as 194 cumulative hours at another. The partnership schools that saw higher average hours of participation among ELA teachers were not necessarily the same schools that saw higher average hours of participation among all teachers.

Given the variation in the amount of professional development experienced both across and within partnership schools, the next chapter presents some outcome analyses that focus on those individuals who received higher amounts of professional development. Exhibit 3-3 shows the proportions of teachers in the categories we use in those analyses, which are based on the cumulative hours of partnership professional development they received. Looking at the individual teacher level, the vast majority of teachers in the schools in the final year of the study (79%) participated in 0 to 29 total cumulative hours of partnership professional development, whereas fewer than 1 in 10 teachers (7%) participated in 90 or more cumulative hours (4% received 60 to 89 cumulative hours, and another 10% received 30 to 59 cumulative hours). Restricting the analysis to seventh- and eighth-grade ELA teachers, nearly a third of these teachers (32%) participated in 90 or more cumulative hours, and 30% participated in 0 to 29 cumulative hours.

Exhibit 3-3

Distribution of Cumulative Hours of Partnership Professional Development (Over 3 Years) for All Teachers and 7th/8th-Grade ELA Teachers



Source: Partnership-monitoring reports, 2008–09 through 2010–11.

Note: Only teachers working at the schools in Year 3 (2010–11) are included in this analysis.

Content and Format of Partnership Professional Development

We now turn to an examination of the content and format of the partnership professional development. We describe variation across and within the partnership schools, and we compare writing professional development in partnership schools with writing professional development in delayed partnership schools.

Partnership professional development covered a wide variety of topics both across and within partnership schools. Writing to learn was the most frequently covered topic.

Partnership professional development covered a wide array of professional development topics across the partnership schools and across the years within a partnership school. Topics ranged from digital storytelling to journaling to place-based writing to the use of exit slips. The variation across partnership schools and over time within a partnership school is consistent with the fact that partnerships are locally designed and are expected to evolve over time to meet teachers' changing needs. Given the variation in content, however,

the extent to which the professional development content was aligned with the specific teacher and student outcome measures used in the study varied as well.

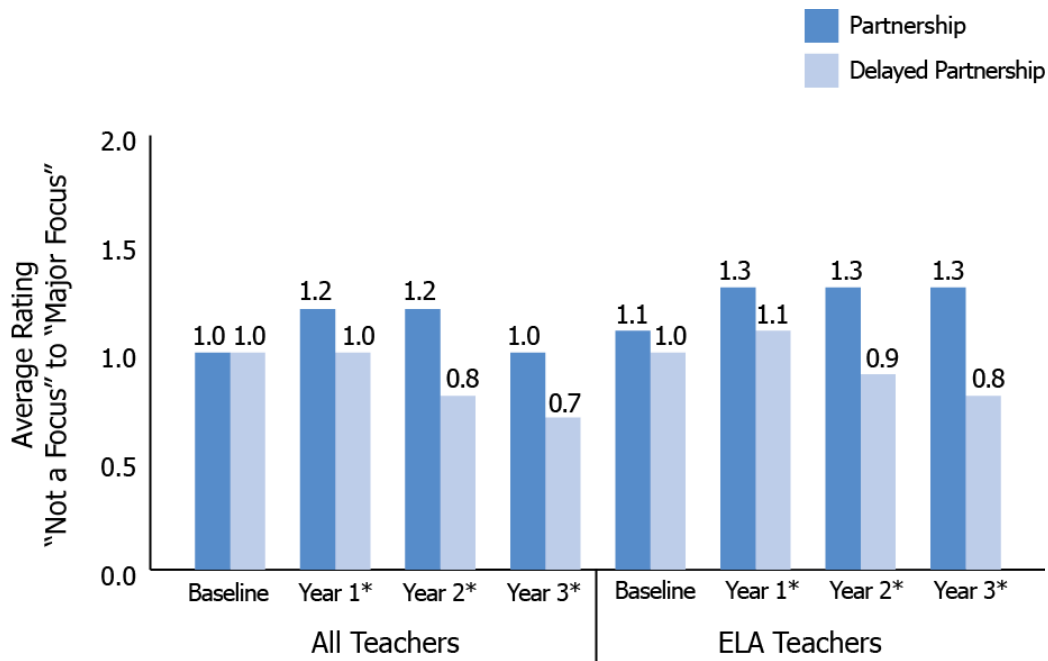
Within this diversity of topics, writing to learn—writing for the purpose of learning other content—was the most frequent topic of professional development. Examples of writing-to-learn activities, as described by a teacher, are “quick writes, exit slips, [and] ‘stop, think, and responds.’” By presenting participants with writing-to-learn strategies, Local Writing Project teacher-consultants encouraged teachers to incorporate writing across the content areas (including ELA) with the goals of expanding students’ opportunities to write and helping them gain clarity in their content-area thinking. In this way, teacher-consultants sought to give teachers “a way to see writing not as one more thing to do in the classroom but in service of the content they’re trying to teach.”

Writing professional development at partnership schools more often included a focus on writing processes than writing professional development at delayed partnership schools. The specific content varied considerably across and within the partnership schools.

We used the teacher survey to create a scale measuring the extent to which writing processes (specifically pre-writing; drafting, revising, and editing; collaborative writing; and the use of models to analyze and emulate) were a focus of professional development. Analyses of the scale show that writing professional development at partnership schools was more likely to focus on specific writing processes than writing professional development at delayed partnership schools (Exhibit 3-4). This difference is noteworthy because, according to the literature (Graham & Perin, 2007b), these are all elements of effective writing instruction for adolescents. However, while teachers in partnership schools reported a greater focus of professional development on writing processes, the magnitude of the difference was not large. Furthermore, when the items are examined individually, only one—“improving student skills and knowledge of planning and pre-writing strategies”—was more frequently cited as a focus of professional development across the 3 implementation years, and then just for ELA teachers.

Exhibit 3-4

Focus on Writing Processes, as Rated by Teachers Who Participated in Writing Professional Development



Source: 2007–08, 2008–09, 2009–10 and 2010–11 teacher surveys.

* $p < 0.05$

Note: Using the teacher survey, we created a scale to measure the extent to which professional development focused on “writing processes.” The scale is based on four survey items that asked teachers the extent to which each of the following was a focus of their professional development in writing: improving student skills and knowledge of planning and pre-writing strategies; improving student skills in drafting, revising, and editing text; improving student ability to work collaboratively with their peers on writing; and improving student skills for analyzing models of good writing and applying insights to their own text. Response choices were: “Not a focus” [0], “Minor focus” [1], and “Major focus” [2].

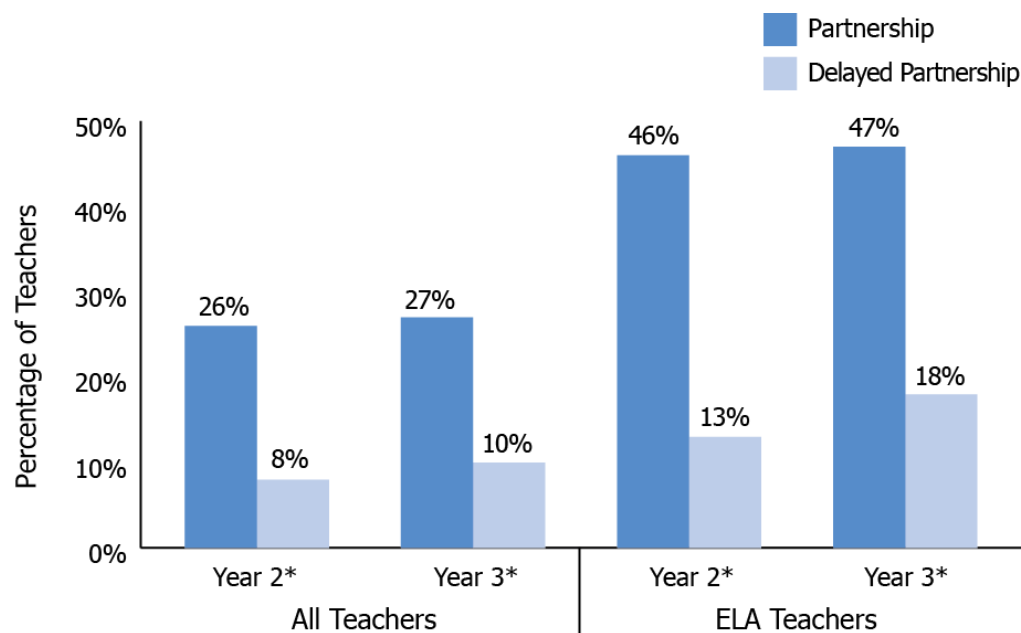
Qualitative data sources revealed substantial variation in the specific content of partnership professional development focused on writing processes and also uncovered a focus on pre-writing strategies. For instance, at one school, professional development on writing processes focused on pre-writing strategies such as using inquiry circles and notebooks to generate topics all 3 years. Similarly, in another school, the assistant principal noted: “There were lots of strategies done in classrooms that look at how do you pre-write and then drafting, but we never got past the drafting to the editing and revising.” In contrast, participants in a third school wrote, shared, revised, and published their own writing the first year; developed units integrating writing processes the second year; and worked on revision strategies during the third year.

Across the partnership schools, the format of the professional development often involved teachers engaging in writing and experiencing specific instructional strategies and activities before implementing them in their classrooms.

Consistent with what is known about high-quality professional development (e.g., Desimone, 2009), partnership professional development typically came together at the intersection of content and pedagogy. For example, teachers learned about both content and pedagogy by engaging in writing themselves. This was especially true for ELA teachers. Nearly half of partnership ELA teachers and about a quarter of all partnership teachers who participated in writing professional development reported writing during professional development in each of the final 2 years of the study (Exhibit 3-5). This percentage is significantly higher than that of teachers in delayed partnership schools reporting writing during professional development.

Exhibit 3-5

Percentage of Teachers, among Those Participating in Writing Professional Development, Who Reported That Writing Text Themselves Was a Component of Writing Professional Development



Source: 2009–10 and 2010–11 teacher surveys.

* $p < 0.05$

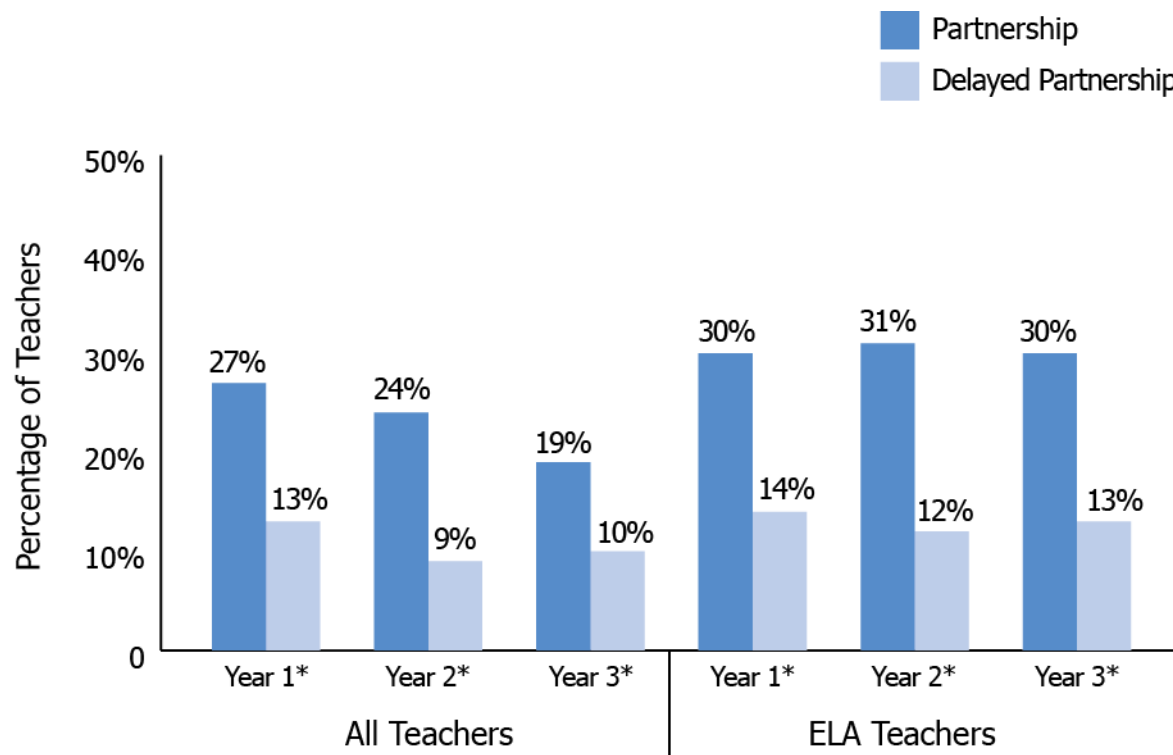
Note: The percentage for partnership schools is lower than we would expect based on qualitative data on the nature of partnership professional development. Interviews suggest at least some amount of writing (short reflections, exit tickets, or other writing-to-learn activities) was part of the norm at most partnership professional development events. It may be that, in responding to this survey question, some teachers interpreted writing “text” as working on a longer or more polished product.

Many Local Writing Project site leaders viewed engaging teachers as writers as critical to teachers' professional growth. From site leaders' perspective, the two main goals of engaging teachers in writing were to help teachers better understand what writing is like for their students and to develop teachers' understanding of writing and the writing process. As a teacher-consultant explained, "We focused on 'teacher as writer' in order to allow the participants to experience the writing process and writing 'on demand' in ways that their students do." With the goal of better understanding the process their students experienced, teachers created anthologies, explored journaling, wrote autobiographies, crafted "This I believe" essays, participated in "free writes," and responded to prompts.

A portion of this writing also focused on teachers' learning about writing and revising their work with other teachers in writing professional development. The percentages of teachers who reported that these activities were a "major focus" of professional development were equivalent at baseline but then differed significantly between partnership and delayed partnership schools in subsequent years (Exhibit 3-6). Just under a third of partnership ELA teachers and from 18% to 27% of all partnership teachers reported that writing and revising their work with other teachers was a major focus of professional development in each year of the study. In contrast, 9% to 13% of all teachers and 12% to 16% of ELA teachers in delayed partnership schools reported that these activities were a major focus of their writing professional development.

Exhibit 3-6

Percentage of Teachers, among Those Participating in Writing Professional Development, Who Reported That Writing Themselves and Revising Their Own Work with Other Teachers Was a Major Focus of Writing Professional Development



Source: 2008–09, 2009–10, and 2010–11 teacher surveys.

* $p < 0.05$

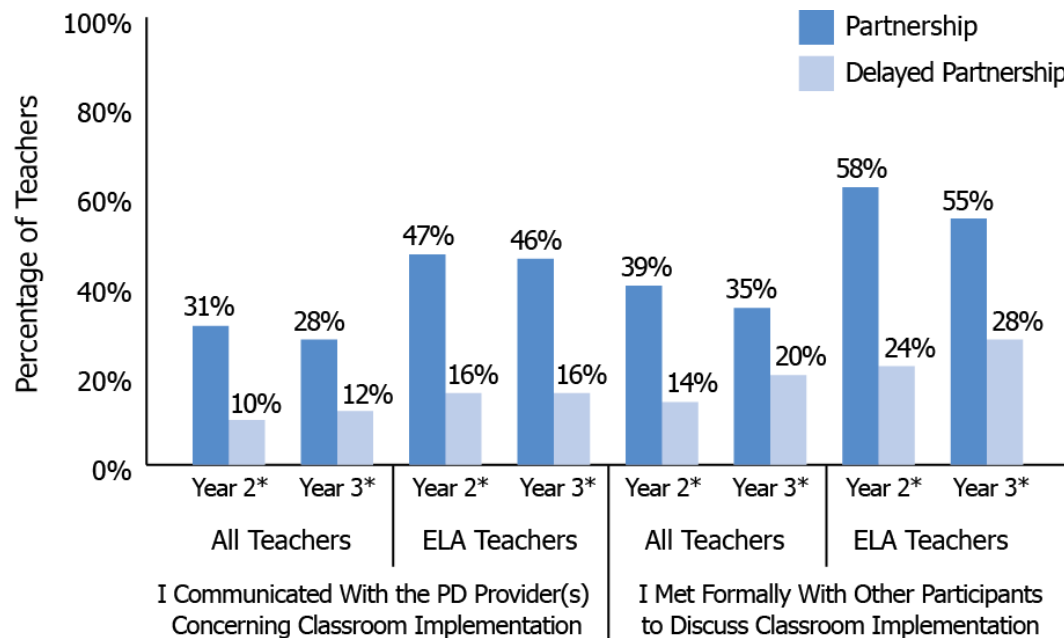
Another common practice in partnership professional development was to engage teachers in writing activities that they could then use with their students. Teacher-consultants took teachers through the process of trying out and reflecting on new strategies and activities with the goal of deepening teachers' understandings of the strategies and activities and how best to implement them in their own classrooms. After being introduced to a new strategy or activity, teachers practiced it during professional development and discussed their experiences with other professional development participants. Then, in some partnership schools, teachers tried the strategies or activities in their classrooms, with the goal of being able to share reflections about implementing the new practices at the next professional development event. A teacher described how going through the reflections made them “stop and think about how the student is perceiving the lesson and how they

feel about what they're having to do." In one instance of this type of practice, teachers read, analyzed, and discussed a short story. Then they each wrote a narrative draft related to the theme of the story. The writing was followed by peer response and revision focused on effective elements from the mentor text (the short story). Finally, participants were asked the following reflection questions: "How did this process support the use of reading relevant text for improving writing? How will you implement this in your classroom? What other texts can you think of that can be used with this process?" These questions were designed to bridge trying the lesson in professional development and implementing it in the classroom.

Among participants in writing professional development, classroom implementation was a topic of discussion for teachers in partnership schools more often than for teachers in delayed partnership schools (Exhibit 3-7). During the last 2 years of the study, almost half of ELA teachers and approximately one-third of all teachers who participated in writing professional development at partnership schools reported discussing classroom implementation with the professional developer. Teacher participants also reported discussing classroom implementation in formal meetings with other professional development participants. In this case, a majority of ELA teachers and more than a third of all teachers in partnership schools reported taking part in these conversations. These percentages are markedly higher than those of teachers in delayed partnership schools.

Exhibit 3-7

Percentage of Teachers, among Those Participating in Writing Professional Development, Who Reported That Discussing Classroom Implementation Was a Component of Writing Professional Development



Source: 2009–10 and 2010–11 teacher surveys.

* $p < 0.05$

Note: This survey question was not asked in the baseline year or in Year 1.

Understanding the Varied Breadth and Depth of Participation and Content of Professional Development

Variation in participation and content appears to result from a combination of the national policy context, efforts to adapt professional development to school contexts and teacher needs, schools' baseline practices, and Local Writing Projects' experience and capacity.

The broader accountability and policy context—particularly whether and how states assess student writing in the middle grades—influenced the priority some schools placed on participation in partnership professional development.

What influences teachers' decisions about how often to teach writing and what strategies and activities to use in their instruction? Applebee and Langer's 2011 study of secondary writing instruction across the United States suggests that state achievement tests are a driving force in shaping curriculum and instruction. An earlier study (Applebee & Langer, 2006) found that teachers' writing assignments were often aligned with the type of writing assessed. To determine the extent to which writing was a focus of state assessments, we examined the state testing systems in the 12 states in which the original 20 partnership schools were located. We reasoned that if one state tested student writing skill solely through multiple-choice questions and another state required students to craft more extended essays or narratives, students in the second state might be more likely to be assigned longer pieces of writing in class and writing professional development at schools in that state might be more of a priority.

We found that students in all 12 of these states (i.e., in all 20 partnership schools) were expected to produce at least some extended (e.g., essay-length) writing on at least one state test between the beginning of seventh grade and the end of eighth grade. However, only three of these states—in which five partnership schools were located—included extended writing on the high-stakes ELA tests that determine whether a school has made its Adequate Yearly Progress (AYP) targets. (AYP is a key school-level accountability measure under the No Child Left Behind Act of 2001.) In the remaining states, students were expected to produce extended writing on separate writing-specific tests, typically with far fewer implications for school-level accountability.

Accountability for student writing in content areas other than ELA (e.g., social studies, science, math) also varied across the 12 states. Students at the majority of partnership schools—14, in 8 states—were expected to produce at least some writing of a paragraph or longer on non-ELA state tests sometime in seventh or eighth grade. However, a closer look at the policy contexts in these states suggests that on many non-ELA tests, writing has not been an important area of focus, with certain states going so far as to explicitly discount attention to the quality of writing on these tests. In one state, containing three partnership schools, new state tests were released in several subjects during the study, accompanied by an explanatory document from the state department of education noting that “... essay questions have been eliminated on [state] reading, math and science tests. This change allows students to show they are able to solve the problems, while not being scored on their writing ability on the math, reading and science tests” (Washington Office of Superintendent of Public Instruction, 2012). Furthermore, we found that the emphasis on writing on some state tests (ELA and other subjects) diminished during the life of the study because of logistical or financial constraints. Between the beginning and end of the data collection period, at least 3 of the 12 states containing partnership schools reduced the amount of writing on one or more state assessments for middle-school students explicitly because of budget pressure, citing the high costs involved in scoring student writing.

Looking at the partnership schools in states where accountability pressures were higher for student writing versus those with extended writing only on lower-stakes assessments, we found numerous examples of accountability pressures influencing writing professional development. In multiple partnership schools where writing played a substantive role on the state’s high-stakes exams (in ELA and/or other subjects), interviews suggest that the need to improve student writing on state assessments was at least partially responsible for driving the focus of the professional development and motivating teachers to participate. In one such partnership, the principal attributed the school’s improved test scores to the partnership work and supported the partnership as a result. Conversely, in several partnership schools where AYP scores were based on student performance on multiple-choice state tests, interviewees reported that it could be difficult to get the attention of school leaders for planning purposes and to motivate teachers to participate in partnership professional development. Moreover, in one school located in a state that piloted extended student writing in content-area assessments during the study, these new assessments led to an initial increase in partnership professional development participation by teachers across the content areas. However, the following year, when teachers realized that the new

content-area tests that included writing would not make it beyond a pilot stage and would not count toward AYP, engagement in partnership professional development waned.

Not every partnership was influenced so directly by accountability policies. In fact, the experiences of some other partnership schools in this study illustrate the complexity of the relationship between how a state assesses student writing in the middle grades and how schools in that state engage with writing professional development. For example, in two partnership schools where the state tests that contributed to school AYP scores required full essays, teachers and administrators did not prioritize partnership professional development in part because their schools were meeting AYP targets and were not facing sanctions. Additionally, there were several instances in which a school and a Local Writing Project site entered with different initial perspectives about the role that partnership professional development might play in preparing students for state tests. In one partnership, for example, school leaders were eager to use the professional development to better prepare students for state tests, but the site—based on its own norms and expertise—delivered professional development that focused on other areas. School leaders attributed teachers’ lack of interest in the professional development to this lack of alignment. In another partnership in a state with lower-stakes writing assessments, the site was successful in working with school administrators to broaden the school’s definition of “literacy”—a key area of focus in the school improvement plan—to include writing. This broadened definition positioned partnership professional development to align far more closely with the school’s central goals.

Variation in the content of partnership professional development stems from the specific nature of site expertise, and from efforts to engage broad groups of teachers, offer experiences that deepen over time, and respond to different school contexts.

Partnership development requires strategies to reach a broad group of teachers with varied interests, to stage the professional development over time, and to leverage the school context. Some Local Writing Project sites offered a range of options for engaging staff in professional development (e.g., providing multiple points of entry for teachers with different levels of experience and interest, as well as for teachers from different content areas), leading to highly varied content both across and within some partnership schools. In many of these cases, the Local Writing Project sites’ approach was designed to allow the content of the work to deepen over time as the partners established relationships and the teachers’ and schools’ needs evolved. Likewise, responding to the school context led some Local Writing Project sites to work with individual teachers; thus, the professional

development they provided within a single partnership school was diverse in content. At the same time, some Local Writing Project sites brought specific expertise that teacher-consultants worked to integrate into the partnership plans. For example, some sites sought to share their expertise with digital storytelling, while others focused on journaling, place-based writing, or social justice themes.

One partnership illustrates how professional development can come to include varied content. In this case, the Local Writing Project site brought an approach to partnership development that they used in their work in other partnerships and a belief in the “workshop model,” the importance of reflective practice, and engaging students in writing. Within this general approach to partnership development, the teacher-consultants worked to address participating teachers’ and school and district administrators’ more specific needs and goals. The professional developers maintained formal and informal feedback loops with the teachers to ascertain topics of interest. In addition to these feedback mechanisms, the teacher-consultants’ choice of topics was informed by their own observations. As a teacher-consultant explained, “At the same time I was giving them what they wanted, I was giving them something they didn’t know that they wanted because I knew they were struggling with Writers’ Workshop.” Thus, a variety of topics were covered in professional development in this partnership because the Local Writing Project site leaders combined their initial ideas about partnership professional development with ideas generated through teachers’ and administrators’ input and their own observations of teachers’ practice.

Consistent with the National Writing Project’s emphasis on basing professional development on teachers’ needs and experiences, teachers’ baseline practices also are likely to influence the nature and content of partnership professional development.

At baseline, the frequency of writing instruction was limited and practices varied greatly, contributing to the nature and variety of content covered in professional development.

Most of the partnership schools created their own ELA curricula based on state standards and provided teachers with flexibility to modify and supplement them, resulting in substantial variation in the time spent on writing instruction and the strategies teachers used. Because the Local Writing Project sites designed the professional development based on schools’ and teachers’ contexts and needs, the differing baseline practices necessitated a broad range of professional development foci. In other words, the differing baseline

practices contributed to the broad range of professional development foci across and within schools.

Time spent on writing instruction. Perhaps because of a policy environment that did not emphasize writing in school accountability systems, educators in the partnership schools placed little emphasis on writing instruction. On the baseline teacher instructional log (2007–08), seventh- and eighth-grade ELA teachers reported that improving student writing skills was a “major goal” on just over half of all instructional days (53%). Although interviewed teachers espoused the importance of writing instruction, they reported struggling to determine how much time to focus on writing, given all the other standards and content they had to cover in a year. For example, when asked how much time she spent on writing instruction, a teacher emphasized her struggle by saying, “That’s the \$64,000 question, isn’t it?” Teachers approached this time challenge differently. For example, at one school, the seventh-grade teacher set aside discrete periods of time for writing (e.g., a 9-week section on essay writing that ended with a book report) while the eighth-grade teacher integrated writing across all of the ELA strands she covered.

The baseline teacher survey (2007–08) asked teachers about the frequency with which students engaged in each of four specific writing processes: pre-writing activities, composing text, revising text, and editing text. Responses indicated that less than half of ELA teachers (46%) in partnership schools had students engage in at least three of the four components of the writing process at least weekly, while more than a quarter (27%) of ELA teachers reported that their students engaged in *no* components of the writing process on at least a weekly basis. Across all classrooms, data indicated much more limited writing instruction: 60% of all teachers reported that their students engaged in *no* component of the writing process on at least a weekly basis. About a quarter of all teachers had students write for the purpose of describing a thing, place, process, or procedure (e.g., essay or lab report) or of explaining or analyzing a concept, process, or relationship (24% and 28%, respectively). Interviewed teachers reported that many non-ELA teachers did not see writing instruction as their responsibility or they lacked time given competing curricular expectations. A social studies teacher at one partnership school described how the ELA teachers focus on preparing students for writing standards and social studies teachers “are teaching for content” and “don’t want to be bogged down by mechanics, conventions, spelling. We would like kids to come to us already taught and able. We don’t have time to teach [writing skills].” Several non-ELA teachers also reported not having the necessary knowledge or capacity to incorporate writing strategies. The time spent on writing in non-

ELA classrooms tended to be idiosyncratic to the teachers and their individual comfort levels with writing. When they did assign writing, non-ELA teachers tended to assess content and did not spend time on teaching students how to write.

Focus of writing instruction. At the start of the study, few partnership schools had schoolwide approaches to writing instruction, and teachers varied greatly in their focus on teaching writing and the strategies they used. As a result, there was a range of baseline strategies both across and within partnership schools.

Across schools, approaches to writing instruction spanned a continuum based on the level of input from the district or school. The spectrum had, at one end, a district that mandated strict guidelines for the type and number of writing assignments and, at the other end, a district that let teachers create their own curricula based on the state standards with little to no input from the district or school. In the middle were districts or schools that provided curricular or pacing guides but afforded teachers significant flexibility to modify them. In the highly specified case, the district required all teachers to use a district-developed ELA curriculum based on Understanding by Design and mandated that they learn specific teaching strategies, including POWER writing, and assign two papers of two to three pages per month.¹⁶ Non-ELA teachers had to assign one- to two-page papers each month, assign writing to learn a minimum of three times per week, and assign a mini-research product in each class once per quarter. Finally, all teachers were required to contribute to student writing portfolios that followed students each year. In the least-specified case, the school allowed teachers to choose what, when, and how they covered material as long as they taught the state standards. In cases such as this, there was no consistent foundation on which Local Writing Project sites could build professional development.

In the majority of partnership schools, which allowed teachers flexibility with the curriculum, there was great variation among teacher practices. Some of this variation stemmed from the differing standards across grade levels and content areas and, correspondingly, what was expected for the state assessment. But few schools espoused a set of strategies or best practices that teachers might use regardless of content. When schoolwide practices were in place, they tended to be short, quick-write activities like starting all classes with a sentence that students had to correct for grammar, usage, and

¹⁶ Understanding by Design is a framework for supporting curriculum development using an approach called “backward mapping” in which desired outcomes are identified and units, lessons, and assessments are designed with those end goals in mind. POWER writing involves Pre-writing, Organizing, Writing a rough draft, Evaluating, Revising and rewriting.

mechanics. Several schools encouraged the use of the 6+1 Trait Writing Model or had trained teachers on it in the past, but teachers used it to varying degrees and with different levels of competence.¹⁷

Without common practices, teachers within schools approached writing in different ways. For example, within one school, the seventh-grade teacher used a “process approach,” which focused on the processes of planning, writing, and revising drafts of text, while the eighth-grade teacher used the Collins Writing Program, which is a prescriptive model for writing across the curriculum that uses “Five Types of Writing” assignments (capture ideas, respond correctly, edit, peer edit, and publish).¹⁸ At another school, a gifted-and-talented program teacher focused writing instruction on building higher-order thinking skills through revision for meaning and critical-thinking activities, while the seventh-grade teacher viewed the writing process as learning parts of speech, grammar, and mechanics.

The range of practices at baseline also reflects teachers’ varying levels of skill in teaching writing. A teacher at one school described the lack of strong writing instruction: “We have the kids write and tell them how to fix things, but we don’t teach them proper transition words or ways to develop ideas.” Limited confidence or experience in teaching writing was particularly apparent among non-ELA teachers. Even though there were a few examples of cross-curricular writing instruction or projects in which ELA teachers could help non-ELA teachers, writing assignments in science and social studies tended to be activities such as lab reports and document-based questions, respectively. Writing was less frequent in math classes and seldom moved beyond students’ explaining in writing how they arrived at their answers. Rarely did non-ELA teachers engage in the act of teaching students how to write in a particular discipline. Teachers’ limited experience with teaching writing may have shaped the content of professional development—for example, leading to a focus on strategies designed to increase students’ experience with writing (e.g., writing-to-learn strategies in the content areas) that do not depend on deep knowledge of writing instruction or highly skilled teaching.

¹⁷ The 6+1 Trait Writing Model establishes a common language for the attributes of writing; the seven traits include ideas, organization, voice, word choice, sentence fluency, conventions, and presentation.

¹⁸ The Collins Writing Program seeks to integrate the teaching of writing skills and thinking skills in a way that supports writing in all subject areas.

Partnership formation requires substantial expertise, and many Local Writing Project sites participating in the study had limited prior experience with school partnerships.

Partnership work requires Local Writing Project sites and schools to engage with each other to plan and implement professional development. To engage in partnership work, the organizations need certain capacities. Capacity means knowing what to do (e.g., involving a broad range of stakeholders in planning), knowing how to do it (e.g., securing support from leaders with positional authority and creating a planning committee), and being able to do it (e.g., having a teacher-consultant available and able to facilitate meetings). Partnership capacities include the ability to diagnose school context and teacher needs, develop a plan, communicate effectively, design professional development, build support, develop leaders, and learn from the work to grow and improve. The absence of one or more of these capacities appeared to undermine the design and/or delivery of partnership professional development.

Across the study partnership schools, we found that Local Writing Project sites' knowledge of school context and experience working with schools as organizations facilitated partnership planning and implementation. Local Writing Project leaders and teacher-consultants who drew on their knowledge of the school structure and relationships, curriculum, accountability requirements, and other state and district policies, as well as on observations and interactions with school leaders and teachers, were able to design highly relevant partnership professional development (thereby increasing participation). For example, one Local Writing Project site initially had to work with a school leader assigned to plan the partnership work who did not want to involve teachers in the process. Seeking direct contact with teachers to identify their needs, interests, and concerns, the teacher-consultants and site director were able to work around the school leader to establish a broader planning committee that involved teachers. In so doing, they were able to design professional development that teachers valued and build support for the partnership.

Also exemplifying the importance of knowing schools as organizations and diagnosing school context, some Local Writing Project sites were able to successfully leverage external accountability pressures. As discussed earlier in this chapter, external accountability pressure and state testing systems served either to reinforce partnership goals and motivate teachers to participate or to shift the focus away from writing professional development. The implications of the accountability system for partnership development depended on the nature of the state testing system (i.e., how well it aligned with the

professional development offered by the Local Writing Project site) and the Local Writing Project site's ability to incorporate writing professional development in the schools' goals. Likewise, when pressures were greater in subjects other than writing, heightened accountability sometimes limited partnership work by reducing interest in participation. In these cases, the Local Writing Project sites were able to use their knowledge of the schools to make the partnership professional development relevant to school goals. For example, in one partnership in which accountability pressures in writing performance were not a driving factor, the Local Writing Project site leader and teacher-consultants worked to revamp the ELA curriculum with a focus on standards-based instruction, which was a school initiative.

Local Writing Project sites' understanding of schools as organizations stemmed from several sources. A few Local Writing Project sites developed strategies for operating in schools through prior partnership work. In other sites, the site director had experience working with schools through teacher preparation programs. In still other sites, those teacher-consultants assigned to lead the partnership brought the expertise with them from other roles (e.g., teacher-consultants who were practicing teachers).

Conclusion

Although no schools and Local Writing Project sites attained the level of partnership professional development anticipated in the study design, being assigned to form a partnership did increase the amount of writing professional development that teachers received. Aggregate differences in teacher participation rates, however, mask substantial variation in the depth and breadth of teacher participation in partnership professional development both across and within partnership schools.

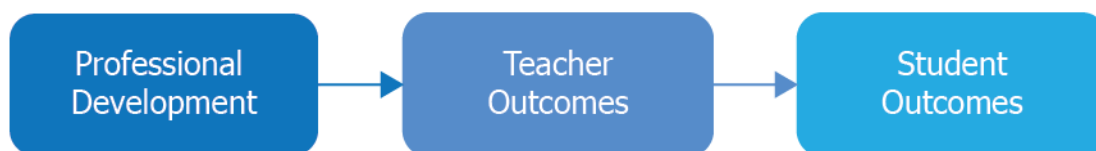
Partnership professional development covered a wide variety of topics. Across the partnership schools, writing to learn was the most frequently covered topic, and the format of the professional development most often involved engaging teachers in writing and in experiencing specific instructional strategies and activities before implementing them in their classrooms. Given the variation, the extent to which the professional development content was aligned with the specific teacher and student outcome measures used in the study varied as well.

Variation in participation and content appears to result from a combination of the national policy context, efforts to adapt professional development to school contexts and teacher needs, schools' baseline practices, and Local Writing Projects' experience and expertise. More specifically, the broader accountability and policy context—particularly whether and how states assess student writing in the middle grades—influenced the priority some schools placed on participation in partnership professional development. At the same time, efforts to engage a broad group of teachers, offer experiences that deepen over time, and respond to different school contexts all appeared to contribute to variation in the content covered in partnership professional development. A look at baseline writing practices at the partnership schools reveals that the frequency of writing instruction was limited and practices varied greatly, influencing the content and format of the professional development. Finally, many Local Writing Project sites participating in the study had limited prior experience with school partnerships to draw on in planning and implementing partnership professional development.

Chapter 4. Teacher and Student Outcomes

As our conceptual framework shows, the ultimate goal of partnership professional development is to improve student writing ability (see Exhibit 1-1). Presumably, teacher professional development cannot by itself alter student writing outcomes; professional development can influence teacher outcomes (specifically teacher knowledge and instructional practices), which in turn can influence student outcomes (in this case, student writing). Therefore, the outcome analyses presented in this chapter focus on the causal theory that is core to the conceptual framework, namely the idea that professional development (the intervention) could lead to changes in teacher outcomes (the proximal outcome), which could lead to improved student outcomes (the ultimate outcome) (Exhibit 4-1).

Exhibit 4-1
The Basic Causal Theory



This chapter begins with an overview of the teacher and student outcome measures. Next, we present the results of an intent-to-treat analysis of the impact of the intervention (as implemented by schools that were assigned to form partnerships) on teacher and student outcomes. However, given that the intervention was not implemented at a level that met the study’s definition of “partnership,” it is insufficient to look solely at the impact of being

randomly assigned to form a partnership on teacher practices and student learning. In this context, the more useful analyses for exploring the question of whether partnerships might show promise for affecting teacher and student outcomes focus on testing the steps in the theory of how partnerships could affect student outcomes. Our analyses test the theory in three stages, represented by the following questions:

1. What is the impact of schools being randomly assigned to form a partnership on teacher practices and student outcomes?
2. What is the relationship between participation in partnership writing professional development and changes in teacher practices?
3. What is the relationship between teacher practices and student writing?

Combining findings from the latter two questions can provide evidence for the soundness of the larger theory of change. Finally, we present qualitative findings from interviews to put the quantitative findings in context.

Outcome Measures

At the inception of the study, we developed multiple outcome measures based on an understanding of the ways in which the intervention might be locally adapted while upholding the National Writing Project's core principles. For teacher outcomes, we constructed a broad but parsimonious list of measures to assess teacher perceptions and practices based on relevant literature and our knowledge of the National Writing Project. We used teacher surveys, teacher logs, and teacher assignments to measure these outcomes. For student outcomes, we measured student writing in response to on-demand writing prompts and to naturally occurring writing assignments. Here we present the outcome measures included in the evaluation and discuss the rationale for including them. We describe the teacher outcome measures, followed by the student outcome measures.

Teachers' perceived influence of professional development

The ability of professional development to change teacher practices is shaped by teachers' existing practices and perceptions, which are themselves shaped by instructional context and prior experiences. One indicator of teachers' receptivity to professional development

and their perceptions of its quality is the extent to which teachers report that professional development influences their practices. We therefore measured teachers' perceptions about the influences of professional development on practices, based on teacher surveys.

Teachers' instructional practices

Teachers' instructional practices are mediating factors through which partnership professional development may affect student writing. We hypothesize that outcomes related to content that is covered with higher frequency in the professional development are more likely to change than outcomes related to less frequently covered content. Thus, in the body of this report, we use teacher reports on the surveys and instructional logs and coding of teacher assignments to examine outcomes that were covered with higher frequency: the frequency and length of student writing, writing to learn, and writing processes. We also conducted analyses of other teacher outcome measures included on our instruments (e.g., teacher reports on the range of genres in which they provided instruction; and the quality of teacher assignment in terms of clarity of goals and the extent to which students were expected to construct new knowledge). Because the professional development did not focus on these topics, we present the results of these analyses in Appendix C.¹⁹

Frequency and length of student writing. More practice and extended writing, coupled with effective instruction and motivation, are essential to improved student writing. We measured frequency of student writing through teacher logs of seventh- and eighth-grade English language arts teachers for all 3 implementation years and the length of student writing on the teacher survey in the third year of partnership implementation.

Writing to learn. "Writing to learn" describes a broad range of instructional activities that share a common goal: students will use writing as a tool for learning. As described in Chapter 2, partnership professional development focused on writing to learn more frequently than on other areas. We therefore hypothesized that being assigned to form a partnership would have an impact on writing to learn. We surveyed teachers on student engagement in writing-to-learn activities in the third year of implementation and created a scale to summarize the frequency of writing-to-learn activities.

¹⁹ We do not present these findings in the main report because, based on the content of partnership professional development, there is no reason to think that partnerships would affect these instructional practices.

Writing processes. The National Writing Project is often associated with the idea that writing instruction should incorporate a range of processes that are often part of authentic writing (Lieberman & Wood, 2003). Survey data confirmed that writing professional development was more likely to focus on writing processes in partnership schools than in delayed partnership schools. Additionally, by engaging teachers as writers, another common focus of partnership professional development, many teachers in partnership schools experienced various writing processes themselves. As a result, we hypothesized that partnerships might increase the frequency with which teachers had students use writing processes. Note that our quantitative instruments did not attempt to address the more nuanced questions of *how* writing processes were used in the classroom or the *quality* of instruction around writing processes.

We measured the extent to which several writing processes—including pre-writing, use of models of writing, composing, collaborating with peers, revising, and editing—were incorporated into instruction. We created two scales from the survey, one on the frequency with which students were engaged in writing processes in class and the other on the frequency with which teachers taught writing processes. We also analyzed individual items from the logs where seventh- and eighth-grade ELA teachers reported student engagement in writing processes and where teachers reported focus on improving skills in writing processes. Appendix B provides descriptive information on these scales, including the specific items that make up each scale and their reliability. Finally, we coded teacher assignments for the range of writing processes required.

Student writing in response to on-demand writing prompts

Having students respond to a common set of writing prompts during a timed test period is a widely used method for the direct assessment of writing; prompts are intended to “set the stage” for student writing. Ideally, prompts provide students with information about the topic, the purpose for writing, the audience, and the form of writing they are to produce (Calfee & Miller, 2007). The SRI team selected four matched pairs of prompts—one for fall and one for spring—from the National Writing Project library of writing prompts to measure student writing performance.²⁰ Each pair of prompts is of comparable length

²⁰ The National Writing Project prompt library includes prompts from across English-speaking countries, including released items from state and district assessments. Prompts were customized for the evaluation to remove references to locality and time of year.

(50 to 80 words) and has the same target audience and form, but differs from one another by topic and specific purpose. Teachers administered National Writing Project writing prompts to students in each target classroom at the beginning and end of each data collection year. The four prompt pairs were randomly distributed across students within each classroom.

In scoring writing samples, we used a process and analytic rubrics developed by the National Writing Project with proven reliability (Buchanan et al., 2006; Swain & LeMahieu, 2012). In addition to a holistic measure of writing quality, trained scorers applied those rubrics to score students' responses to writing prompts in regard to six dimensions: content, structure, stance, sentence fluency, diction, and conventions.

Student writing in response to naturally occurring writing assignments

Capturing data on naturally occurring student writing broadens the measurement of students' writing skills by indicating the extent to which students use best writing practices in their work. The students' written work was scored by using methods and rubrics that have been employed in the Chicago Public Schools (Sisserson, Manning, Knepler, & Jolliffe, 2002a, 2002b), in an earlier National Writing Project evaluation (Fancsali & Silverstein, 2002), and in SRI's evaluation of schools supported by the Bill & Melinda Gates Foundation (Mitchell et al., 2005). The analysis examines a holistic measure of writing quality and two additional measures: construction of knowledge and development of expository writing.

Experimental Analysis: The Impact of Being Randomly Assigned to Form Partnerships

This study set out to estimate the impact of partnerships on student writing by using a randomized controlled trial. Through an intent-to-treat analysis, an RCT provides an unbiased estimate of the impact of being randomly assigned to a treatment versus control (or other experimental) group. The intent-to-treat analysis does not take into consideration that schools assigned to the intervention may not fully implement it. In the case where participants experience the conditions they were assigned with high fidelity, an RCT also provides an unbiased estimate of the effectiveness of the intervention. However, in the current study, the intervention was not implemented at a level that met the study's definition of a school partnership, so the RCT cannot estimate the effectiveness of partnerships. This analysis instead addresses the question: "What is the impact of schools being randomly assigned to form a partnership on teacher practices and student outcomes?"

The intent-to-treat analysis was conducted with all teachers and ELA teachers in partnership and delayed partnership schools and their sampled students separately for each of the 3 implementation years (where applicable), as well as the baseline year (to establish baseline equivalence between partnership and delayed partnership schools).²¹ The intent-to-treat analysis, as well as the correlational outcomes analyses presented later, draw on the full sample of paired partnership and delayed partnership schools participating each year (39 schools for baseline through year 2 and 35 schools for year 3).

Teachers' perceptions and practices

To examine the impact of being assigned to form partnerships, we examined teachers' self-reports (on the teacher survey) of the influence of writing professional development on their writing instruction and measures of teachers' instructional practice (drawing on the teacher self-reports from the teacher survey and teacher log, and researcher coding of teacher assignments).

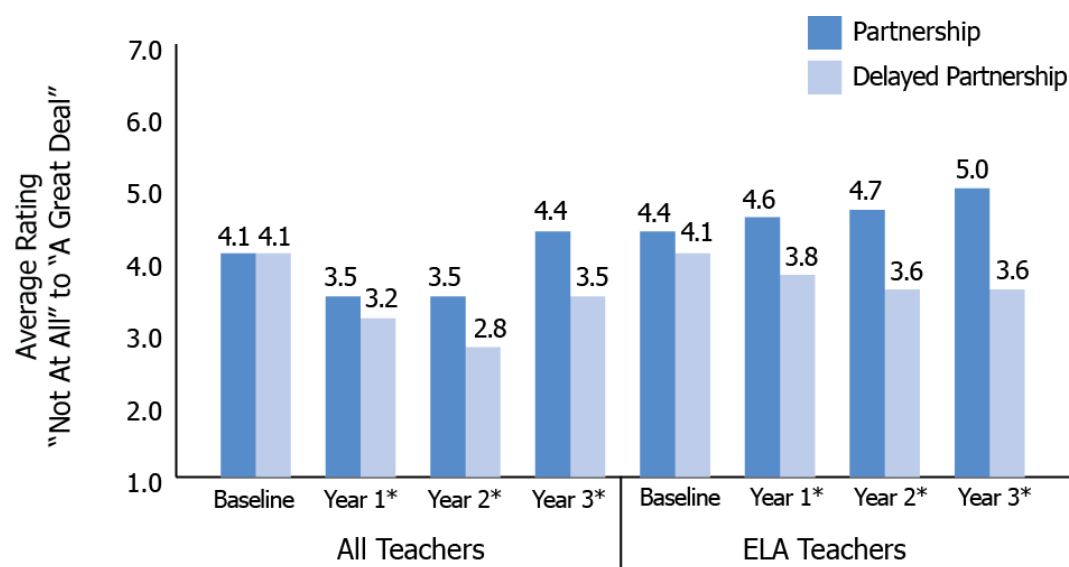
²¹ To explore the extent to which teacher turnover was influencing the average effects, we ran the same set of analyses on the subset of teachers in partnership and delayed partnership schools who remained in the study for all 4 years and the results (presented in Appendix C) were comparable to what we report here for all teachers.

Assignment of schools to form partnerships had an impact on teachers' perceptions of the influence of professional development on their writing instruction.²²

The annual teacher survey asked teachers who provided writing instruction to indicate the extent to which professional development activities during the current year influenced the writing instruction they provided to their students on a 1 ("Not at all") to 7 ("A great deal") scale. All teachers in the second and third years of implementation and ELA teachers across all 3 years of implementation in partnership schools were more likely than their counterparts in delayed partnership schools to report that professional development influenced their writing instruction. Exhibit 4-2 presents the model-adjusted average values for partnership and delayed partnership schools on the measure.²³

Exhibit 4-2

Extent to Which Professional Development Influences Writing Instruction (Model-Adjusted Means)



Source: 2007–08, 2008–09, 2009–10, and 2010–11 teacher surveys.

* $p < 0.05$.

²² Unless otherwise noted, all impacts, correlations, and differences presented in the text are statistically significant at the 0.05 level.

²³ "Model-adjusted average values" refers to the average values after adjusting for differences between partnership and delayed partnership schools in the baseline-year measure. The details of the analytic models are presented in Appendix A.

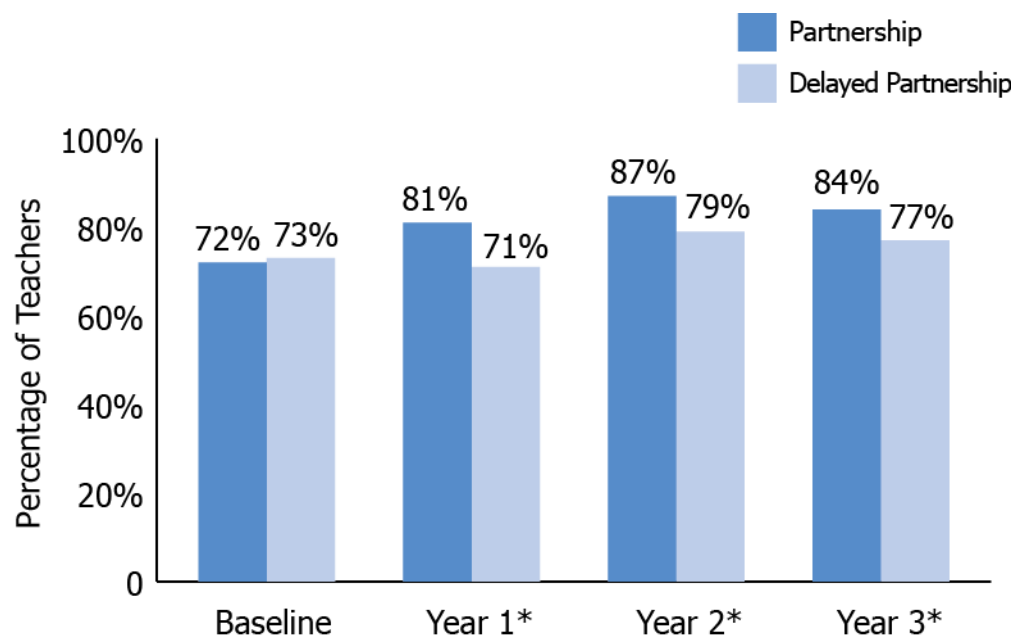
Assignment of schools to form partnerships had a positive impact on the frequency and length of student writing.

The teacher log asked seventh- and eighth-grade ELA teachers to report every day (over the course of a week) on whether a target student was engaged in a writing-related activity and the length of the writing assignment that the student planned, composed, edited, or revised that day. In the third year of the partnership implementation, the survey also asked teachers to describe the length of student writing in a typical week. The answers ranged from “1–2 words or phrases” to “multiple connected paragraphs.” We created a dichotomous (two-category) variable distinguishing at least one or two one-paragraph responses/compositions from those with shorter lengths for the analysis.

Log results show that across all 3 years of intervention, seventh- and eighth-grade ELA teachers in partnership schools were more likely than their counterparts in delayed partnership schools to report that students were engaged in a writing-related activity (Exhibit 4-3).

Exhibit 4-3

Student Engagement in Any Writing-Related Activity in Seventh- and Eighth-Grade ELA Teachers Classrooms (Model-Adjusted Percentages)



Source: 2007–08, 2008–09, 2009–10, and 2010–11 teacher logs.

* $p < 0.05$.

Survey results show that, in the third year of implementation, compared with teachers in delayed partnership schools, partnership teachers in general were 1.5 times as likely to report that students wrote at least one or two one-paragraph responses/compositions versus less extended writing in a typical week. However, no significant differences were found when ELA teachers in partnership schools were compared with ELA teachers in delayed partnership schools.

The analysis yielded no significant difference between schools assigned to form partnerships and schools assigned to delay partnership formation in the extent to which teachers reported that students engaged in writing-to-learn activities.

We created a scale based on a survey item from the third year of implementation that asked teachers how frequently—from 0 (“Never”) to 5 (“Daily”)—students engaged in a series of writing-to-learn activities. Survey results did not identify statistically significant differences between partnership and delayed partnership teachers in reporting student engagement in these activities.

Random assignment to form partnerships had an impact on collaborative writing in seventh- and eighth-grade ELA classes. However, the analysis yielded no significant difference between schools assigned to form partnerships and schools assigned to delay partnership formation on other writing process measures.

The teacher log asked teachers to report every day (over the course of a week) on whether the student helped produce a group writing product or gave or received help or feedback from other students on individual writing tasks; and whether the student spent time that day engaged in brainstorming, composing text, revising text, or editing text. These questions were structured to be analyzed individually rather than as part of a broader scale.

Log results reflecting individual components of the writing process show that seventh- and eighth-grade ELA teachers in the third year of implementation in partnership schools were more likely than their counterparts in delayed partnership schools to report that students worked collaboratively on a writing assignment, either helping to produce a group writing product or giving or receiving help or feedback on individual writing tasks. In the first year of the intervention, seventh- and eighth-grade ELA teachers in partnership schools were also more likely than their counterparts in delayed partnership schools to report that students were engaged in composing text. However, this estimated effect was not evident in the second and third years of implementation and therefore did not provide sufficient

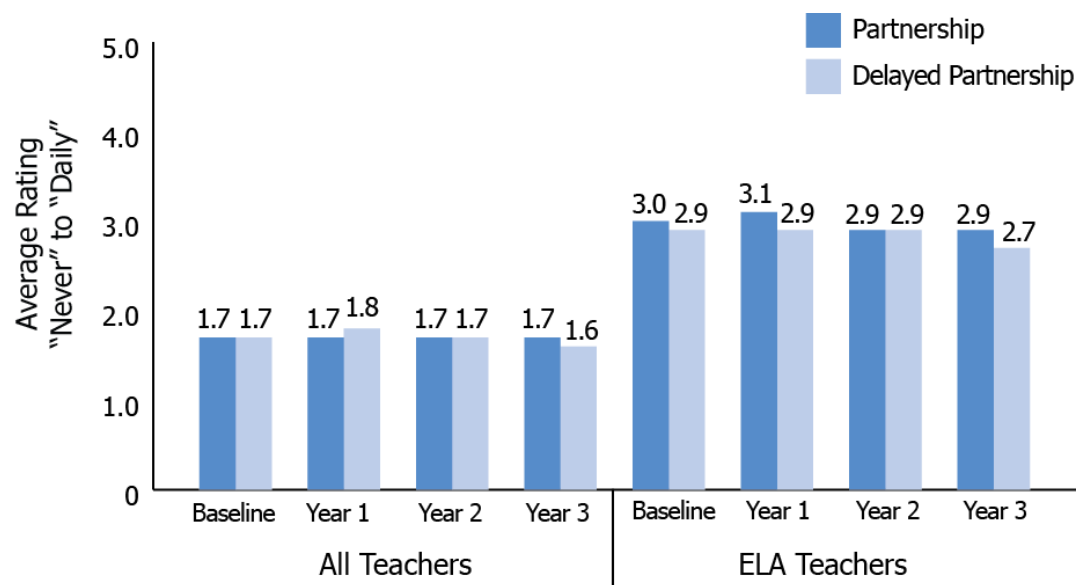
evidence of the impact of random assignment to partnerships. Comparisons between partnership and delayed partnership schools found no difference in seventh- and eighth-grade ELA teachers' reports of the use of other writing processes (collaborative writing, receiving feedback brainstorming, revising text, and editing text) in instruction.

Using the teacher survey, we created a scale to describe student engagement in writing processes during class: brainstorming, composing, revising, editing, receiving individual feedback from the teacher, reviewing written feedback from a teacher, reflecting on or evaluating their own writing, sharing their writing with peers, and analyzing models of writing. We also created a scale to describe the frequency of four key writing processes in instruction that are emphasized by the National Writing Project: pre-writing, use of models of writing, composing, and collaborating with peers. The scales are based on survey items that asked teachers how frequently—from 0 ("Never") to 5 ("Daily")—students engaged in a range of writing processes during class or teachers devoted class time to each of these four key writing processes.

As Exhibit 4-4 shows, survey results did not identify statistically significant differences between partnership and delayed partnership teachers' reports of student engagement in writing processes for all teachers nor for ELA teachers in particular. Similarly, the analysis of the scale created from the teacher survey on the frequency with which teachers devoted class time to four key writing processes did not identify differences between partnership and delayed partnership teachers.

Exhibit 4-4

Student Engagement in Writing Processes (Model-Adjusted Means)



Source: 2007–08, 2008–09, 2009–10, and 2010–11 teacher surveys.

Finally, teacher assignments were coded to describe whether they required students to use any of the following components of the writing process: planning/inventing, information gathering, peer review, revision, or editing. The analysis of the scale created from these items did not yield differences between partnership and delayed partnership teachers.

Student writing

As previously described, the study analyzed student writing outcome measures collected from two sources—responses to on-demand writing prompts and writing that is a response to a naturally occurring teacher assignment—both given in seventh- and eighth-grade English language arts classrooms. The on-demand writing prompts were analyzed for the spring and fall of the baseline and final years and for the spring only for the first and second years of implementation. Student work was collected in the first and fourth quarters in the baseline year and the second and third years of partnership implementation. The impact analysis was conducted with a sample of seventh- and eighth-grade students from partnership and delayed partnership schools for each of the

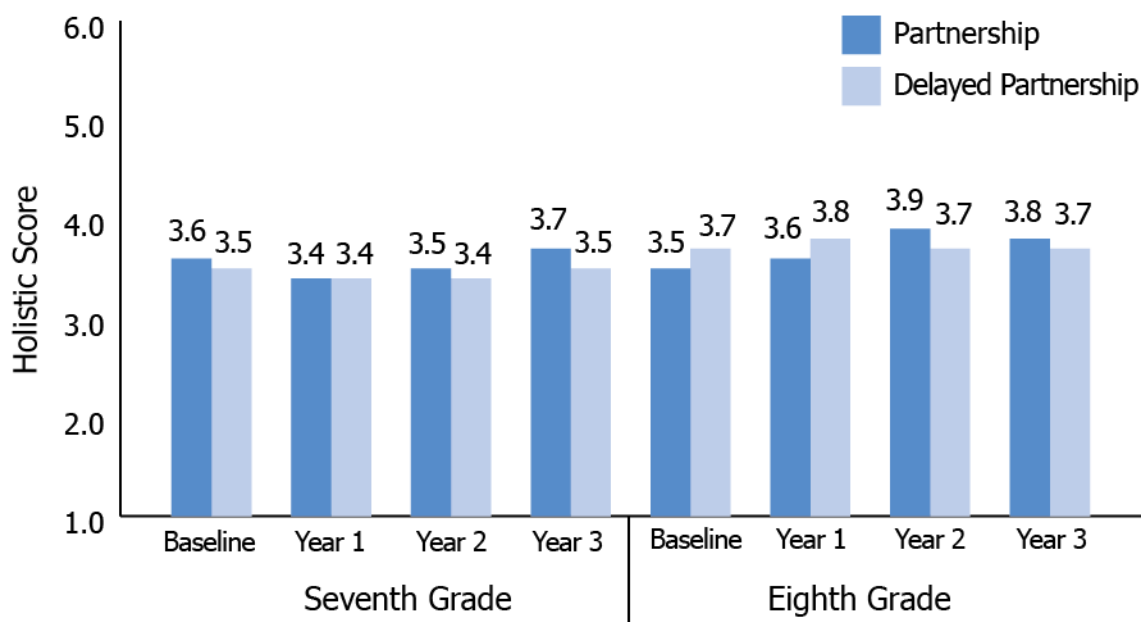
3 implementation years, as well as the baseline year (to establish baseline equivalence between partnership and delayed partnership schools).

The analysis yielded no significant difference in student writing in response to on-demand writing prompts between schools assigned to form partnerships and schools assigned to delay partnership formation.

Across the 3 years of partnership implementation, the analysis of student writing prompt data found no significant impact of being assigned to partnership professional development on the holistic measure of writing quality and no impacts on any of the six individual measures of writing attributes (content, structure, stance, sentence fluency, diction, and conventions). The model-adjusted mean scores on the holistic writing rubric for both partnership and delayed partnership schools are shown in Exhibit 4-5.

Exhibit 4-5

Holistic Scores on Student Writing in Response to On-Demand Writing Prompts (Model-Adjusted Means)



Source: 2007–08, 2008–09, 2009–10 and 2010–11 on-demand writing prompts.

The analysis yielded no significant difference in student writing in response to naturally occurring writing assignments between schools assigned to form partnerships and schools assigned to delay partnership formation.

The analysis examined a holistic measure of writing quality and two additional measures (construction of knowledge and development of expository writing). Across the last 2 years of partnership implementation, the results of the analysis did not find significant impact of random assignment to form a partnership on the holistic measure of writing quality or on the measures of construction of knowledge and development of expository writing.

There are several plausible explanations for not finding an impact of partnership assignment on student writing. A lack of impact could well be caused by the low levels of partnership implementation described previously; it could be that the teacher practices supported by professional development were not positively associated with student outcomes; it could be that the focus of partnership professional development did not align with the student outcomes that were measured in this study; or the answer could involve a combination of these and other plausible explanations.

To better understand the effect of partnership professional development on teacher and student outcomes, we conducted additional analyses to explore the causal theory by looking first at the relationship between partnership professional development and teacher instructional practices, and then at the relationship between teacher instructional practices and student outcomes.

Correlational Analyses: The Relationship between Participation in Partnership Professional Development and Changes in Teacher Practices

The hypothesis that professional development will affect teacher and student outcomes is based on the premise that teachers receive sufficient partnership professional development. The most plausible explanation for not finding a positive impact on student outcomes in the intent-to-treat analyses is that most teachers simply did not receive a level of professional development that met the study's criteria for partnership implementation. Prior research has found a positive relationship between the duration of professional development that teachers receive and teacher outcomes (Desimone, 2009). It is therefore

essential to explore whether teachers who did receive a “sufficient” amount of professional development (i.e., sufficient to make the hypothesis worth testing) benefit from it. This is the first step in the causal theory.

To test the hypothesis about the influence of partnership professional development (as opposed to the impact of school assignment to partnership) we used three strategies for creating a comparative reference:

1. Using covariates to statistically adjust for measured differences between all teachers in delayed partnership schools and teachers who received sufficient partnership professional development.
2. Using propensity score matching to identify a comparison group from within delayed partnership schools that would have been more likely to receive a sufficient amount of partnership professional development if they had been in partnership schools.²⁴
3. Modeling the relationship between outcomes and the duration of partnership professional development both as a continuous variable and as a dichotomous variable indicating 90 or more hours of participation solely within the partnership group.

We conducted the analyses with two thresholds for the duration of partnership professional development. We chose 90 or more hours across the 3 years of implementation as our initial threshold for sufficient professional development because the study criteria set 30 hours of professional development per year as the criterion for duration of partnership professional development. We further lowered the criterion to 60 hours in order to include a larger number of teachers. We compared teachers in partnership schools who received sufficient partnership professional development with teachers in delayed partnership schools.

²⁴ The propensity scores used a broad set of baseline characteristics (e.g., self-reported writing professional development during the baseline year, attitudes and practices, teaching experience and teaching credentials, as well as the characteristics of teachers’ schools) to identify “comparable” teachers in delayed partnership schools. Teachers with either 90 or more hours or 60 or more hours of partnership professional development in general were more likely than other teachers in partnership schools to be ELA teachers and have higher reported frequency of particular writing practices at baseline. These measured differences were adjusted for in all the models.

We conducted only the analysis on survey outcomes because the small sample size of log responses does not support reliable estimates of these relationships.²⁵ Below we present the results for the analysis comparing teachers with 90 or more hours of partnership professional development with all teachers in delayed partnership schools and with propensity-score-matched teachers in partnership schools, and the analysis relating hours of partnership professional development to teacher outcomes. The results for additional analyses are comparable and are presented in Appendix C.

The strength of these analyses is that the relationship of professional development to outcomes is modeled solely for the teachers who received a sufficient amount of professional development to plausibly test the hypothesis about the effects of that professional development. On the other hand, research has shown that statistical adjustments do not typically mirror the results of experiments, which by definition are unbiased (Fortson, Verbitsky-Savitz, Kopa, & Gleason, 2012; Cook et al., 2008; Glazerman et al., 2003). One key threat to the validity of these analyses is “selection bias.” Because teachers were not randomly assigned to different levels of participation, teachers who self-selected into more hours of partnership professional development (or were in schools where administrators prioritized the professional development and required higher levels of participation) may differ from the broader population of teachers on unmeasured characteristics. The results from these analyses thus should be considered correlational instead of causal.

Compared with all teachers in delayed partnership schools, teachers with 90 or more hours of partnership professional development reported a higher frequency of instructional practices measured.

The results indicate that, compared with all teachers in delayed partnership schools, teachers with 90 or more hours of partnership professional development reported a higher frequency of all instructional practices that we investigated (length of student writing, writing to learn, class time devoted to four key writing processes, and student engagement in writing processes).

²⁵ There were a total of 41 teachers with 90 or more hours of partnership professional development, among whom only 20 were seventh- or eighth-grade ELA teachers who completed teacher logs. There were a total of 61 teachers with 60 or more hours of partnership professional development, among whom only 27 were seventh- or eighth-grade ELA teachers who completed teacher logs.

We conducted a logistic regression for whether students were engaged in writing at least one or two one-paragraph responses/compositions in a typical week and obtained an odds ratio of 15.8. This indicates that in the third year of partnership implementation, compared with teachers in delayed partnership schools at the same baseline practice level, partnership teachers with 90 or more hours of partnership professional development were 15.8 times as likely to have students engaged in writing at least one or two one-paragraph responses/compositions in a typical week.

Exhibit 4-6 presents the model-adjusted differences between teachers with 90 or more hours of partnership professional development and all teachers in delayed partnership schools for teacher practice scales (along with their standard errors). These scales ranged from 0 (“Never”) to 5 (“Daily”) and were analyzed as continuous outcomes. Appendix C includes detailed model results for these analyses.

Exhibit 4-6

Differences between Teachers with 90 or More Hours of Partnership Professional Development and All Delayed Partnership Teachers for Teacher Practice Scales (Coefficients and Standard Errors from HLM Models)

Outcome	Coefficient	Standard Error
Writing to learn	0.43*	0.20
Class time on four key writing processes	0.40*	0.20
Student engagement in writing processes	0.58**	0.20

Source: 2007–08 and 2010–11 teacher survey; partnership-monitoring reports, 2008–09 through 2010–11.

** $p < 0.05$, ** $p < 0.01$*

The writing-to-learn estimate indicates that, compared with teachers in delayed partnership schools at the same baseline practice level, teachers with 90 or more hours of partnership professional development scored 0.43 point higher on the writing-to-learn scale that ranges from 0 (“Never”) to 5 (“Daily”) in the third year of partnership implementation.

In the third year of partnership implementation, compared with teachers in delayed partnership schools at the same baseline practice level, teachers with 90 or more hours of partnership professional development scored 0.40 and 0.58 points higher on two writing process scales—class time devoted to four key writing processes and student engagement in writing processes, respectively—both ranging from 0 (“Never”) to 5 (“Daily”).

Among teachers in partnership schools, the duration of professional development received was positively related to almost all teacher practices investigated on the survey.

These analyses examine the relationship solely within the partnership schools and thus do not attempt to address the impact of partnerships, but rather explain the variation in outcomes within partnership schools. This investigates the question: “What is the relationship between receiving a longer duration of partnership professional development (compared with a shorter duration of partnership professional development) and changes in teacher practice?” Again, results from this analysis are by no means causal, because unobserved factors, such as motivation to improve, may contribute to both the outcomes and the duration of professional development teachers received.

The duration of partnership professional development was indicated by cumulative hours of partnership professional development for individual teachers, as well as by a dichotomous variable indicating whether a teacher received 90 or more hours of partnership development. Both analyses found that longer duration of partnership professional development was associated with student engagement in writing at least one or two one-paragraph responses/compositions and in writing processes, meaning that there were more frequent key writing processes in instruction. The only exception is writing to learn, which was not found to be significantly related to the duration of partnership professional development.

A logistic regression yielded an estimate for engagement in longer writing of 8.6 in odds ratio, which indicates that in the third year of partnership implementation, compared with other teachers in partnership schools, partnership teachers with 90 or more hours of partnership professional development were 8.6 times as likely to have students engaged in writing at least one or two one-paragraph responses/compositions in a typical week.

Exhibit 4-7 presents the model-adjusted differences and their standard errors between teachers with 90 or more hours of partnership professional development and other teachers in partnership schools for teacher practice scales analyzed as continuous outcomes. Please refer to Appendix C for detailed model results for these analyses and for the relationship between hours of partnership professional development and teacher practices.

Exhibit 4-7

Differences between Teachers with 90 or More Hours of Partnership Professional Development and Other Partnership Teachers for Teacher Practice Scales (Coefficients and Standard Errors from HLM Models)

Outcome	Coefficient	Standard Error
Writing to learn	0.25	0.18
Class time on four key writing processes	0.55**	0.17
Student engagement in writing processes	0.60**	0.16

Source: 2007–08 and 2010–11 teacher survey; partnership-monitoring reports, 2008–09 through 2010–11.

* $p < 0.01$

Note: Estimated from a logistic regression model. Difference is presented as odds ratio.

The writing-to-learn estimate indicated no significant difference in the third year of partnership implementation between partnership teachers with 90 or more hours of partnership professional development and other teachers in delayed partnership schools.

In the third year of partnership implementation, compared with teachers in delayed partnership schools at the same baseline practice level, partnership teachers with 90 or more hours of partnership professional development scored 0.55 and 0.60 points higher on two writing process scales—class time devoted to four key writing processes and student engagement in writing processes, respectively—both ranging from 0 (“Never”) to 5 (“Daily”).

The two methods of comparing teachers between partnership and delayed partnership schools and within partnership schools both found positive relationships between partnership professional development and teacher practices. None of them support causal inferences that speak directly to the original question, namely, the impact of partnerships on teacher practices. Combined, however, they suggest that partnership professional development, when of sufficient duration, is promising for affecting teacher practices.

Correlational Analyses: The Relationship between Teacher Instructional Practices and Student Writing Performance

Teacher instructional practices are considered the mediating factor between writing professional development and student writing (see Exhibit 4-1). Therefore, it is worth exploring the relationships between specific teacher practices and student writing among partnership and delayed partnership teachers—the last step in the causal theory. We included the full sample of seventh- and eighth-grade ELA teachers in both partnership and delayed partnership in the baseline year and Year 3 of implementation and correlated each teacher practice indicator with student progress (measured by fall and spring writing in response to on-demand prompts) during these 2 years on holistic scores on writing prompts.²⁶

More frequent student engagement in writing at least one or two one-paragraph responses/compositions and more frequent student engagement in composing text were associated with improved performance on writing in response to prompts.

Across partnership and delayed partnership schools, teacher reports on the survey that students wrote at least one or two one-paragraph responses/compositions in a typical week and the percentage of days teachers reported on the teacher log that students composed text were positively associated with holistic scores on on-demand prompts for students in seventh- and eighth-grade ELA classes (Exhibit 4-8). Other teacher practices were not found to be associated with student writing performance.

Exhibit 4-8 presents the coefficients and their standard errors using each a teacher practice indicator to predict student scores on the holistic measure of writing prompts. The results indicate that, compared with teachers whose students wrote shorter responses, teachers whose students wrote at least one or two one-paragraph responses/compositions in a typical week had students that scored 0.27 point higher on the holistic measure of writing prompts, which ranged from 1 to 6. Compared with teachers whose students were not

²⁶ Because of the lack of a pretest measure, we cannot associate teacher practices with student performance on writing prompts during the first and second years of implementation.

engaged in composing text, those whose students were engaged in composing text every day had student scores that were on average 0.23 point higher on the holistic measure of writing prompts.

Exhibit 4-8

Relationship between Teacher Practices and Holistic Score on Student Response to Writing Prompt (Coefficients and Standard Errors from HLM Models)

Teacher practice	Coefficient	Standard Error
Survey Measures		
Length - at least 1 or 2 one-paragraph responses/compositions	0.27*	0.12
Writing to learn	0.02	0.05
Class time on four key writing processes	0.05	0.03
Student engagement in writing processes	0.06	0.04
Log Measures		
Major goal - improving skills in writing processes	-0.06	0.10
Length - at least 1 or 2 one-paragraph responses/compositions	0.13	0.12
Collaborative writing activities	0.20	0.13
Brainstorming or organizing ideas	0.12	0.12
Composing text	0.23*	0.12
Revising text	0.09	0.11
Editing Text	0.05	0.10

Source: 2007–08 and 2010–11 on-demand writing prompts; 2007–08 and 2010–11 teacher survey; 2007–08 and 2010–11 teacher log.

** $p < 0.05$*

Combining the results of the relationship between the duration of partnership professional development and teacher practices and the relationship between teacher practices and student writing, we found that the length of writing was related to the duration of partnership professional development as well as student writing outcomes, and thus likely to be a mediator of partnership professional development's relationship to/influence on student writing. Although composing text was related to student writing outcomes, we did not investigate its relationship with the duration of partnership professional development because of the small sample size for log data.

Qualitative Results

To better understand the outcomes associated with partnership professional development, we used purposive sampling to select teachers for interviews who were most likely to enable us to test emerging hypotheses. The sampling plan varied slightly from year to year, depending on the focus of data collection (e.g., teachers who had higher levels of participation).²⁷ Because our sample was purposive and not representative, our data do not enable us to reliably quantify the prevalence of particular patterns in the data. However, they can illuminate quantitative findings and provide insights into reported outcomes that were not measured quantitatively. Several findings emerged as we analyzed interview data across the partnership schools.

Teachers in partnership schools reported that partnership professional development led them to attempt new instructional strategies and improved student outcomes.

As the preceding chapter reported, the content of partnership professional development varied and, as a result of that variation, the strategies teachers reported adopting varied both across partnership schools and within them. Sometimes, the structure of the partnership professional development meant that the content of the professional development that teachers received varied. One such format was teacher inquiry, in which teachers studied a topic of their own choice. The format led to variation when the partnership plan included a workshop series covering different topics and teachers could attend the workshops they found most interesting.

Additionally, the interview data show that teachers brought their own interests and needs into the professional development events, and these factors, along with their teaching assignments, acted as a filter for what teachers took away from the partnership work. In one partnership school, for example, a science teacher noted that the professional development focused a lot on free writing, creative writing, and journaling. She noted that the former two might have been useful for language arts teachers but were less relevant for science teachers; she also reported that when she attempted to implement journaling, she

²⁷ Although our initial sampling was designed to capture variation in teacher characteristics (e.g., ELA vs. non-ELA teacher) and participation (e.g., higher vs. lower participation) to explore factors related to teacher participation in professional development, our sampling in later years focused more on higher-level participants so we could understand their reports of participation and the ways in which professional development was and was not affecting their practices.

found it cumbersome because of the technical information she included in her responses to student journals. On the other hand, she cited several activities for building student vocabulary or scaffolding analyses that she learned in the professional development and had successfully implemented on multiple occasions in her class. In contrast, two of the language arts teachers we interviewed at the same school reported benefits from doing journaling and creative writing more frequently as a result of the partnership professional development. This type of variation due to program design and teacher needs is central to the way Local Writing Project sites understand partnership work; on the other hand, the variation in reported teacher practices may diffuse the effects measured in our quantitative analyses.

Even given the variation across and within partnership schools, teachers reported two types of strategies as more common: writing-to-learn strategies and strategies to foster student engagement in writing. In interviews, teachers across all content areas (including ELA) reported implementing writing-to-learn activities, in which students wrote for a purpose beyond the improvement of writing skills. In the most common writing-to-learn activities, students wrote relatively short text designed to activate their knowledge prior to instruction (e.g., “quick writes”) or to encourage them to reflect during or after lessons (e.g., reflective journals, exit slips). Some teachers described these short writing assignments, which were focused on getting ideas down rather than completing a polished product, as “low-stakes” writing. They noted that giving students frequent opportunities to write without the pressure of completing a final product improved students’ comfort with writing. Additionally, without the pressure of needing to grade such products, teachers felt able to include such writing activities as a regular part of their routine, resulting in more frequent writing opportunities for students.

In some partnership schools, teachers who participated in professional development also reported taking away strategies to improve student engagement with writing, which teachers then reported led some students to generate more text as they became more comfortable with and interested in writing. One common strategy teachers reported was giving students more choice in their writing. In one school, both the principal and a teacher told us about a parent who wrote a letter to the superintendent describing the increase in his son’s interest in writing. The parent reported that previously his son would spend 15 minutes of journaling time writing, “I hate to write” over and over again. Now the student likes to write. The teacher explained that she believed changes in her instruction were the root of this and other students’ increased engagement.

I think we're more comfortable. And the more comfortable the teachers are with the way it's delivered, and then writing is not something that's being done to the students. ... I also have some students who are so excited to be writing, they say, "... We want to write more!" I just think they want to write more, and so I think that has really changed. It can't be just the abstract, just, "You're going to write an expository essay that has nothing to do with anything." I think that has changed a ton. ... I give a lot of choice in the writing, and because I get excited about writing and I read to them from pieces, whether it's from Percy Jackson—there's some great lines from Percy Jackson that talk about the power of words, and the eighth graders are so egocentric that they know how words can hurt them. So I think that...what has made a big difference is that I've tried to tie [writing] into what they can get [deeply engaged in]. I quit trying to be a writing teacher and just made it more fun.

This teacher's response also exemplifies teachers' tying writing to other content—in this case, reading, but teachers from multiple content areas made similar reports—as another strategy acquired from partnership professional development for making writing more meaningful for students.

In addition to describing particular changes in their own practices, teachers reflected on how they believed the professional development affected their students and what aspects of the professional development led to these benefits. As reported in the preceding chapter, although some partnership professional development covered writing processes (e.g., pre-writing, composing, revising, editing), the activities presented most often focused on pre-writing. Although it was a less common focus, teacher interviews suggest that in at least five partnership schools, student collaboration around writing—particularly peer editing—also increased because of partnership professional development. Finally, along with improving student comfort and engagement with writing and building students' abilities to collaborate on writing, teacher interviews suggest that, in a few partnership schools, teacher assignments helped students express their own ideas through writing. As one teacher noted,

They still struggle with the things that aggravate us the most, like spelling and punctuation, but the content, the ideas that they come up with, just—sometimes I'm just so excited. But there might be three or four words spelled wrong in there, but what they have said, it just amazes me sometimes. Lots of times, well most all the

time, I connect their writing back to whatever we're reading, and when they come up with something that we have not talked about as a class or wasn't obvious in the book and they come up with this creative new way to think about it, that's my favorite part of teaching.

Comments like these give evidence that some teachers were able to provide students with more meaningful writing experiences than they had prior to the partnership professional development. Overall, however, relatively few teachers reported these types of changes. In addition to the variation in the level of teacher participation and the fact that not all of the professional development content would lead to these types of changes in instruction, interviews also suggested that teachers faced barriers to making substantial changes in their instruction.

Qualitative data suggest that school structures (e.g., time, curriculum) affected the prevalence of changes in teacher practice and the depth of changes that teachers attempted.

In interviews, teachers in partnership schools described barriers to partnership professional development's catalyzing greater changes in their practices. The most consistent barrier mentioned was limited teacher time—both time to devote to writing instruction and time to plan how to integrate new ideas into existing curriculum and instructional practices. The study did not set an expectation that schools or teachers would change the existing curriculum, instruction, and time use. However, qualitative data suggest that the effects of partnership professional development on teacher practice and student outcomes may be limited unless such changes are made. One teacher described how both her own limited planning time (she reported that the school provided no independent planning time for the 3 weeks preceding our visit), combined with requirements for using her ELA time to cover specific reading activities that administrators believed would improve student test scores, constrained her choices about what new ideas from the professional development to implement.

I'm dictated now to do certain reading activities [to] bring...the test scores up. I would love to use this new idea in the book [that we have been reading in our professional development], but I don't know when I could do it. [I would have to]...really rethink...and rework...everything [that] I already have planned. But some of [the ideas in the book] are easy—like entrance and exit tickets. Those are easy to do.

Considering the factors that inhibited teachers from making more substantial changes to their practices, we understand the appeal of writing-to-learn activities, which could be added to existing classroom routines or instructional units with relatively little effort. This is one possible explanation for why so much partnership professional development focused on writing to learn and why teachers were more likely to report implementing new writing-to-learn strategies than any other type of strategy covered in the professional development. Writing-to-learn activities can also be used across all disciplines, which was another advantage in cases in which participants had diverse teaching assignments. These positive attributes of writing-to-learn activities notwithstanding, the extent to which they dominated teachers' reports about changes in their practices also appears to be a symptom of constraints that inhibited teachers' implementation of activities that required more instructional time or more teacher time to plan deeper changes to instruction.

Conclusion

In this chapter, we tested the causal theory of the impact of partnership professional development on teacher and student outcomes in three stages by investigating the intent-to-treat effect of random assignment to form partnerships on teacher and student outcomes, the relationship between the duration of partnership professional development and teacher practices, and finally the relationship between teacher practices and student outcomes.

Random assignment to form partnerships affected teacher professional practices in some areas, such as teachers' perceptions of the influence of professional development, the frequency and length of student writing, and student collaboration in writing. These impacts were evident on survey and log items, as well as in qualitative data. The study, however, did not find evidence that assignment to form a partnership had an impact on writing to learn, the extent to which key writing processes are prevalent in partnership schools, or student writing outcomes.

Comparisons between partnership teachers who participated in a higher level of partnership professional development and teachers in delayed partnership schools reveal that the duration of participation in partnership professional development was positively related to all teacher practices we investigated, including length of student writing, writing to learn, the frequency with which students were engaged in writing processes, and the

frequency with which teachers taught in four key writing processes. Comparisons among partnership teachers who received higher and lower levels of partnership professional development reveal the same results on the teacher practice measures except for the writing-to-learn scale.

Across partnership and delayed partnership teachers, teacher reports of student engagement in at least one or two one-paragraph responses/compositions and the frequency with which students composed text was positively associated with holistic scores on writing prompts. Other teacher practices were not found to be associated with student achievement on writing prompts.

The results from the three-stage analyses suggest that although we found no impact of partnership participation on student outcomes, there is evidence of linkage between the duration of partnership professional development and teacher practices and then to student outcomes, thereby supporting the plausibility of the causal theory of how partnerships work to improve student writing. On the other hand, the majority of the teacher practices supported by the partnerships were not found to be significantly associated with student outcomes, suggesting that the focus of partnership professional development may not have aligned with the student outcomes that were measured in this study.

Chapter 5. Conclusion

The average American student does not write proficiently (Salahu-Din, Persky & Miller, 2008). The Common Core State Standards that have recently been adopted by 46 states aim to raise the bar for the quality of student writing, so the gap between national expectations and student performance is likely to increase unless current practices are changed. Studies suggest that typical writing instruction, which provides students few opportunities for engaging in composing and revising extended written text, is a root cause of students' underdeveloped writing skills (Applebee & Langer, 2011). Professional development for teachers focused on improving writing instruction, therefore, is a potentially promising strategy for changing teacher practices and improving student writing.

The field has reached consensus about the features of high-quality professional development. However, the research base is composed largely of correlational studies, and the outcomes measured are often self-reported changes in teacher practices (e.g., Desimone, 2009). Few randomized controlled trials or rigorous quasi-experiments have identified positive impacts of professional development on teacher practices and student outcomes (Yoon et al., 2007). A recent large-scale experiment on middle-school mathematics professional development found no effects on teacher practices or student achievement of 2 years of professional development that had features the field believes are characteristics of “effective” professional development (Garet et al., 2011). One exception to this general portrait of a weak research base on the efficacy of professional development is a randomized controlled trial conducted on an intervention implemented by a National Writing Project site in California (Kim et al., 2011; Olson et al., 2012).

We launched this study with the goal of using a randomized controlled trial design to estimate the impact of professional development offered by the National Writing Project, a highly regarded professional development provider. The first major finding of the experiment, however, was that it was difficult for the Local Writing Project sites to provide professional development to a large enough proportion of middle grades teachers at a

sufficient duration that could be expected to affect outcomes. And, while partnerships did increase the amount of writing professional development that teachers received, aggregate differences in teacher participation rates mask substantial variation in the depth and breadth of teacher participation in partnership professional development both within and across partnerships.

Why was it hard to get teachers to participate in free professional development that had features widely regarded as indicators of high quality? The core answer lies in what Cohen and Hill (2000) and Corcoran, Shields, and Zucker (1998) have described as a “non-system” of teacher development, which lacks the coherence necessary to incentivize large-scale participation in effective professional development. More specifically, the broader accountability and policy context—particularly whether and how states assess student writing in the middle grades—lowered the priority some schools and teachers placed on participation in partnership professional development, such that neither teachers nor their schools allocated sufficient time for most teachers to attend.

In addition, many Local Writing Project sites participating in the study had limited prior experience with school partnerships to draw on in planning and implementing partnership professional development. Working with a school as a partner is different from working with individual volunteers, the latter being much more typical of National Writing Project professional development. When working with a partner school, reaching beyond the most interested initial volunteers is critical. The desire for broad participation does not imply that professional development should be mandatory (and, in fact, requiring attendance might not be the most effective way to truly engage a critical mass of teachers). However, achieving broad participation does require that the professional development provider be able to identify strategies to motivate teacher participation. Many Local Writing Project sites had little experience with creating the necessary intrinsic or extrinsic incentives for participation. Although language arts teachers in many partnership schools participated in partnership professional development at high rates, no Local Writing Project sites in our study succeeded in motivating participation in a sufficient duration of professional development outside of ELA departments. Given the call for writing across the content areas in the new Common Core State Standards, this shortfall is noteworthy.

Finally, one potentially effective strategy for creating incentives in a professional development system is to offer professional development that is customized to local needs and is thus highly aligned with teachers’ contexts. The National Writing Project model includes this type of customization. Our data confirmed that content varied locally because

of a combination of the state and local policy context, efforts to adapt professional development to school contexts and teacher needs, schools' baseline practices, and Local Writing Projects' experience and expertise. Given such variation, the extent to which the professional development content was aligned with the specific teacher and student outcome measures used in the study also varied. This tension between the locally customized content as a strategy for improving professional development coherence and policymakers' interests in evaluating professional development effectiveness on a large scale is not unique to this evaluation. The issues described above all frame the interpretation of findings from the study.

Key Findings

We conducted a randomized controlled trial (RCT) because it is the best design for generating an unbiased estimate of the impact of a program. Estimates of the effects of professional development based on quasi-experiments, especially if the treatment group comprises volunteers, are likely to be subject to selection bias. In contrast, an RCT provides an unbiased estimate of the effectiveness of the intervention in the case where participants experience the conditions to which they are assigned with high fidelity. However, in the current study, because the intervention was not implemented at a level that met the study's definition of a school partnership, the RCT estimates the impact of assigning schools to form a partnership (instead of the effects of partnerships). To explore the effects of partnerships, we tested the causal theory of the impact of partnership professional development on teacher and student outcomes in three stages. First, we investigated the intent-to-treat effect of random assignment to form a partnership on teacher and student outcomes. Next, we examined the correlational relationship between the duration of partnership professional development and teacher practices. Finally, we explored the correlational relationship between teacher practices and student outcomes.

Through the intent-to-treat analysis, we found that random assignment to form a partnership appeared to affect teacher professional practices in some areas, such as teachers' perceptions of the influence of professional development, the frequency and length of student writing, and student collaboration in writing. However, there were no statistically significant differences in student outcomes between schools assigned to form a partnership and schools assigned to delay partnership formation.

Turning to correlational analyses, comparisons between teachers who participated in a higher level of partnership professional development and teachers in delayed partnership schools revealed that the intensity of partnership professional development is positively related to nearly all the teacher practices we investigated, including length of student writing, writing to learn, the frequency with which students were engaged in four key writing processes, and the frequency with which teachers taught writing processes. Comparisons among partnership teachers who received higher and lower levels of partnership professional development found a positive relationship between the duration of participation and all teacher-reported practices except use of writing-to-learn strategies.

Likewise, some teacher practices were associated with positive student outcomes. Across partnership and delayed partnership teachers, engaging students in at least one to two one-paragraph responses/compositions in a typical week and composing text were positively associated with holistic scores on student responses to on-demand writing prompts. Other teacher practices were not found to be associated with student achievement on writing prompts.

Implications

The performance of U.S. students suggests that schools and teachers will need ongoing support to enable students to develop strong writing skills. The Common Core State Standards bring a new focus to writing, but standards alone will not improve student learning (Loveless, 2012). Findings from this Brookings Institution report suggest the need for a concurrent focus on developing the knowledge and skills of educators to improve the quality of instruction that students experience. Professional development is a key strategy for improving instruction. Although this study did not find an impact of partnership participation on student writing, it did find that being assigned to form a partnership had some positive effects on teachers' instructional practices and positive associations between the intensity of partnership professional development and teacher practices. Furthermore, it found some positive associations between teacher practices and student outcomes. The results suggest that the causal theory may hold promise if teachers experience sufficient partnership professional development *and* if the partnership professional development focuses on the kinds of student writing that align with the outcome measures.

One of the main findings of the current study, however, is that merely offering an external partner with expertise in writing instruction and teacher professional development is insufficient for increasing the priority schools place on writing instruction and for promoting sufficient participation in professional development. As such, this study adds to the literature on professional development that has, for well over a decade, documented the importance of a coherent policy environment—one in which standards, curriculum, student assessments, and professional development all share a common focus—in encouraging teachers to participate in professional development and implement what they learn in their classrooms.

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Appendix A: Research Methods

SRI's National Evaluation of Writing Project School Partnerships followed an experimental design in which schools were randomly assigned either to form a partnership with their Local Writing Project site or to delay partnership formation until the study concluded in June 2011. The study followed the 20 “partnership schools” and 19 “delayed partnership schools” for 4 years: a baseline year (2007–08) followed by 3 years where Local Writing Project sites provided professional development to partnership schools (2008–09, 2009–10, and 2010–11). Details of the research design, including constructs to be examined, instrument development, and data collection and analysis plans, were presented in our Year 1 report (Gallagher et al., 2008). This appendix summarizes the data collection methods, response rates, and subsequent analyses.

The research design called for collecting comparable data (when applicable) from the partnership schools and delayed partnership schools so that we could estimate:

- The treatment/control contrast (i.e., any differences in duration and content of writing professional development in partnership compared with delayed partnership schools).
- Baseline equivalence of the experimental groups.
- The impact of assignment to form a partnership and of receiving partnership professional development on teacher and student outcomes.

Additionally, our design called for a data collection approach that would enable us to triangulate data across sources. For example, we measured writing professional development on the teacher survey (enabling us to compare self-reported quantitative data on writing professional development across partnership and delayed partnership schools),

Local Writing Project descriptions of the professional development provided (providing a more accurate count of partnership professional development hours per teacher and the providers' reports on the content of the professional development), and teacher interview data (including reflections on the quality and applicability of the writing professional development received). Having data from multiple sources increased our ability to describe implementation and impacts and our ability to interpret the results of our analyses.

The remainder of this appendix describes the Local Writing Project sites and schools sampled for the study, each instrument and its sample, and the analytic procedures used. We first describe the quantitative data collection followed by qualitative data collection.

Local Writing Project Site and School Samples

SRI began recruiting Local Writing Project sites and schools for the 4-year evaluation in spring 2007. The National Writing Project defined the population of Local Writing Project sites eligible for the study as those that had been in existence for at least 3 years and were not receiving technical assistance from the national office because of insufficient capacity. Of the 197 Local Writing Project sites in operation, 169 (or 87% of the sites) were considered eligible for the study. The National Writing Project sent site directors a link to an SRI survey assessing preliminary interest in participating in a randomized trial to study Local Writing Project partnership work with schools serving middle grades. SRI received responses to this survey from 168 Local Writing Project sites, with 124 of the sites indicating preliminary interest in participating.

In June 2007, SRI sent a second survey to these 124 Local Writing Project sites asking the sites to recruit two or four schools, which had to meet the following three eligibility requirements:

1. They served middle-grade (seventh- and eighth-grade) students.
2. They had “minimal or no prior experience” with the Local Writing Project site. More specifically, they could not have more than two teacher-consultants (teachers who had completed an Invitational Summer Institute, or ISI) on staff at the school, no administrators could have attended an ISI, and the school could not have received

more than 30 hours of Local Writing Project professional development over the preceding 2 years.²⁸

3. They were willing to be randomly assigned to either the treatment or control condition.

Thirty-two Local Writing Project sites recruited 98 schools that indicated a willingness to participate in the study and comply by study conditions. From those 32 Local Writing Project sites, SRI selected a stratified (by three geographic regions of the country) random sample of sites and randomly assigned pairs of schools to the treatment and control groups using a random-number generator in Excel. SRI visited each Local Writing Project site and school prior to the start of data collection to verify school eligibility, confirm understanding of the study, and train English language arts (ELA) teachers on reliable use of data collection instruments specific to them.

Some Local Writing Project sites and schools that were initially selected were determined through visits to be ineligible or withdrew prior to the start of data collection. In these cases, replacement Local Writing Project sites and/or schools were selected from the same geographic regions as the ineligible sites and schools and subsequently randomly assigned to experimental conditions. The final sample included 14 Local Writing Project sites that were geographically diverse and served communities that ranged from low-density rural areas to major metropolitan centers. (Gallagher et al., 2008, provides more details on this process.) Eight sites brought in a single pair of schools and six sites brought in two pairs, for a total of 40 schools.

In fall 2007, before data collection began, one delayed partnership school dropped out of the study because of concerns about data collection burden, leaving the study with 39 schools at the start of data collection (20 partnership schools and 19 delayed partnership schools). The school sample remained intact from the baseline year through first 2 years of implementation. Before the start of the third year of implementation, two partnership schools left the study, leaving a total of 18 partnership schools and 19 delayed partnership schools. While we collected data from all of these schools, we subsequently decided not to analyze the data from the delayed partnership schools in the two cases

²⁸ The ISI prepares teachers to become teacher-consultants—that is, to assume teacher leadership roles at the Local Writing Project site and in schools. A school that entered the study with more than two teacher-consultants might not be able to fully assume “control” status because those teachers might share Local Writing Project ideas in their schools.

where the paired partnership school attrited from the study. The data analyzed from the final year of the study, therefore, include only 18 partnership schools and 17 delayed partnership schools.

Quantitative Data Collection

In this section, we discuss the administration and analysis of five quantitative data collection instruments: teacher survey, teacher log, teacher assignments, student work associated with those assignments, and on-demand writing prompts. These instruments were identical for partnership and delayed partnership schools and were administered to comparable samples of teachers or students (depending on the instrument) in all schools in the study.

Samples and Instruments

We have two samples of teachers from whom we collected quantitative data: all instructional staff and seventh- and eighth-grade English Language Arts (ELA) teachers. Because Local Writing Project sites partnered with schools—as opposed to just the ELA departments of these schools—we wanted to collect some data from everyone who could potentially participate in or be affected by the partnership work. We collected teacher survey data from all certified staff in each school so that we could describe the professional development teachers across all disciplines received and the ways that it impacted their practices.

We also recognized that ELA teachers traditionally bear the greatest responsibility for teaching writing and, as a result, ELA teachers' instruction should be a focus of our data collection. We collected our most fine-grained data on instruction from seventh- and eighth-grade ELA teachers through our teacher log and teacher assignment protocols. Collecting data from every class seventh- and eighth grade class ELA teachers taught was beyond the scope of the study (and likely also beyond the burden level most teachers would have been willing to endure). As a result, we randomly sampled one class, which we called the “target class,” from among each seventh- and eighth-grade ELA teachers' classes. To be included in the sample selection process, the classes had to meet the following three criteria:

1. All students were in seventh and/or eighth grade.
2. No more than 30% of students had individualized education plans.
3. No more than 50% of students were exempt from state testing in English.

We also needed to identify a sample of students from whom to measure student writing through student work protocols and on-demand writing prompts. To reduce the burden on schools for data collection as well as the costs of data collection and preparation, we sampled student writing from within each teachers' target class.

The reliance on the target class for our most fine-grained analyses, as opposed to sampling across all classes each teacher taught likely introduced noise into the sample because students are often tracked in the middle grades. While this may have reduced the precision of our estimates, it did not introduce any biases because target classes and students within them were selected at random. We next describe each quantitative instrument in turn, discussing the constructs measured, sampling, and timing of data collection.

Teacher survey

We designed the teacher survey to provide a schoolwide look at how much and what types of writing students do across the content areas, teachers' attitudes and beliefs about writing, teachers' participation in writing professional development, teachers' perceptions of their professional community, teachers' understandings of their school context, and information about teachers' backgrounds.

The survey sample included all schools participating in the study each year (39 schools from the baseline through year 2 and 35 schools in the final year of the study). All Certified staff were surveyed, including anyone who held a credential that would enable them to provide instruction to students, including teachers, assistant principals, guidance counselors, instructional coaches, and some librarians. We did not include principals, support staff, or paraprofessionals in the survey sample, and the responses of noninstructional staff were removed from most analyses presented in the report. Teacher surveys were administered in the spring of each year of the study.

Teacher log

Teacher logs provide detailed information on English language arts (ELA) teachers' instructional practices. We designed the logs using methods piloted in an SRI evaluation conducted for the Bill and Melinda Gates Foundation (Mitchell et al., 2005) and patterned after logs developed by Rowan and colleagues (Rowan, Camburn, & Correnti, 2004). We asked teachers to complete teacher log booklets that called for reporting on 5 consecutive days of typical instruction (e.g., teachers excluded field trips and days in which students took standardized tests). The logs asked teachers to describe their learning goals for students, the purposes for which students engaged in writing, collaboration in writing, teachers' use of models to support student writing, and the amount of time students spent engaged in different aspects of the writing process. We instructed teachers to complete the log at the conclusion of the class period described, or later in the same day if immediate completion was infeasible, so that teachers could reliably recall their instruction and student work.

We collected instructional logs from seventh- and eighth-grade ELA teachers. To mitigate the effects on our estimates of instructional differentiation for students at different performance levels, we asked teachers to focus on a single student from one of four performance levels for all but two questions in the log booklet. (Teachers chose which student within the specified achievement quartile to report on for the 5-day period.) In the baseline year (2007–08), the performance levels were balanced within teacher (i.e., teachers were assigned a different quartile for each booklet); in subsequent years, they were balanced within school (i.e. to the extent mathematically possible, all four quartiles were equally represented in each school's sample).

In the baseline year, we administered the teacher log booklets to teachers four times, once per quarter, for a total of 20 days of logs. In subsequent years, we administered two log booklets per year, in fall and spring, for a total of 10 days of logs. At each administration, teachers had a 2-week window in which to complete the log, determined by the school calendar.

Teacher assignments

Teacher assignments provide us with a lens into how teachers organize opportunities for students to learn how to write. We asked teachers to select assignments that they considered to be their “best opportunity to teach and assess student writing skills during this grading period.” With each assignment, teachers also submitted a cover sheet that provided a description of the assignment, its goals, and the instructional context. As described in the section below on scoring, assignments were coded for teacher-reported learning goals (i.e., higher-level rhetorical concerns and decisions, issues of structure, issues of conventions, and issues of writing processes), evidence of teacher-reported goals in assignments, and for the extent to which the assignments called for students to construct knowledge as opposed to reproducing information (for expository assignments only).

Teacher assignments were collected from the target class of each seventh- and eighth-grade teacher. During the baseline year (2007–08) and the second and third years of implementation (2009–10 and 2010–11), we solicited four assignments from seventh- and eighth-grade ELA teachers’ target classes. The assignments and cover sheets were cleaned of any identifying information in preparation for scoring.

Student work

To measure the extent to which students used best writing practices in their class work, we collected student work in response to the teacher assignments described above. Using the process described in the section below on scoring, assignments were coded for overall quality, evidence of construction of knowledge (for expository writing only), and writing development (i.e., main ideas are supported and support is cohesive).

Student work was collected from the target class of each seventh- and eighth-grade ELA teacher. We randomly sampled 10 students from class rosters we collected at the start of each year. For each student, we asked teachers to submit the student work that was completed in response to the second and fourth quarter assignments that teachers submitted. We asked that student work represent the work of individual students, as opposed to a group product. SRI collected student work during the baseline year (2007–08) and the second and third years of implementation (2009–10 and 2010–11). The student work was cleaned of any identifying information in preparation for scoring.

On-demand writing prompts

Writing prompts are a standardized measure of student writing proficiency. Our analysis of student responses to on-demand prompts capitalized on the recent efforts of NWP to develop the scoring rubrics and scoring methods and apply them to their own field research. We selected four matched pairs of writing prompts from the National Writing Project library of writing prompts, which we customized for the evaluation to remove references to locality and time of year. The National Writing Prompt library includes prompts from across English-speaking countries (including released items from state and district assessments).

The prompts were matched into pairs such that students received the same type of prompt in the fall and spring. For example, if a student received a prompt to write an expository persuasive letter in the fall, she would receive a prompt to write an expository persuasive letter in the spring as well. In the fall, teachers were instructed to randomly distribute the four prompts across the students in the class as evenly as possible, making note of which student had which prompt. Depending on which prompt students received in the fall, we assigned students to matching prompts for the spring administration. We provided teachers with extra spring prompts to distribute to any new students who joined the class after the fall writing prompt administration. Using the process described below, prompts were scored on a holistic measure of writing quality as well as six individual measures of writing attributes (content, structure, stance, sentence fluency, diction, and conventions).

We selected a stratified random sample of eight fall/spring pairs of prompts from each target class, stratified to obtain two of each prompt pair per classroom. If a classroom did not yield enough matched prompt sets to get two complete sets for each prompt pair, we selected whatever completed matched prompt sets were available. Across experimental conditions, we tried to even out the distribution, such that, to the extent possible, we had equal numbers of prompt types across partnership and delayed partnership schools. This sampling method necessarily excluded students who left or joined the target class between the fall and spring prompt administrations.

The prompts were cleaned of any identifying information in preparation for scoring. We analyzed prompts collected in the fall and spring of the baseline (2007–08) and final years of implementation (2010–11) and in the spring of the first and second years of implementation (2008–09 and 2009–10).

Data Collection and Response Rates

Collecting this amount of data requires carefully-designed data management systems, on-site support, and incentives. Our data collection strategy included local support for each school, monetary incentives for the teachers who faced the highest data collection burden, and training for seventh- and eighth-grade ELA teachers.

Each Local Writing Project site had a Local Site Coordinator (LSC) to support data collection at partnership and delayed partnership schools. LSCs were selected by the Local Writing Project site and approved by SRI researchers and paid a stipend of \$3000 per year. The job description for an LSC had the following requirements: the LSC could not present or participate in any partnership professional development, could not be on the staff of any participating school, and could not discuss the progress of data collection with the site director or professional development provider. LSC responsibilities included helping the research team to obtain school rosters, facilitating survey administration, and following up with teachers who were late in submitting data. LSCs also met regularly with SRI researchers to strategize about how best to support teachers in timely submission of data.

As an incentive to participate in the data collection activities, the seventh- and eighth-grade ELA teachers received a stipend of up to \$550 per year; the amount was prorated depending on the amount of data that they returned. Additionally, coordinators at each school (often school secretaries) received gift cards for supporting survey administration. Teachers did not receive any incentives for completing the survey.

In the baseline year of the study, SRI researchers conducted training for all seventh- and eighth-grade ELA teachers on the teacher log, teacher assignment, student work, and on-demand writing prompts. The training, which was conducted at each school as part of the initial site visit, covered specific directions for completing the forms and returning them to SRI. In subsequent years, the LSCs conducted a similar training for any new seventh- and eighth-grade ELA teachers.

The administration strategy was generally successful. We obtained response rates above 80% (and generally above 90%) for all instruments in all years (Exhibit A-1).

Exhibit A-1

Response Rates for Quantitative Instruments by Year

	Baseline (2007–08)	Year 1 of Implementation (2008–09)	Year 2 of Implementation (2009–10)	Year 3 of Implementation (2010–11)
Teacher survey	90%	88%	94%	88%
Teacher logs	90%	97%	93%	91%
Teacher assignments	89%	n/a	91%	90%
Student work	99%	n/a	93%	82%
On-demand writing prompts	96%	99%	96%	94%

Establishing the reliability of the teacher log

To establish the reliability of the teacher log, pairs of researchers observed classes of seventh- and eighth-grade ELA teachers.²⁹ At the start of each observation, the researchers asked the teacher to identify a student whom they would all observe as the focal student for the class period. At the conclusion of the period, each researcher and the teacher independently completed a teacher log. Either immediately after the observation or later in the day, the researchers met with the teacher to collect the teacher’s version of the completed log and to compare the teacher’s responses to log questions with their own. Teachers were queried about any discrepancies so that the research team could better understand differences in interpretation.

The scores of researchers and teachers were subsequently analyzed to compare the reliability of scores among the three possible pairs completing the form during each lesson: researcher A and the teacher; researcher B and the teacher; and researcher A and researcher B. Over the course of the study, researchers analyzed log reliability from 77 pairs of teacher-researcher observations and 36 pairs of researcher-researcher observations. Where the log called for dichotomous ratings (e.g., the presence or absence of some aspect of instruction), the analysis was based on perfect agreement; where the log included an ordinal scale (e.g., not a goal, minor goal, major goal), the first step in the

²⁹ A few classes were observed by only one researcher instead of a pair of researchers.

analysis was to dichotomize the scale (e.g., major goal, not a major goal), followed by a check for perfect agreement. Exhibit A-2 presents the rates of agreement for teacher-researcher and researcher-researcher pairs for log measures included in the outcomes analysis. The overall rates of agreement were high (80% for teacher-researcher agreement and 86% researcher-researcher agreement). Importantly, the rates of teacher-researcher and researcher-researcher agreement were generally comparable, which indicates that teacher reports on the log were relatively similar to the reports we would have obtained through researcher observations of instruction. At the same time, rates of agreement varied from item to item and from the two types of agreement, ranging from 61 to 97 percent. With few exceptions, agreement between the trained researchers was higher than the agreement between teachers and researchers.

Exhibit A-2 Overall Rates of Agreement for Teacher Log

Measure	Teacher-Researcher Agreement (77 Pairs)	Researcher-Researcher Agreement (36 pairs)
Major goal of instruction: improving writing skills	77%	75%
Students engaged in any writing activity	96%	94%
Length of text students are producing	61%	72%
Purposes for writing		
ELA-oriented genre ^a	81%	84%
Content-oriented genre ^b	79%	88%
Students Involved in Collaborative Writing Activities	86%	89%
Feedback on Writing	91%	95%
Students engaged in specific writing activities		
Brainstorming or organizing ideas	66%	75%
Composing text	91%	92%
Revising text	82%	97%
Editing text	74%	89%
Overall	80%	86%

^aELA-oriented genre items: To express himself or herself creatively (e.g., a poem, story, or play); To recount a story or event through narrative; To make an argument intended to persuade others; To gain practice with writing mechanics within students' own writing; To gain practice with particular forms of writing (e.g., letter writing); To gain practice with forms of writing encountered on standardized tests.

^bContent-oriented genre items: To monitor or keep track of learning (e.g., learning logs, journaling, but not copying from the textbook or board); To reflect on an experience or topic (e.g., journaling); To describe a thing, place, process, or procedure (e.g., an essay, lab report, or descriptive response); To explain or analyze a concept, process, or relationship (e.g., compare/contrast, problem/solution).

There was relatively low agreement with respect to the length of text students were producing (61% for teacher-researcher pairs and 72% for researcher-researcher pairs) and students engaged in brainstorming or organizing ideas (66% for teacher-researcher pairs and 75% for researcher-researcher pairs). These two measures have the potential for significant measurement error, both because there are low overall levels of agreement and because there is a large gap between researchers' and teachers' interpretations of these items. It is noteworthy that, especially for the item on length of writing, the teachers had access to additional data that the researchers did not have—namely the actual documents students produced. As a result, this may be more suggestive of the limits of our observation protocol as opposed to teacher error in reporting. Nonetheless, the results using these two measures as outcomes should be interpreted with caution.

Scoring artifacts of instruction and assessments of writing

The evaluation had three data collection activities—teacher assignments, student work, and on-demand writing prompts—that produced artifacts that needed to be scored for analysis. For each instrument, the general process for scoring included recruiting scorers, training scorers, conducting scoring sessions, and establishing interrater reliability. Because the teacher assignments and student work were scored using a similar process, we describe these data collection activities together, followed by a description of the scoring of on-demand writing prompts.

Teacher assignments and student work

After each year of teacher assignment and student work collection, a 3- to 5-day scoring session was held at SRI International (Menlo Park) during the first week of August. Exhibit A-3 shows which artifacts of instruction were scored each summer.

Exhibit A-3

Timing of Scoring for Teacher Assignments and Student Work

Timing	Instruments Scored
Summer 2008	Baseline teacher assignments
Summer 2009	Baseline student work
Summer 2010	Teacher assignments from Year 2 of implementation (2009–10)
Summer 2011	Teacher assignments from Year 3 of implementation (2010–11); Student work from Years 2 and 3 of implementation (2009–10 and 2010–11)

Recruiting scorers. Active middle-school English language arts teachers with previous experience in rubric-based coding of student writing were recruited as scorers. All teachers came from the San Francisco Bay Area to save on travel costs. The National Writing Project network was tapped to nominate some of the potential scorers, but SRI researchers recruited some scorers with no connections to the National Writing Project.

Training scorers. The scoring of teacher assignments and student work from the baseline year was co-led by Dr. Carmen Manning (University of Wisconsin–Eau Claire) and Dr. David Jolliffe (University of Arkansas). In subsequent years, Dr. Manning led the training by herself. SRI researchers provided support. Twelve to 32 scorers attended each scoring session, depending on the amount of scoring required. Several scorers participated in more than one scoring session. During the largest scoring session (summer 2011), there were 32 scorers and 3 table leaders. The table leaders were selected on the basis of their experience and expertise in using the scoring system.

Conducting scoring sessions. Each of the scoring sessions began with an overview of different aspects of the study—its purpose, design, and the role of the teacher assignment or student work data collection and analysis in the evaluation. Trainers reminded scorers that they were not evaluating the teachers participating in the study but instead were coding the teacher assignments and student work for characteristics important to the study. Trainers emphasized to scorers the importance of applying the rubrics according to how they were trained rather than how they thought the rubric ought to be applied. Each rubric criterion was then addressed separately. To reach consensus on the reliable application of the rubric, approximately 90 minutes was dedicated to understanding and training on each criterion, using purposively selected sets of anchor and practice papers from the pool of available assignments and student work. For each criterion (three for

teacher assignments and four for student work), trainers selected a different set of anchor papers specifically to highlight various aspects of each scale point on the rubric. Once the trainers were confident that all scorers were scoring the practice papers reliably, the actual scoring process for that criterion began.

For the actual scoring, we batched randomly selected teacher assignments (or student work) into sets, each containing an equal number of papers. The sets of assignments (or student work) were then randomly assigned to each of the scorers (up to 12 papers for teacher assignments, up to 32 for student work). Trainers and table leaders were available throughout the scoring session to answer scorer questions about the rubrics and to provide assistance in determining an appropriate score for a particular assignment or student work sample when asked. In these instances, the final score given to an assignment was the responsibility of the table leader or trainer. If a scorer felt that a particular assignment or student work paper could not be assigned a score because it lacked sufficient information, the scorer notified the table leader or lead trainer, who then reviewed the assignment with the scorer and decided its scoreability. For both teacher assignments and student work, it took approximately 1.5 to 2.5 hours to score all papers on a single scoring criterion.

Establishing interrater reliability. Across the 3 years of collection of teacher assignments, a total of 1,628 teacher assignments were scored, with 20% randomly selected to be double scored to assess the reliability of the coding process. To assess for possible drift in the scoring process across years, 13% of papers scored in a previous year were rescored during the 2010 and 2011 scoring sessions. In addition to the scoring of teacher assignments, a total of 4,219 pieces of student work were scored, and 367 (9%) of those were double scored to assess the reliability of the coding process. Another 7% of the papers from the baseline year were rescored to assess the extent of temporal drift in the scoring process.

Scorer agreement rates were computed for each of the criteria scored. For Criterion 1 on the teacher assignment rubric, alignment of intended writing goals with goals manifested in the assignment task, agreement rates were computed for (1) individual dichotomous items used to identify the presence of specific individual goals evident in teachers' reported goals and (2) a 4-point Likert item that required scorers to assess the extent to which a teacher's stated goals were manifested in the assignment. The agreement rates for Criterion 1 are shown in Exhibits A-3 and A-4, respectively. For multi-point rubrics, agreement rates are shown below for both perfect agreement and agreement within 1 scale

point. The latter is the standard way of reporting agreement rates for coding rubrics of this type.

In Exhibit A-4, the agreement rates for the dichotomous items were computed for the coding of the presence of each specific goal—rhetorical decisions, structure, conventions, and process. Overall agreement rates, which include agreements when both scorers indicated or did not indicate the presence of a goal, ranged from 72% to 88%.

Exhibit A-4

Agreement Rates for the Coding of Teacher-Reported Writing Goals on Assignments

	Overall Agreement
Rhetorical decisions	72%
(agreements/total possible agreements)	(221/309)
Structure	77%
(agreements/total possible agreements)	(238/309)
Conventions	88%
(agreements/total possible agreements)	(271/309)
Process	81%
(agreements/total possible agreements)	(249/309)

Note: These are dichotomous data. Scorers were instructed to check all the types of goals that were evident in teacher-reported goals submitted with the assignments.

Exhibit A-5 shows the agreement rates for the 5-point Likert item that asked scorers to assess the alignment between teachers' intended goals and the goals manifested in the assignments. The agreement rates for perfect agreement and agreement within 1 scale point were 49% and 81%, respectively.

Exhibit A-5

Agreement Rates for Clarity of Learning Goals for Writing Assignments

	Perfect Agreement	Agreement within 1 Scale Point
Agreement rates	49%	81%
(agreements/total possible agreements)	(148/302)	(245/302)

Note: 5-point Likert scale with 0 representing papers that did not include enough information for scorers to provide a judgment.

The agreement rates for Criterion 2, construction of knowledge for expository assignments, a 5-point Likert item, are presented in Exhibit A-6. The agreement rates for perfect agreement and agreement within 1 scale point were 46% and 89%, respectively.

Exhibit A-6

Agreement Rates for Construction of Knowledge for Expository Assignments

	Perfect Agreement	Agreement within 1 Scale Point
Agreement Rates	46%	89%
(agreements/total possible agreements)	(120/262)	(232/262)

Note: 5-point Likert scale with 0 representing papers that did not include enough information for scorers to provide a judgment.

Turning to the student work, agreement rates for Criterion 1, a holistic writing rubric, are shown in Exhibit A-7 for a 7-point Likert scale. The agreement rates for perfect agreement and agreement within 1 scale point were 46% and 90%, respectively.

Exhibit A-7

Agreement Rates for the Scoring of Student Work, Holistic Rubric

	Perfect Agreement	Agreement within 1 Scale Point
Agreement Rates	46%	90%
(agreements/total possible agreements)	(164/354)	(320/354)

Note: 7-point rubric with 0 representing papers that did not include enough information for scorers to provide a judgment.

The agreement rates for Criterion 2 (construction of knowledge) and Criterion 3 (development of expository writing), both 5-point Likert scales, are shown in Exhibits A-8 and A-9. For Criterion 2, the agreement rates for perfect agreement and agreement within 1 scale point were 53% and 89%, respectively.

Exhibit A-8

Agreement Rates for the Scoring of Student Work, Construction of Knowledge Rubric

	Perfect Agreement	Agreement within 1 Scale Point
Agreement Rates	53%	89%
(agreements/total possible agreements)	(155/292)	(260/292)

Note: 5-point Likert Scale with 0 representing papers that did not include enough information for scorers to provide a judgment.

For Criterion 3 (development of expository writing), the agreement rates for perfect agreement and agreement within 1 scale point were 46% and 90%, respectively.

Exhibit A-9

Agreement Rates for the Scoring of Student Work, Development of Expository Writing Rubric

	Perfect Agreement	Agreement within 1 Scale Point
Agreement Rates	49%	86%
(agreements/total possible agreements)	(179/367)	(315/367)

Note: 5-point Likert Scale with 0 representing papers that did not include enough information for scorers to provide a judgment.

On-demand writing prompts

After the conclusion of all data collection (in summer 2011), the study convened a 5-day scoring session using a framework and process developed by the National Writing Project (Buchanan et al., 2006). The National Writing Project led the scoring session, monitored by a senior member of the SRI research team. Scorers applied the NWP Analytic Writing Continuum for assessing six different attributes of student writing—content, structure, stance, sentence fluency, diction, and conventions—and a holistic writing rubric for judging overall quality of the writing.

Recruiting scorers. SRI recruited ELA teachers with help from the National Writing Project in nominating teachers. Scorers were recruited from across the country for a scoring event in Chicago. Approximately half of the scorers had prior experience participating in a scoring session using the NWP scoring system.

Training scorers. The scoring of student responses to on-demand writing prompts was led by leaders from the National Writing Project network: Cheryl Foster, Dr. Kimberly Patterson, Mary-Ann Smith, Dr. Barbara Storms, and Dr. Sherry Swain. During the first 2 days of the scoring session, 18 table leaders with prior experience using the NWP-developed scoring system reviewed the scoring rubrics and were introduced to the set of training papers (selected from the sample of papers to be scored). The logistics of the training process also were discussed. During the following 1.5 days of the session, two experienced room leaders led the training of 100 scorers, with support from the 18 table leaders. The training focused on the interpretation and application of the scoring rubrics, and scorers had extended time to practice scoring sample papers selected by the trainer prior to the actual scoring.

Conducting the scoring session. All student responses to writing prompts collected from the six different prompt administrations across the 4-year study were scored during the summer 2011 scoring session. A total of 5,433 student writing samples from approximately 3,700 students were scored; 17% of the papers were double scored. For the actual scoring, writing samples from the different research sites were randomly distributed across the scoring tables and all identifying information removed. Scorers were “blind” to the home district and school of each paper, the school’s experimental condition, and the timing of prompt administration. Scorers were trained until they were calibrated to a criterion level of agreement assessed by the room leaders. Following every major break (e.g., overnight, after meals), all scorers were recalibrated using practice sample papers before operational scoring resumed. Table leaders “read behind” scorers at their tables during the actual scoring session, monitoring individual scorers’ application of the rubrics and consulting with or retraining scorers when warranted.

Establishment of interrater reliability. Reliability of the prompt scoring was assessed separately for each writing attribute measure in the NWP Analytic Writing Continuum, as well as the holistic writing measure. Each of the measures used a 6-point scale. Approximately 17% of the papers within each of four data collection years were randomly selected to be double scored. Exhibit A-10 shows the agreement rates for perfect agreement and agreement within 1 scale point for each measure. The rates for perfect

agreement ranged from 42% (stance and conventions) to 50% (holistic); the rates for agreement within 1 scale point ranged from 89% (stance) to 93% (holistic).

Exhibit A-10

Agreement Rates for the Scoring of Student Writing Prompt Papers

	Perfect Agreement	Agreement within 1 Scale Point
Holistic	50%	93%
(agreements/total possible agreements)	(543/1081)	(1003/1081)
Content	48%	91%
(agreements/total possible agreements)	(521/1081)	(989/1081)
Structure	47%	91%
(agreements/total possible agreements)	(506/1081)	(985/1081)
Stance	42%	89%
(agreements/total possible agreements)	(451/1081)	(957/1081)
Sentence fluency	45%	90%
(agreements/total possible agreements)	(488/1081)	(976/1081)
Diction	45%	92%
(agreements/total possible agreements)	(484/1081)	(990/1081)
Conventions	42%	90%
(agreements/total possible agreements)	(460/1081)	(978/1081)

Data preparation and descriptive analysis

After receiving surveys and teacher logs from teachers, we stripped them of identifying information (other than alphanumeric ID codes) and scanned them electronically. The scanning process captured an image that SRI stored on a secure server, backed up by the original paper file. Data from all surveys and logs were compiled into a data file with a unique identifier for each individual linked to his or her school.

Because the teacher assignments, student work, and on-demand writing prompts were coded by scorers, SRI used processes that enabled us to preserve teachers' and students' anonymity throughout the scoring process. For the teacher assignments and student work scoring, scores were captured on scannable forms that contained teachers' alphanumeric

IDs as well as the scorer's individualized ID number. The prompts were scored using a similar process, which was facilitated by the NWP team and monitored by SRI. SRI prepared the sampled prompts for the NWP by creating a second ID system, specified by the NWP, and created a cross-walk file that linked the SRI ID to the NWP ID. At the scoring event, scores were recorded using scanners and barcodes. After the scoring event, the NWP transferred their data files to the SRI team for analysis.

In determining the sample of schools to be included in the descriptive analyses, we made a distinction between partnership implementation and outcomes. In examining implementation, we included all schools that were in the sample in the final year of the study (35 of 39 total schools) in estimating parameters for each year. By excluding the two pairs of schools that would ultimately attrit from the study, we are able to present implementation data for a consistent sample so that trends over time would be evident. Because the outcomes variables would be used in an intent-to-treat analysis, which requires inclusion of the full sample of schools participating each year, we conducted descriptive analyses of outcome variables using 39 schools for baseline through year 2 and the 35 available schools for year 3.

The first analytic step was to run descriptive statistics on items for partnership and delayed partnership schools. In addition, we conducted factor analysis and reliability analysis to develop scales that are more reliable as measures of constructs than individual items typically would be. Exhibit A-11 shows the scales formed from each instrument.

Exhibit A-11

Data Sources for Scales Created

Data Source	Scales
Teacher survey	Staff members' own writing practices
	The variety of ELA-oriented genres that students use in class writing
	The variety of other content-oriented genres that students use in class writing
	Class time devoted to four key writing processes
	Student engagement with writing processes
Teacher log	Writing to learn (2010–11 survey only)
	The variety of ELA-oriented genres that students use in class writing
Teacher assignment	The variety of other content-oriented genres that students use in class writing
	Writing goals
	Alignment between intended writing goals and goals manifested in assignment tasks
Student work	Opportunity to construct knowledge (expository writing)
	Overall quality of student writing (holistic)
	Construction of knowledge (expository writing)
	Development of writing

Next, analyses were conducted to compare partnership and delayed partnership schools on the survey, log, writing prompt, teacher assignment, and student work measures. Due to the nested nature of the data (e.g., teachers nested within schools, days nested within teacher for logs), we used hierarchical modeling to test the differences between partnership and delayed partnership schools. We used a standard hierarchical linear model for continuous variables and a hierarchical model with logit link function for dichotomous variables (e.g., variables with “yes” and “no” answers or Likert or other scales that were collapsed into two categories).

To take the nested nature of data into consideration and to be consistent with the testing of differences described above, we also applied hierarchical modeling to estimate the values or proportions of the survey, log, writing prompt, teacher assignment and student work measures. We posited a simple hierarchical model for partnership and delayed partnership schools separately with each survey item or factor as the outcome with no predictors. The estimated intercept represents the estimated value on the survey item or factor of the partnership or delayed partnership schools taking the nesting of teachers within schools into consideration. For dichotomous items, the intercept from the logit link function is in logits, which is transformed to a proportion for interpretation.

Intent-to-treat analyses: The impact of being randomly assigned to partnerships

The purpose of implementing a randomized controlled trial is to generate an unbiased estimate of the impact of an intervention on specific outcomes. By including all schools randomly assigned to the treatment and control groups in the analysis, an intent-to-treat analysis provides an unbiased estimate of the effects of random assignment on the outcomes of interest (regardless of the level of implementation of the intervention). If implementation fidelity is high, the intent-to-treat analysis also provides an unbiased estimate of the impact of the intervention.

Teacher survey

Because of the nested nature of the data (e.g., teachers nested within schools), we applied hierarchical modeling to test whether assignment to the partnership condition had an impact on teacher outcomes. For each outcome indicator, a two-level hierarchical model with teacher and school levels was posited, with the outcome at the teacher level and partnership identification as a predictor at the school level. We made adjustments for the school average of the outcome indicator at baseline and for being an ELA teacher if non-ELA teachers were also included in the analysis. The coefficient of the partnership identification indicates the effect of partnership on the teacher outcome. For a particular year (first, second, or third year of implementation), a hierarchical linear model was posited for continuous variables, and a hierarchical model with logit link function was used for dichotomous variables with “yes” and “no” answers. The general model is:

$$Outcome = b_0 + b_1 Partnership + b_2 \overline{Baseline Outcome} + b_3 ELA + e + r$$

The line above the words “baseline outcomes” (and similar lines above words in subsequent models) indicates the mean, in this case the school-level average of the baseline outcomes. The terms e and r are random error terms at the teacher and school levels, respectively.

Teacher log

For a particular year (first, second, or third year of implementation) and for each outcome indicator, a three-level hierarchical model with log instance (e.g., Day 1, Day 2...), teacher, and school levels was posited, with the outcome at the log level and partnership identification as a predictor at the school level, adjusting for the school average of the outcome indicator at baseline. The general model is:

$$Outcome = b_0 + b_1 Condition + b_2 \overline{Baseline Outcome} + e + r + u$$

The terms e , r , and u are random error terms at the log, teacher, and school levels, respectively.

Teacher assignment

For a particular year (second or third year of implementation) and for each teacher assignment indicator (e.g., Quarter 1, Quarter 2...), a three-level hierarchical model with teacher assignment, teacher, and school levels was posited, with the outcome at the log level and partnership identification as a predictor at the school level, adjusting for the school average of the outcome indicator at baseline. The general model is:

$$Score = b_0 + b_1 Partnership + b_2 \overline{Baseline} + e + r + u$$

The terms e , r , and u are random error terms at the teacher assignment, teacher, and school levels, respectively.

Student work

For student work we use a single school baseline (all student work scores for that school, as we do not distinguish student work data produced earlier versus later in the school year). Presumably, the spring scores would be higher than the fall scores, but when we ran the student work models using spring scores only as an outcome, we saw no difference in overall effects. We therefore included both spring and fall scores to increase precision of the estimated impact. For a particular year (second or third year of implementation), the general model is:

$$Score = b_0 + b_1 Partnership + b_2 \overline{Baseline} + e + r + u + q$$

The terms e , u , r , and q are random error terms at the student work, teacher assignment, teacher, and school levels, respectively.

On-demand writing prompts

The raw scores of the writing prompt papers were modeled by using a hierarchical linear model to account for clustering at the teacher and school levels. Each rubric score was modeled separately, as well as each of the 4 years and each of the two grades (seventh and eighth). The basic model for the writing prompts is:

$$Score_{ijk} = b_0 + b_1 Condition_k + b_2 \overline{Baseline_Fall}_k + b_3 \overline{Baseline_Spring}_k + e_{ijk} + r_{jk} + u_k$$

where i indexes a student, j a teacher, and k a school.

$Condition_k$ is a 0/1 indicator of experimental condition for school k . $\overline{Baseline_Fall}_k$ and $\overline{Baseline_Spring}_k$ are the school mean scores in the baseline year for school k . The terms e , r , and u are random error terms at the student, teacher, and school levels, respectively.

The estimate of b_1 was taken as the experimental effect for a given year. These were converted to effect sizes by dividing by the pooled standard deviation of scores for that year, and the results were tabulated by rubric score, year, and grade level.

Correlational analyses: The relationship between participation in partnership professional development and teacher practices

For this analysis, we first compared teacher practices reported in surveys for teachers who received either 90 or more hours or 60 or more hours of partnership professional development during the 3 years of partnership implementation with those for all teachers in the comparison group, adjusting for ELA teacher status and school average baseline teacher practices. A hierarchical linear model was posited for continuous variables, and a hierarchical model with logit link function was used for dichotomous variables with “yes” and “no” answers. The general model is:

$$Outcome = b_0 + b_1Partnership + b_2\overline{Baseline Outcome} + b_3ELA + e + r$$

The terms e and r are random error terms at the teacher and school levels, respectively.

In addition, we conducted propensity score matching to match teachers with either 90 or more hours or 60 or more hours of partnership professional development with teachers in delayed partnership schools and further compared outcomes between teachers with either 90 or more hours or 60 or more hours of partnership professional development and their respective matched comparison teachers. The advantage of using propensity score matching is that we can match teachers on an extensive list of factors that are hypothesized to relate to participation in partnership professional development as well as to teacher and student outcomes, enabling us to compare teachers who were similar on many characteristics before partnership implementation. To maximize the comparability of matched teachers, we included a broad set of teacher baseline characteristics, such as credentials earned, years of teaching, teaching assignment, gender, baseline professional development, perceptions of professional development, and baseline instructional practices in the propensity score model.

The propensity score procedure entails positing a selection model to predict the types of teachers who are likely to participate more intensively in partnership professional development among teachers in partnership schools. We then extrapolated the propensity score model to teachers in delayed partnership schools and calculated propensity scores for participating in either 90 or more hours or 60 or more hours of partnership professional development for those teachers in delayed partnership schools as well as for teachers in partnership schools. Through this procedure, teachers with similar observable baseline characteristics at partnership and delayed partnership schools will have the same

propensity scores. We matched teachers in partnership and delayed partnership schools on the basis of similar propensity scores. We subsequently compared matched partnership and delayed partnership teachers by using the same model as described above.

Including only teachers in partnership schools who responded to both the baseline and third implementation year surveys, we next analyzed the relationship between the intensity of partnership professional development and teacher practices in the third year of partnership implementation, while adjusting for ELA teacher status and baseline teacher practices. For each outcome, we conducted two sets of analysis, with the intensity of professional development indicated by (1) a dichotomous variable indicating whether a teacher participated in 90 or more hours of partnership professional development and (2) a continuous variable indicating hours of partnership professional development, respectively. The general model is:

$$Outcome = b_0 + b_1 \text{Intensity of PD} + b_2 \text{Baseline Outcome} + b_3 \text{ELA} + e + r$$

The terms e and r are random error terms at the teacher and school levels, respectively.

Correlational analyses: The relationship between teacher instructional practices and student writing

We took teacher practice indicators in the last 2 years of implementation and correlated each of them with student progress on holistic scores for writing prompts during these 2 years among seventh- and eighth-grade ELA teachers in partnership and delayed partnership schools. The general model is:

$$Score_Spring = b_0 + b_1 \text{Teacher Practice} + b_2 \text{Score_Fall} + e + r + u$$

The terms e , r , and u are random error terms at the teacher assignment, teacher, and school levels, respectively.

Qualitative Data Collection

In addition to quantitative data collection and analysis, we gathered and analyzed a substantial amount of qualitative data. The qualitative data enabled us to triangulate quantitative data and better understand the nuances of what we were learning through quantitative data collection. Qualitative data enhanced our understanding of the work of the Local Writing Project sites by learning about it through the eyes of teachers, school administrators, professional developers, and site directors, and supported our understanding of writing instruction and professional development in the delayed partnership schools.

Data sources and samples

Qualitative data came from five sources: interviews, teacher observations, professional development observations, document review, and partnership monitoring forms. We describe each below.

Interviews, teacher observations, and professional development observations

Interviews and observations provided researchers with insights into teachers' and teacher-consultants' experiences with writing instruction, writing professional development, teachers' professional community, and the school and district contexts. Through interviews and observations, we learned more about teachers' and teacher-consultants' beliefs and were able to see how their understandings and practices evolved over the course of the study. We also tracked school administrators' and site directors' views on partnership professional development. Over the course of the study, we conducted a total of 760 interviews with teacher and administrators in partnership schools and Local Writing Project leaders and teacher-consultants, 18 partnership professional development observations, and 31 classroom observations in partnership schools. In addition, the observations we did each year for log reliability informed our understanding of the teachers' practices. The precise sampling for interviews and observations varied by year, based on the focus of data collection. The sampling for prior years is discussed in their respective reports. Here we describe the 2010–11 site visits in greater detail.

In 2010–11, we collected interview and observational data from all 12 study sites remaining in the evaluation. While we collected qualitative data from all 35 remaining partnership and delayed partnership schools (all but the two partnership schools that attrited from the study), the balance leaned heavily toward partnership schools. During this final year of implementation we particularly focused on understanding the experiences of the teachers most involved in writing professional development and how they believed their participation in writing professional development impacted their classroom practice. This section begins by describing data collection at partnership schools and concludes with an account of our work at delayed partnership schools.

In partnership schools, we collected data in fall, winter/early spring, and late spring. The fall and late spring visits were conducted via phone with a small sample of teachers, school leaders, and Local Writing Project representatives. The purpose of the fall interviews was to learn about summer professional development and get an overview of the professional development plans for the years. The goal of the spring interviews was to learn about any professional development that had occurred after our site visits and to gather concluding thoughts.

In the winter/early spring, we conducted site visits occurred to 11 of the 12 study sites. During those visits we spent 1 day at 11 partnership schools and 2 days at 6 partnership schools in addition to time spent with Local Writing Project staff. At the one partnership school we did not visit we conducted phone interviews. The focus of the site visits was on the most involved teachers, those with 60 or more hours of partnership professional development, to learn more about perceived changes in their instructional practices. We also spent time with teachers who had participated for 30 to 60 hours of partnership professional development to see if they reported similar effects as the most involved teachers. If they did we sought to understand what the mechanism for those changes might be. To gain these insights, we interviewed the Local Writing Project site director and teacher-consultants who worked with the partnership school and a sample of school leaders and teachers at the partnership school. Two-day visits were scheduled to coincide with partnership professional development activities and to allow more time for classroom observations. We observed in nine classrooms and at two professional development events in partnership schools. We also collected relevant documents, such as lesson plans, handouts, and professional development projects. A total of 102 partnership teachers, 25 partnership school leaders or administrators, and 45 Local Writing Project staff were interviewed during site visits.

In addition to our qualitative data collection at partnership schools, we also visited 4 of the 19 delayed partnership schools in the winter/spring and conducted phone interviews at the remaining 15 delayed partnership schools. Again, we focused on the schools and teachers with the most reported writing professional development in the interest of understanding school or district writing professional development initiatives that impacted writing instruction at these schools. In order to do so we interviewed relevant school leaders and teachers as well as professional development providers.

Document review

In 2007–08, we asked the National Writing Project to send us the Continued Funding Applications and Site Reviews from 2006 and 2007 for the Local Writing Project sites participating in the study. Continued Funding Applications document the Local Writing Project sites' program activities and budget; the National Writing Project collects them from Local Writing Project sites annually. Site directors are convened to review Continued Funding Applications and offer feedback to the Local Writing Project sites; the documents the site directors produce are called Site Reviews.

Through these documents, SRI researchers sought to better understand Local Writing Project sites' previous experience with partnership work, professional development programs, leadership structure, resources, and budget. Site visitors used the information from these documents to customize their on-site data collection and to complete their case write-ups. Then, an analyst compiled all of the data relevant to a site's prior partnership experience from each site debrief guide to characterize each site's previous work with schools and districts and to track sources of funding for prior partnership work. We were interested in funding relationships to better understand if school leaders had a higher level of commitment to partnership work they paid for than to partnership work funded by outside grants (like the grant provided to subsidize the partnership work studied in our evaluation).

Partnership monitoring

Through partnership monitoring forms, Local Writing Project site directors or their teacher-consultants described and documented their work in partnership schools. Because this data collection effort was focused on the treatment—the partnership professional development—it was not collected for delayed partnership schools. Partnership monitoring forms captured the diversity of partnership activities from sites' point of view and allowed us to define and track an initial set of dimensions along which partnership and professional development designs varied. In addition to aiding the cross-partnership analysis, these documents helped members of the research team gain a deeper understanding of professional development within each partnership and served to triangulate the data gathered through interviews and the various sources of quantitative data.

Partnership monitoring consisted of three forms: (1) a description of the content, frequency, and duration of professional development; (2) documentation of the contact hours of participating teachers; and (3) a report of partnership expenditures. In addition, Local Writing Project site directors submitted materials developed to plan the partnership professional development that best exemplified the core work of the partnership.

SRI gathered these documents at three points during each year of implementation. Local Writing Project sites' grant funding from the National Writing Project for participating in the study was partially dependent on completion of all partnership monitoring documents. Each of the 14 Local Writing Project sites participating in the study completed all of their partnership monitoring forms.

Administration. In summer 2008, SRI held a series of conference calls with Local Writing Project site directors and teacher-consultants to orient them to the partnership monitoring process and forms. SRI later held one-on-one information sessions about the forms with Local Writing Project site directors and teacher-consultants throughout the years of the study, as requested. Although the forms were modified slightly in format over the years, the modifications were minor and mostly intended to make it easier for respondents to complete them.

Tracking and confirming. SRI staff carefully tracked the documents and materials submitted for each partnership. We followed a quality control process with each set of partnership monitoring forms. The first step was a check on internal consistency performed centrally by two researchers working together to maintain consistency across

sites and over time. They confirmed that Local Writing Project sites submitted descriptions and contact hours for professional development during the time period reported and verified that the reported costs included staff salaries, stipends, and substitute costs. In the first step of the review process, SRI researchers identified inconsistencies or missing data and posed clarifying questions for site visitors. Site visitors then checked the partnership monitoring forms for alignment with their knowledge of the partnership from case study interviews. If necessary, we contacted the Local Writing Project site director to address any remaining questions.

Once all the documents were received from the sites and verified through the quality control process, we created a summary file for each teacher in each school with information about the partnership professional development events the teacher attended. Included in this file were the length and format of each event. School rosters were merged with the contact-hour files, and discrepancies were addressed by contacting schools. This analysis provided us with information on how much partnership professional development each teacher received, which was then merged with SRI's quantitative data file. We also developed school-level summary files to document professional development at the school level for use by site visitors.

Data analysis

Our approach to analyzing the qualitative data entailed the use of structured debriefing forms keyed to analytic categories, such as school and district context, National Writing Project and other professional development, teacher community, and reported program effects. We first analyzed the interviews, observations, monitoring forms, and documents we collected from each partnership to understand the Local Writing Project site, the nature of the intervention, and ensuing changes occurring in each partnership school. We then looked across partnerships to identify common themes or patterns that were related to the partnership professional development and changes in teacher practices more broadly. In delayed partnership schools, we analyzed the interview and observation data in a similar manner to understand the extent to which important constructs were similar or dissimilar between partnership and delayed partnership schools, and the extent to which delayed partnership schools were engaging in school improvement efforts that might contribute to changes in writing outcomes.

We analyzed the qualitative data in an iterative manner. Before site visits we reviewed prior case study reports, documents, and monitoring forms. During the visits, site visitors discussed what they learned in their interviews and observations and, if necessary, revised the data collection plan to fill in any gaps. Site visitors also examined initial hypotheses and discussed themes that emerged that may not have been anticipated. Engaging in this analytic process while on-site served to tailor and refine data collection to capture the most important features of local partnerships. It also allowed researchers to generate and test hypotheses with respondents while still in the field. Once each visit was completed, site visitors drafted their case study reports, integrating data across respondents, documents, and monitoring forms and refining case-specific analytic themes. At cross-case debriefing meetings, teams discussed emerging themes from each site, compared the salience of those themes across the sites, and charted confirming and disconfirming evidence for each theme. The goal of the cross-site analysis was to compare, contrast, and synthesize findings and propositions from the single cases to uncover trends that applied across partnership schools.

Appendix B: Descriptive Information for Measures Used

This appendix provides information for all measures where we used inferential statistics (i.e., results from analyses where we used data from a sample of respondents to make inferences about the entire population from which the sample came) to describe implementation or baseline practices in the main report. Additionally, we present descriptive information and reliability for outcome scales. We present the data separated by main-report chapter.

Because of the nested nature of the data (e.g., teachers nested within schools), we used hierarchical modeling to obtain descriptive statistics and to test the differences between partnership and delayed partnership schools on each measure. To obtain the average value on each measure for partnership and delayed partnership schools, we posited a simple hierarchical model with no predictors for partnership and delayed partnership schools separately. We posited a hierarchical linear model for continuous variables and a hierarchical model with a logit link function for dichotomous variables with “yes” and “no” answers or where a scale was collapsed into two categories. The estimated intercept represents the average value of the partnership or delayed partnership schools on the measure, taking the nesting of teachers within schools into consideration. For dichotomous items, the intercept from the logit link function is in logits, which we transformed to percentages for interpretation.

To test the statistical significance of the difference between partnership and delayed partnership schools on each measure, we posited a hierarchical model with partnership

identification as a predictor at the school level for all schools included in the study. The p value for the partnership identification, which we present in the tables, corresponds to tests of the significance of the difference between individuals in partnership and delayed partnership schools.

Each table in this appendix presents the percentage/average rating on the measure and the standard error of the rating estimated from the hierarchical models described above, the number of respondents included in the analysis, as well as the p values corresponding to tests of the significance of the difference between individuals in partnership and delayed partnership schools, where applicable. When data on scales are presented, beneath each table we list the content of items that make up the scale and report the Cronbach's alpha (α) to indicate the internal reliability of each scale.

Chapter 2

Exhibit B-1 provides supporting data for Exhibit 2-5, which presents the percentage of teachers by years of experience in their current school in the 2010–11 school year. The results are estimated from a two-level hierarchical model with teacher and school levels.

Exhibit B-1

Percentage of Teachers with 1, 2, or 3 or More Years of Experience at Their Current School in 2010–11

		Partnership	Delayed Partnership
Teachers with 1 year of experience at their current school	All Teachers	8% -2.52 (0.26) <i>n</i> = 640	13% -1.88 (0.20) <i>n</i> = 634
	ELA Teachers	7%* -2.67 (0.33) <i>n</i> = 196	14%* -1.83 (0.28) <i>n</i> = 220
Teachers with 2 years of experience at their current school	All Teachers	7% -2.56 (0.15) <i>n</i> = 640	7% -2.60 (0.21) <i>n</i> = 634
	ELA Teachers	8% -2.43 (0.34) <i>n</i> = 196	6% -2.70 (0.29) <i>n</i> = 220
Teachers with 3 or more years of experience at their current school	All Teachers	85% 1.73 (0.21) <i>n</i> = 640	79% 1.35 (0.17) <i>n</i> = 634
	ELA Teachers	86% 1.77 (0.27) <i>n</i> = 196	81% 1.42 (0.27) <i>n</i> = 220

Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.

Source: 2010–11 teacher survey.

p* < 0.05, *p* < 0.01

Chapter 3

This section presents further documentation supporting exhibits and text in Chapter 3 that present results from inferential statistics. The results are estimated from a two-level hierarchical model with teacher and school levels. There is no documentation of results from the partnership monitoring because those data are purely descriptive and no standard errors or p values are estimated.

To maintain a consistent sample of schools for comparison across years, from baseline to the third year of implementation, the analyses of implementation presented in Chapter 3 were conducted with 18 partnership schools that persisted to the third year of implementation and their 17 paired delayed partnership schools.

Exhibit B-2 presents data on the hours of writing professional development teachers reported receiving. It corresponds to Exhibit 3-1.

Exhibit B-2

Average Duration (Hours) of Writing Professional Development for Teachers, Baseline through Year 3

		Partnership	Delayed Partnership	p Value
Baseline	All Teachers	4.85 (0.45) n = 670	3.97 (0.68) n = 568	0.36
	ELA Teachers	9.36 (1.37) n = 223	6.66 (1.32) n = 199	0.17
Year 1	All Teachers	12.17** (1.23) n = 653	4.37** (0.66) n = 583	< 0.01
	ELA Teachers	24.10** (2.39) n = 212	5.72** (0.92) n = 202	< 0.01
Year 2	All Teachers	11.38** (1.20) n = 666	4.16** (0.81) n = 632	< 0.01
	ELA Teachers	20.68** (2.38) n = 207	6.91** (1.40) n = 219	< 0.01
Year 3	All Teachers	11.09** (1.90) n = 583	5.58** (1.23) n = 578	< 0.01
	ELA Teachers	18.39** (2.76) n = 186	6.36** (1.26) n = 204	< 0.01

Source: 2007–08 teacher survey; 2008–09 teacher survey; 2009–10 teacher survey; and 2010–11 teacher survey.
*p < 0.05, **p < 0.01.

Exhibit B-3 presents data on the extent to which writing processes are a focus of the professional development teachers receive. It corresponds to Exhibit 3-4.

Exhibit B-3

Focus on Writing Processes, as Rated by Teachers Who Participated in Writing Professional Development

		Partnership	Delayed Partnership	p Value
Baseline	All Teachers	1.02 (0.04) n = 267	0.94 (0.07) n = 218	0.35
	ELA Teachers	1.12 (0.06) n = 140	0.98 (0.10) n = 112	0.26
Year 1	All Teachers	1.20** (0.05) n = 352	1.03** (0.04) n = 199	< 0.01
	ELA Teachers	1.32** (0.06) n = 164	1.06** (0.08) n = 97	< 0.01
Year 2	All Teachers	1.16** (0.04) n = 445	0.80** (0.07) n = 228	< 0.01
	ELA Teachers	1.33** (0.06) n = 177	0.95** (0.09) n = 108	< 0.01
Year 3	All Teachers	0.99** (0.04) n = 452	0.74** (0.07) n = 346	< 0.01
	ELA Teachers	1.25** (0.04) n = 161	0.84** (0.11) n = 134	< 0.01

Note: The scale is based on four survey items that asked teachers the extent to which each of the following was a focus of their professional development in writing: improving student skills and knowledge of planning and pre-writing strategies; improving student skills in drafting, revising, and editing text; improving student ability to work collaboratively with their peers on writing; and improving student skills for analyzing models of good writing and applying insights to their own text. The items are on a 3-point scale: 0 ("Not a focus"), 1 ("Minor focus"), and 2 ("Major focus").

$\alpha = 0.84$.

Source: 2007–08 teacher survey; 2008–09 teacher survey; 2009–10 teacher survey; and 2010–11 teacher survey.

* $p < 0.05$, ** $p < 0.01$.

Exhibits B-4 and B-5 present data on the content of professional development. Exhibit B-4 corresponds to Exhibit 3-5.

Exhibit B-4

Percentage of Teachers, among Those Participating in Writing Professional Development, Who Reported That Writing Text Themselves Was a Component of Writing Professional Development, Years 2-3

		Partnership	Delayed Partnership	p Value
Year 2	All Teachers	26%** -1.05 (0.17) n = 668	8%** -2.38 (0.19) n = 632	< 0.01
	ELA Teachers	46%** -0.18 (0.23) n = 209	13%** -1.92 (0.25) n = 219	
Year 3	All Teachers	27%** -1.01 (0.21) n = 643	10%** -2.15 (0.18) n = 636	< 0.01
	ELA Teachers	47%** -0.12 (0.25) n = 197	18%** -1.55 (0.24) n = 220	

Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.

Source: 2007–08 teacher survey; 2008–09 teacher survey; 2009–10 teacher survey; and 2010–11 teacher survey.

*p < 0.05, **p < 0.01.

Exhibit B-5 corresponds to Exhibit 3-6.

Exhibit B-5

Percentage of Teachers Reporting That “Writing Themselves and Revising Their Own Work with Other Teachers” Was a Major Focus of Writing Professional Development, among Those Who Participated in Writing Professional Development, Years 1-3

		Partnership	Delayed Partnership	p Value
Year 1	All Teachers	27%** -1.01 (0.18) n = 350	13%** -1.87 (0.21) n = 195	< 0.01
	ELA Teachers	30%** -0.84 (0.21) n = 162	14%** -1.85 (0.30) n = 96	
Year 2	All Teachers	24%** -1.17 (0.17) n = 439	9%** -2.30 (0.28) n = 218	< 0.01
	ELA Teachers	31%** -0.81 (0.21) n = 175	12%** -1.96 (0.31) n = 105	
Year 3	All Teachers	19%** -1.47 (0.17) n = 441	10%** -2.18 (0.18) n = 334	< 0.01
	ELA Teachers	30%** -0.86 (0.27) n = 159	13%** -1.90 (0.26) n = 131	

Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.

Source: 2007–08 teacher survey; 2008–09 teacher survey; 2009–10 teacher survey; and 2010–11 teacher survey.

*p < 0.05, **p < 0.01.

Exhibits B-6 and B-7 present data on the discussion of classroom implementation during professional development. They correspond to Exhibit 3-7.

Exhibit B-6

Percentage of Teachers and ELA Teachers Reporting That Discussing Classroom Implementation Was a Component of Writing Professional Development, among Teachers and ELA Teachers Participating in Writing Professional Development, Year 2

		Partnership	Delayed Partnership	p Value
I communicated with professional development provider(s) concerning classroom implementation	All Teachers	31%**	10%**	< 0.01
		-0.78 (0.16) n = 668	-2.16 (0.21) n = 632	
	ELA Teachers	47%**	16%**	< 0.01
		-0.11 (0.18) n = 209	-1.66 (0.28) n = 219	
I met formally with other participants to discuss classroom implementation	All Teachers	39%**	14%**	< 0.01
		-0.46 (0.13) n = 668	-1.86 (0.22) n = 632	
	ELA Teachers	58%**	24%**	< 0.01
		0.33 (0.16) n = 209	-1.14 (0.21) n = 219	

Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.

Source: 2009–10 teacher survey.

**p < 0.05, **p < 0.01.*

Exhibit B-7

Percentage of Teachers and ELA Teachers Reporting That Discussing Classroom Implementation Was a Component of Writing Professional Development, among Teachers and ELA Teachers Participating in Writing Professional Development, Year 3

		Partnership	Delayed Partnership	p Value
I communicated with professional development provider(s) concerning classroom implementation	All Teachers	28%**	12%**	< 0.01
		-0.95 (0.18) n = 643	-1.97 (0.19) n = 636	
	ELA Teachers	46%**	16%**	< 0.01
		-0.18 (0.20) n = 197	-1.69 (0.24) n = 220	
I met formally with other participants to discuss classroom implementation	All Teachers	35%**	20%**	< 0.01
		-0.61 (0.21) n = 643	-1.40 (0.19) n = 636	
	ELA Teachers	55%**	28%**	<0.01
		0.20 (0.28) n = 197	-0.92 (0.25) n = 220	

Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.

Source: 2010–11 teacher survey.

*p < 0.05, **p < 0.01.

Exhibits B-8 to B-11 correspond to text about time spent on writing instruction in partnership schools at baseline. They do not present comparisons between partnership and delayed partnership schools, so there is no comparison and therefore no p value.

Exhibit B-8

Average Proportion of Days That Seventh- and Eighth-Grade ELA Teachers Reported That Writing Was a “Major Goal” of ELA Instruction at Baseline

Partnership

53%

0.12

(0.13)

$n = 1142$

*Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.
Source: 2007–08 teacher log.*

Exhibit B-9

Percentage of Teachers in Partnership Schools Who Reported Using Each of Four Components of Writing Processes at Least Weekly at Baseline

		Partnership
Brainstorming or organizing ideas for writing text	All Teachers	27%
		-1.02 (0.10) <i>n</i> = 694
	ELA Teachers	58%
		0.32 (0.20) <i>n</i> = 173
Composing text	All Teachers	31%
		-0.81 (0.10) <i>n</i> = 693
	ELA Teachers	67%
		0.69 (0.23) <i>n</i> = 174
Revising text (focused on meaning and ideas)	All Teachers	22%
		-1.28 (0.13) <i>n</i> = 688
	ELA Teachers	51%
		0.04 (0.20) <i>n</i> = 174
Editing text (focused on grammar, usage, punctuation, spelling)	All Teachers	26%
		-1.07 (0.12) <i>n</i> = 688
	ELA Teachers	59%
		0.38 (0.17) <i>n</i> = 171

*Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.
Source: 2007–08 teacher survey.*

By collapsing categories shown in Exhibit B-9, we calculated the percentage of teachers in partnership schools who reported using none of the four listed components of writing processes and at least three of the four listed components at baseline. Exhibit B-10 presents these results.

Exhibit B-10

Percentage of Teachers in Partnership Schools Who Reported Using None of Four or At Least Three of Four Components of Writing Processes at Least Weekly at Baseline

		Partnership
Proportion of Teachers Reporting Using None of the Four Writing Processes at Least Weekly	All Teachers	60%
		0.41 (0.11) <i>n</i> = 696
	ELA Teachers	27%
		-0.99 (0.27) <i>n</i> = 229
Proportion of Teachers Reporting Three of the Four Writing Processes at Least Weekly	All Teachers	21 %
		-1.34 (0.12) <i>n</i> = 696
	ELA Teachers	46%
		-0.18 (0.17) <i>n</i> = 229

*Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.
Source: 2007–08 teacher survey.*

Exhibit B-11

Percentage of Teachers in Partnership Schools Who Reported Having Students Write for the Purpose of Describing or Explaining at Least Weekly at Baseline

		Partnership
To describe a thing, place, process, or procedure (e.g., an essay, lab report, or descriptive response)	All Teachers	24%
		-1.18 (0.10) <i>n</i> = 695
	ELA Teachers	27%
		-1.02 (0.22) <i>n</i> = 175
To explain a concept, process, or relationship (e.g., comparison/contrast, problem/solution)	All Teachers	28%
		-0.97 (0.13) <i>n</i> = 694
	ELA Teachers	25%
		-1.09 (0.26) <i>n</i> = 175

*Note: The logits and standard errors of logits from the estimation model are shown below the estimated percentages.
Source: 2007–08 teacher survey.*

Chapter 4

This section presents descriptive data in support of Chapter 4. Exhibits and text in Chapter 4 report on the results of the statistical models, including covariate adjustments, used to estimate impacts. The descriptive information presented in this section reports the average rating on the measure and the standard error of the rating estimated from a hierarchical model (see each section for specific information on the model) with no predictors, and the number of respondents included in the analysis. Because these estimates do not include appropriate statistical adjustments, these data should not be used to make any causal inferences about the differences in outcomes between partnership and delayed partnership schools. As a result, we do not report p values in these tables. For the same reason, these tables present different values from those covariate-adjusted values that appear in the exhibits in Chapter 4. The covariate-adjusted values in the exhibits in Chapter 4 and p values associated with estimates of the treatment effect for these outcome measures are presented in Appendix C, along with the full results for the models (including covariates). For the same measures, sample sizes are larger in this section than those presented in Appendix C because the analytic models in Appendix C exclude cases that have missing values on any of the covariates.

Because the purpose of this section is to describe the measures used in outcome analyses, the exhibits are organized by data collection instrument, describing the distribution of the measures for the partnership and delayed partnership groups and the reliability of scales (where applicable) in Year 3 of implementation. We first present descriptive data on measures from the teacher survey, followed by teacher log, teacher assignments, student work, and finally on-demand writing prompts.

Teacher survey

Exhibits B-12 to B-18 report data from the teacher survey on teacher reports of their practices and students' opportunities to learn writing. The results are estimated from a two-level hierarchical model with teacher and school levels.

Exhibit B-12 presents survey data describing teacher perceptions of the influence of professional development on their writing instruction. Exhibit B-12 presents the distribution of the outcome measure (not covariate-adjusted) presented in Exhibit 4-2.

Exhibit B-12

Extent to Which Professional Development Influenced Writing Instruction

	Partnership	Delayed Partnership
All Teachers	4.42 (0.14) <i>n</i> = 469	3.45 (0.17) <i>n</i> = 467
ELA Teachers	5.11 (0.18) <i>n</i> = 183	3.50 (0.18) <i>n</i> = 204

*Note: The measure is on a 7-point scale, from 1 ("Not at all") to 7 ("A great deal").
Source: 2010–11 teacher survey.*

Exhibit B-13 presents survey data describing teacher reports of the length of student writing.

Exhibit B-13

Percentage of Teachers Reporting That Students Wrote at Least 1 or 2 One-Paragraph Responses/Compositions in a Typical Week

	Partnership	Delayed Partnership
All Teachers	50% 0.01 (0.09) <i>n</i> = 596	44% -0.26 (0.09) <i>n</i> = 600
ELA Teachers	79% 1.31 (0.25) <i>n</i> = 184	67% 0.72 (0.19) <i>n</i> = 209

*Note: The logits and standard errors of logits from the model are shown below the estimated percentages.
Source: 2010–11 teacher survey.*

Exhibit B-14 presents a survey scale on teacher reports of student engagement in writing-to-learn activities described in the text.

Exhibit B-14

Student Engagement in Writing-to-Learn Activities

	Partnership	Delayed Partnership
All Teachers	2.02 (0.12) <i>n</i> = 633	1.95 (0.10) <i>n</i> = 622
ELA Teachers	2.36 (0.12) <i>n</i> = 191	2.35 (0.12) <i>n</i> = 194

Items: When teacher introduced a new topic or concept: students wrote down what they already knew about the topic or concept; students wrote questions they had about the new topic or concept. When teacher taught a new topic or concept: students wrote questions about what they did not understand in class; students wrote a summary of what they learned; students wrote about a drawing, diagram, or problem-solving process; students wrote an explanation of a concept or process covered in class; students wrote to compare or contrast different ideas or concepts; students wrote personal reflections about how a concept related to their lives.

$\alpha = 0.91$.

Note: All items are on a 6-point scale, from 0 ("Never") to 5 ("Daily").

Source: 2010–11 teacher survey.

Exhibits B-15 and B-16 report data describing survey scales on writing processes described in the text. Exhibit B-15 presents data on the distribution of the scale on student engagement in writing processes (not covariate-adjusted) that is presented in Exhibit 4-4.

Exhibit B-15

Student Engagement in Writing Processes

	Partnership	Delayed Partnership
All Teachers	1.65 (0.06) <i>n</i> = 631	1.66 (0.07) <i>n</i> = 619
ELA Teachers	2.90 (0.08) <i>n</i> = 147	2.75 (0.12) <i>n</i> = 165

Items: Brainstorming or organizing ideas for writing text; Composing text; Revising text (focused on meaning and ideas); Editing text (focused on grammar, usage, punctuation, spelling); Meeting individually with the teacher to get oral feedback or discuss how to improve his or her writing; Reviewing written feedback on their own writing given by the teacher; Reflecting on or evaluating their own writing; Sharing or presenting their own writing to peers; Analyzing what makes particular texts good or poor models of writing (individually or with others).

$\alpha = 0.96$.

Note: All items are on a 6-point scale, from 0 ("Never") to 5 ("Daily").

Source: 2010–11 teacher survey.

Exhibit B-16

Class Time Devoted to Four Key Writing Processes

	Partnership	Delayed Partnership
All Teachers	1.63 (0.05) <i>n</i> = 635	1.68 (0.07) <i>n</i> = 616
ELA Teachers	2.88 (0.10) <i>n</i> = 147	2.79 (0.10) <i>n</i> = 165

Items: Improving students' skills and knowledge of pre-writing or planning strategies (brainstorming, generating and organizing ideas, identifying purpose and audience); Improving students' skills in drafting, revising, and editing text (for meaning, clarity, sentence structure, word choice); Improving students' ability to work collaboratively with their peers on writing; Improving students' skills for analyzing models of good writing and applying insights to their own text.

$\alpha = 0.91$.

Note: All items are on a 6-point scale, from 0 ("Never") to 5 ("Daily").

Source: 2010–11 teacher survey.

Exhibits B-17 and B-18 report data describing survey scales on the range of writing genres.

Exhibit B-17

Variety of Content-Oriented Genres Assigned in Class

	Partnership	Delayed Partnership
All Teachers	2.11 (0.12) <i>n</i> = 633	2.05 (0.11) <i>n</i> = 624
ELA Teachers	2.78 (0.11) <i>n</i> = 147	2.52 (0.17) <i>n</i> = 165

Items: To monitor or keep track of learning (e.g., learning logs, journaling, but not copying from the textbook or board); To reflect on an experience or topic (e.g., journaling); To describe a thing, place, process, or procedure (e.g., an essay, lab report, or descriptive response).

$\alpha = 0.83$.

Notes: These genres are not exclusive to ELA classes. All items are on a 6-point scale, from 0 ("Never") to 5 ("Daily").

Source: 2010–11 teacher survey.

Exhibit B-18

Variety of ELA-Oriented Genres Assigned in Class

	Partnership	Delayed Partnership
All Teachers	1.50 (0.07) <i>n</i> = 633	1.44 (0.07) <i>n</i> = 621
ELA Teachers	2.61 (0.09) <i>n</i> = 147	2.41 (0.12) <i>n</i> = 165

Items: To express themselves creatively (e.g., a poem, story, or play); To recount a story or event through narrative; To make an argument intended to persuade others; To gain practice with writing mechanics within students' own writing; To gain practice with particular forms of writing (e.g., letter writing); To gain practice with forms of writing encountered on standardized tests.

$\alpha = 0.90$.

Notes: These genres are not exclusive to ELA classes. All items are on a 6-point scale, from 0 ("Never") to 5 ("Daily").

Source: 2010–11 teacher survey.

Teacher log

Exhibits B-19 to B-24 report data from the teacher log on teacher reports of their practices and students' opportunities to learn writing in seventh- and eighth-grade ELA classes. The results are estimated from a three-level hierarchical model with teacher log, teacher, and school levels.

Exhibit B-19

Percentage of Days That ELA Teachers Reported Improving Writing Skills as a Major Goal of Instruction

Partnership	Delayed Partnership
64%	53%
0.57	0.11
(0.18)	(0.16)
<i>n</i> = 537	<i>n</i> = 652

Note: The logits and standard errors of logits from the model are shown below the estimated percentages.

Source: 2010–11 teacher log.

Exhibit B-20 describes the distribution of the outcome measure (not covariate-adjusted) presented in Exhibit 4-3.

Exhibit B-20

Percentage of Days That Target Students Engaged in Any Writing Activity

Partnership	Delayed Partnership
82%	75%
1.51	1.12
(0.15)	(0.13)
<i>n</i> = 573	<i>n</i> = 718

*Note: The logits and standard errors of logits from the model are shown below the estimated percentages.
Source: 2010–11 teacher log.*

Exhibit B-21 to B-23 report data from teachers who reported that target students did engage in a writing activity.

Exhibit B-21

Percentage of Days That Target Students Planned, Composed, Edited, or Revised at Least 1 or 2 One-Paragraph Writing Assignments

Partnership	Delayed Partnership
77%	75%
1.23	1.11
(0.18)	(0.24)
<i>n</i> = 447	<i>n</i> = 476

*Note: The logits and standard errors of logits from the model are shown below the estimated percentages.
Source: 2010–11 teacher log.*

Exhibit B-22

Frequency That Target Students Wrote for Specific Purposes as Part of an Assignment, Worksheet, Quiz, or Test (Scales on Engagement in ELA- and Content-Oriented Genres)

	Partnership	Delayed Partnership
ELA-Oriented Genre	0.23 (0.02) <i>n</i> = 470	0.22 (0.02) <i>n</i> = 501
Content-Oriented Genre	0.24 (0.02) <i>n</i> = 470	0.26 (0.02) <i>n</i> = 501

ELA-oriented genre items: To express himself or herself creatively (e.g., a poem, story, or play); To recount a story or event through narrative; To make an argument intended to persuade others; To gain practice with writing mechanics within students' own writing; To gain practice with particular forms of writing (e.g., letter writing); To gain practice with forms of writing encountered on standardized tests.

Content-oriented genre items: To monitor or keep track of learning (e.g., learning logs, journaling, but not copying from the textbook or board); To reflect on an experience or topic (e.g., journaling); To describe a thing, place, process, or procedure (e.g., an essay, lab report, or descriptive response).

Note: All items are with values 0 as "no" and 1 as "yes."

Source: 2010–11 teacher log.

Exhibit B-23

Percentage of Days That Target Students Were Involved in Collaborative Writing Activities

Partnership	Delayed Partnership
37%	29%
-0.54	-0.91
(0.14)	(0.15)
<i>n</i> = 470	<i>n</i> = 501

Note: The logits and standard errors of logits from the model are shown below the estimated percentages.

Source: 2010–11 teacher log.

Exhibit B-24

Percentage of Days That Target Students Engaged in Specific Writing Activities

	Partnership	Delayed Partnership
Brainstorming or organizing ideas for writing text	31% 0.82 (0.17) <i>n</i> = 521	47% -0.12 (0.11) <i>n</i> = 645
Designed to support state or district standards/curriculum frameworks	66% 0.68 (0.17) <i>n</i> = 521	68% 0.76 (0.14) <i>n</i> = 645
Composing text	66% 0.68 (0.17) <i>n</i> = 521	68% 0.76 (0.14) <i>n</i> = 645
Revising text (focused on meaning and ideas)	31% -0.82 (0.15) <i>n</i> = 521	34% -0.65 (0.18) <i>n</i> = 645

Note: The logits and standard errors of logits from the model are shown below the estimated percentages.

Source: 2010–11 teacher log.

Teacher assignments

Exhibits B-25 to B-27 present teacher assignment scores. The results are estimated from a three-level hierarchical linear model with teacher assignment, teacher, and school levels.

Exhibit B-25

Teacher Assignment Clarity of Goals Score

	Partnership	Delayed Partnership
Grade 7	2.97 (0.13) <i>n</i> = 115	2.93 (0.12) <i>n</i> = 139
Grade 8	2.70 (0.18) <i>n</i> = 116	2.71 (0.19) <i>n</i> = 117

Note: Score ranges from 1 to 4.

Source: 2010–11 teacher assignments.

Exhibit B-26

Teacher Assignment Construction of Knowledge Score

	Partnership	Delayed Partnership
Grade 7	2.30 (0.08) <i>n</i> = 81	2.02 (0.09) <i>n</i> = 118
Grade 8	2.11 (0.08) <i>n</i> = 94	2.07 (0.12) <i>n</i> = 97

*Note: Score ranges from 1 to 4.
Source: 2010–11 teacher assignments.*

Exhibit B-27

Teacher Assignment Summary of Writing Processes Score

	Partnership	Delayed Partnership
Grade 7	0.54 (0.10) <i>n</i> = 115	0.47 (0.09) <i>n</i> = 139
Grade 8	0.43 (0.07) <i>n</i> = 116	0.30 (0.09) <i>n</i> = 117

*Note: Score ranges from 0 to 6.
Source: 2010–11 teacher assignments.*

Student work

Exhibits B-28 to B-30 present student work scores. The results are estimated from a four-level hierarchical linear model with student work, teacher assignment, teacher, and school levels.

Exhibit B-28 Student Work Holistic Score

	Partnership	Delayed Partnership
Grade 7	3.52 (0.09) <i>n</i> = 227	3.44 (0.14) <i>n</i> = 268
Grade 8	3.64 (0.15) <i>n</i> = 228	3.51 (0.15) <i>n</i> = 231

Note: Score ranges from 0 to 6.

Source: 2010–11 student work.

Exhibit B-29 Student Work Construction of Knowledge Score

	Partnership	Delayed Partnership
Grade 7	2.33 (0.09) <i>n</i> = 141	2.33 (0.13) <i>n</i> = 212
Grade 8	2.27 (0.11) <i>n</i> = 158	2.25 (0.12) <i>n</i> = 184

Note: Score ranges from 0 to 4.

Source: 2010–11 student work.

Exhibit B-30

Student Work Development of Expository Writing Score

	Partnership	Delayed Partnership
Grade 7	3.17 (0.08) <i>n</i> = 227	2.97 (0.13) <i>n</i> = 268
Grade 8	3.12 (0.15) <i>n</i> = 228	3.12 (0.12) <i>n</i> = 231

Note: Score ranges from 0 to 4.

Source: 2010–11 student work.

On-demand writing prompts

Exhibits B-31 to B-37 present student scores on writing prompts. The results are estimated from a three-level hierarchical linear model with student, teacher, and school levels.

Exhibit B-31 presents descriptive results (not covariate-adjusted) that correspond to the holistic score on student responses to on-demand writing prompts presented in Exhibit 4-5.

Exhibit B-31

Writing Prompts Holistic Score

	Partnership	Delayed Partnership
Grade 7	3.47 (0.08) <i>n</i> = 223	3.47 (0.09) <i>n</i> = 261
Grade 8	3.77 (0.11) <i>n</i> = 222	3.65 (0.13) <i>n</i> = 229

Note: Score ranges from 1 to 6.

Source: 2010–11 spring writing prompts.

Exhibit B-32

Writing Prompts Content Score

	Partnership	Delayed Partnership
Grade 7	3.46 (0.08) <i>n</i> = 223	3.47 (0.10) <i>n</i> = 261
Grade 8	3.75 (0.12) <i>n</i> = 222	3.63 (0.13) <i>n</i> = 229

*Note: Score ranges from 1 to 6.
Source: 2010–11 spring writing prompts.*

Exhibit B-33

Writing Prompts Structure Score

	Partnership	Delayed Partnership
Grade 7	3.35 (0.08) <i>n</i> = 224	3.35 (0.10) <i>n</i> = 261
Grade 8	3.64 (0.11) <i>n</i> = 222	3.53 (0.13) <i>n</i> = 229

*Note: Score ranges from 1 to 6.
Source: 2010–11 spring writing prompts.*

Exhibit B-34

Writing Prompts Stance Score

	Partnership	Delayed Partnership
Grade 7	3.60 (0.09) <i>n</i> = 224	3.60 (0.10) <i>n</i> = 261
Grade 8	3.90 (0.11) <i>n</i> = 222	3.84 (0.13) <i>n</i> = 229

*Note: Score ranges from 1 to 6.
Source: 2010–11 spring writing prompts.*

Exhibit B-35
Writing Prompts Sentence Fluency Score

	Partnership	Delayed Partnership
Grade 7	3.42 (0.08) <i>n</i> = 224	3.40 (0.09) <i>n</i> = 261
Grade 8	3.79 (0.11) <i>n</i> = 222	3.63 (0.13) <i>n</i> = 229

Note: Score ranges from 1 to 6.
Source: 2010–11 spring writing prompts.

Exhibit B-36
Writing Prompts Diction Score

	Partnership	Delayed Partnership
Grade 7	3.46 (0.09) <i>n</i> = 224	3.47 (0.09) <i>n</i> = 261
Grade 8	3.80 (0.11) <i>n</i> = 222	3.64 (0.13) <i>n</i> = 229

Note: Score ranges from 1 to 6.
Source: 2010–11 spring writing prompts.

Exhibit B-37
Writing Prompts Conventions Score

	Partnership	Delayed Partnership
Grade 7	3.42 (0.10) <i>n</i> = 224	3.44 (0.10) <i>n</i> = 261
Grade 8	3.73 (0.11) <i>n</i> = 222	3.66 (0.13) <i>n</i> = 229

Note: Score ranges from 1 to 6.
Source: 2010–11 spring writing prompts.

Appendix C: Model Results for Teacher and Student Outcomes Analyses

This appendix presents the results of the full, covariate-adjusted models for teacher and student outcomes analyses in Chapter 4. The detailed models for different types of analyses are discussed in Appendix A, and the descriptive information for the outcomes is presented in Appendix B. For the same measures from the same year, sample sizes are smaller in this appendix than those presented in Appendix B because the analytic models in this appendix exclude cases that have missing values on any of the covariates. The numbers of schools included in some analyses, especially in the longitudinal analyses with teachers who responded to all 4 years of surveys, are significantly lower than the experimental sample of schools because of missing values. Finally, some schools had teachers who taught both seventh- and eighth-grades. As with other teachers, we sampled only one target class from those teachers. As a result, when analyses are split out by grade level, some schools are no longer in the sample because they do not have target classes at a given grade level.

Experimental analyses: The impact of being randomly assigned to partnerships, intent-to-treat (ITT) analysis

The ITT analyses were conducted with data from all teachers who responded to the teacher survey in any year as well as those who responded to the survey in all 4 years (i.e., a

longitudinal sample). We first present results for all teachers, followed by results for the subset of teachers who responded to surveys in all 4 years.

Analyses for all teachers

Exhibits C-1 to C-50 present hierarchical linear modeling (HLM) estimates for teacher outcome intent-to-treat (ITT) analyses presented in Chapter 4. The results are presented by implementation year for teacher survey, teacher log, and teacher assignments measures, and also by all teachers and ELA teachers separately for survey measures. For each we list the variable, estimate, and standard error for the estimate.

Exhibit C-1

All Teachers' Perceived Influence of Professional Development in 1st Year of Implementation (1358 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.32	0.18
ELA teacher	1.36**	0.11
Baseline school average	0.45**	0.11
Intercept	0.85	0.46
Random Effects	Variance Component	
School mean	0.41	
Teacher effect	1.96	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-2

All Teachers' Perceived Influence of Professional Development in 2nd Year of Implementation (1378 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.68**	0.16
ELA teacher	1.48**	0.11
Baseline school average	0.32**	0.10
Intercept	1.02	0.42
Random Effects	Variance Component	
School mean	0.35	
Teacher effect	1.92	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-3

All Teachers' Perceived Influence of Professional Development in 3rd Year of Implementation (936 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.83**	0.17
ELA teacher	0.65**	0.12
Baseline school average	0.59**	0.11
Intercept	0.85	0.47
Random Effects	Variance Component	
School mean	0.32	
Teacher effect	1.83	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-4

ELA Teachers' Perceived Influence of Professional Development in 1st Year of Implementation (462 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.78**	0.19
Baseline school average	0.41**	0.13
Intercept	2.12**	0.53
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	1.94	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-5

ELA Teachers' Perceived Influence of Professional Development in 2nd Year of Implementation (449 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.10**	0.27
Baseline school average	0.25	0.17
Intercept	2.58**	0.69
Random Effects	Variance Component	
School mean	0.57	
Teacher effect	1.90	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-6

ELA Teachers' Perceived Influence of Professional Development in 3rd Year of Implementation (387 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.46**	0.22
Baseline school average	0.42**	0.15
Intercept	1.88**	0.59
Random Effects	Variance Component	
School mean	0.34	
Teacher effect	1.78	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-7

Student Engagement in Any Writing-Related Activity in 1st Year of Implementation (1543 logs for 160 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.55*	0.23
Baseline school average	2.66**	0.93
Intercept	-0.94	0.69
Random Effects	Variance Component	
School mean	0.07	
Teacher effect	0.93	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-8

Student Engagement in Any Writing-Related Activity in 2nd Year of Implementation (1380 logs for 147 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.60*	0.30
Baseline school average	3.00*	1.19
Intercept	-0.78	0.89
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	1.22	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-9

Student Engagement in Any Writing-Related Activity in 3rd Year of Implementation (1232 logs for 130 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.46*	0.21
Baseline school average	1.48	0.84
Intercept	0.17	0.61
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.72	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-10

Length of Writing—At least 1 or 2 One-Paragraph Responses in 1st Year of Implementation (1085 logs for 158 7th- and 8th-Grade ELA Teachers in 38 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.43	0.22
Baseline school average	3.17*	1.23
Intercept	-1.23	0.92
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.90	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-11

Length of Writing—At least 1 or 2 One-Paragraph Responses in 2nd Year of Implementation (1038 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.22
Baseline school average	1.68	1.18
Intercept	0.02	0.87
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.79	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-12

Length of Writing—At least 1 or 2 One-Paragraph Responses in 3rd Year of Implementation (923 logs for 129 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.11	0.33
Baseline school average	-0.20	1.73
Intercept	1.49	1.29
Random Effects	Variance Component	
School mean	0.08	
Teacher effect	1.97	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-13

Length of Writing from Survey—At Least 1 or 2 One-Paragraph Responses/Compositions in 3rd Year of Implementation (1163 teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Model for school means		
Partnership	0.40*	0.17
ELA teacher	2.11**	0.17
Baseline school average	0.23	0.22
Intercept	-1.36**	0.51
Random Effects	Variance Component	
School mean	0.09	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-14

Length of Writing from Survey—At Least 1 or 2 One-Paragraph Responses/Compositions in 3rd Year of Implementation (303 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.56	0.40
Baseline school average	0.64	0.50
Intercept	-0.17	1.16
Random Effects	Variance Component	
School mean	0.41	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-15

Writing to Learn in 3rd Year of Implementation (1216 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.10
ELA teacher	0.41**	0.07
Baseline school average	0.87**	0.12
Intercept	-0.11	0.28
Random Effects	Variance Component	
School mean	0.20	
Teacher effect	1.08	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-16

Writing to Learn in 3rd Year of Implementation (312 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.25	0.16
Baseline school average	0.74**	0.21
Intercept	0.48	0.48
Random Effects	Variance Component	
School mean	0.33	
Teacher effect	0.88	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-17

Class Time Devoted to Four Key Writing Processes in 1st Year of Implementation (1360 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.00	0.09
ELA teacher	1.65**	0.07
Baseline school average	0.72**	0.14
Intercept	0.07	0.26
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	1.19	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-18

Class Time Devoted to Four Key Writing Processes in 2nd Year of Implementation (1356 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.04	0.09
ELA teacher	1.63**	0.07
Baseline school average	0.58**	0.13
Intercept	0.23	0.25
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	1.17	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-19

Class Time Devoted to Four Key Writing Processes in 3rd Year of Implementation (1213 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.05	0.08
ELA teacher	1.62**	0.08
Baseline school average	0.33**	0.12
Intercept	0.62**	0.23
Random Effects	Variance Component	
School mean	0.12	
Teacher effect	1.15	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-20

Class Time Devoted to Four Key Writing Processes in 1st Year of Implementation (382 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.18	0.11
Baseline school average	0.53**	0.17
Intercept	1.95**	0.33
Random Effects	Variance Component	
School mean	0.12	
Teacher effect	0.98	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-21

Class Time Devoted to Four Key Writing Processes in 2nd Year of Implementation (357 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.06	0.12
Baseline school average	0.53**	0.17
Intercept	1.93**	0.33
Random Effects	Variance Component	
School mean	0.17	0.07
Teacher effect	0.93	0.04

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-22

Class Time Devoted to Four Key Writing Processes in 3rd Year of Implementation (312 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.11	0.13
Baseline school average	0.31	0.21
Intercept	2.23**	0.39
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	1.00	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-23

Student Engagement in Writing Processes in 1st Year of Implementation (1355 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.08
ELA teacher	1.71**	0.07
Baseline school average	0.69**	0.14
Intercept	0.09	0.26
Random Effects	Variance Component	
School mean	0.17	
Teacher effect	1.12	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-24

Student Engagement in Writing Processes in 2nd Year of Implementation (1358 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.02	0.08
ELA teacher	1.64**	0.07
Baseline school average	0.51**	0.13
Intercept	0.39	0.24
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	1.10	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-25

Student Engagement in Writing Processes in 3rd Year of Implementation (1212 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.09	0.08
ELA teacher	1.60**	0.07
Baseline school average	0.37**	0.14
Intercept	0.56*	0.25
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	1.11	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-26

Student Engagement in Writing Processes in 1st Year of Implementation (381 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.12	0.09
Baseline school average	0.47**	0.16
Intercept	2.12**	0.30
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.89	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-27

Student Engagement in Writing Processes in 2nd Year of Implementation (357 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.04	0.11
Baseline school average	0.35*	0.18
Intercept	2.28**	0.32
Random Effects	Variance Component	
School mean	0.16	
Teacher effect	0.84	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-28

Student Engagement in Writing Processes in 3rd Year of Implementation (312 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.18	0.13
Baseline school average	0.41	0.22
Intercept	2.05**	0.39
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	0.95	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-29

Major Goal—Improving Skills in Writing Processes in 1st Year of Implementation (1449 logs for 160 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.29	0.24
Baseline school average	1.01*	0.43
Intercept	-1.57**	0.57
Random Effects	Variance Component	
School mean	0.16	
Teacher effect	0.84	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-30

Major Goal—Improving Skills in Writing Processes in 2nd Year of Implementation (1306 logs for 147 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.48	0.34
Baseline school average	1.53*	0.59
Intercept	-0.66	0.77
Random Effects	Variance Component	
School mean	0.16	
Teacher effect	2.18	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-31

Major Goal—Improving Skills in Writing Processes in 3rd Year of Implementation (1132 logs for 129 7th- and 8th-Grade ELA Teachers in 34 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.49	0.27
Baseline school average	0.38	0.47
Intercept	-0.31	0.59
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	1.55	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-32

Collaborative Writing Activities in 1st Year of Implementation (1161 logs for 159 7th- and 8th-Grade ELA Teachers in 38 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.19
Baseline school average	1.83*	0.90
Intercept	-1.29**	0.27
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.61	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-33

Collaborative Writing Activities in 2nd Year of Implementation (1130 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.23	0.21
Baseline school average	3.58**	0.98
Intercept	-1.87**	0.30
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.71	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-34

Collaborative Writing Activities in 3rd Year of Implementation (971 logs for 129 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.42*	0.21
Baseline school average	0.98	0.96
Intercept	-1.22**	0.29
Random Effects	Variance Component	
School mean	0.04	
Teacher effect	0.48	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-35

Brainstorming or Organizing Ideas in 1st Year of Implementation (1569 logs for 160 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.25	0.21
Baseline school average	0.08	0.05
Intercept	-0.97**	0.29
Random Effects	Variance Component	
School mean	0.14	
Teacher effect	0.55	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-36

Brainstorming or Organizing Ideas in 2nd Year of Implementation (1268 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.08	0.22
Baseline school average	0.11*	0.05
Intercept	-0.73*	0.31
Random Effects	Variance Component	
School mean	0.06	
Teacher effect	0.78	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-37

Brainstorming or Organizing Ideas in 3rd Year of Implementation (1109 logs for 130 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.05	0.20
Baseline school average	0.07	0.05
Intercept	-0.46	0.31
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.68	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-38

Composing Text in 1st Year of Implementation (1569 logs for 160 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.44*	0.21
Baseline school average	0.04	0.02
Intercept	-0.20	0.31
Random Effects	Variance Component	
School mean	0.07	0.09
Teacher effect	0.78	0.18

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-39

Composing Text in 2nd Year of Implementation (1268 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.23	0.25
Baseline school average	0.04	0.03
Intercept	0.22	0.37
Random Effects	Variance Component	
School mean	0.13	
Teacher effect	0.87	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-40

Composing Text in 3rd Year of Implementation (1109 logs for 130 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.17	0.21
Baseline school average	0.00	0.03
Intercept	0.91*	0.35
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.79	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-41

Revising Text in 1st Year of Implementation (1569 logs for 160 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.05	0.21
Baseline school average	0.11*	0.05
Intercept	-1.42**	0.27
Random Effects	Variance Component	
School mean	0.06	
Teacher effect	0.57	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-42

Revising Text in 2nd Year of Implementation (1268 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.04	0.23
Baseline school average	0.08	0.05
Intercept	-1.26**	0.30
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	1.00	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-43

Revising Text in 3rd Year of Implementation (1109 logs for 130 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.26	0.27
Baseline school average	-0.02	0.07
Intercept	-0.62	0.35
Random Effects	Variance Component	
School mean	0.01	
Teacher effect	1.38	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-44

Editing Text in 1st Year of Implementation (1570 logs for 160 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.12	0.27
Baseline school average	0.08	0.05
Intercept	-1.31**	0.30
Random Effects	Variance Component	
School mean	0.27	
Teacher effect	0.86	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-45

Editing Text in 2nd Year of Implementation (1268 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.16	0.27
Baseline school average	0.10*	0.05
Intercept	-1.11**	0.32
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	1.29	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-46

Editing Text in 3rd Year of Implementation (1109 logs for 130 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.21	0.34
Baseline school average	0.08	0.06
Intercept	-0.88*	0.38
Random Effects	Variance Component	
School mean	0.28	
Teacher effect	1.70	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-47

Teacher Assignments Summary of Processes Score for Grade 7 in 2nd Year of Implementation (280 Assignment Samples from 73 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.08	0.15
Baseline school average	0.40	0.23
Intercept	0.17	0.16

Random Effects	Variance Component
School mean	0.10
Teacher mean	0.05
Assignment sample effect	0.57

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-48

Teacher Assignments Summary of Processes Score for Grade 7 in 3rd Year of Implementation (254 Assignment Samples from 65 ELA Teachers in 32 Schools)

	Coefficient	SE
Partnership	0.03	0.12
Baseline school average	0.35*	0.20
Intercept	0.31	0.13

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.02
Assignment sample effect	0.85

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-49

Teacher Assignments Summary of Processes Score for Grade 8 in 2nd Year of Implementation (234 Assignment Samples from 63 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.23	0.12
Baseline school average	0.31	0.18
Intercept	0.08	0.13

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.12
Assignment sample effect	0.36

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-50

Teacher Assignments Summary of Processes Score for Grade 8 in 3rd Year of Implementation (233 Assignment Samples from 60 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.12
Baseline school average	-0.02	0.19
Intercept	0.32	0.13

Random Effects	Variance Component
School mean	0.04
Teacher mean	0.00
Assignment sample effect	0.51

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-51 to C-76 present HLM model estimates for teacher outcome ITT analyses not presented in Chapter 4. The results are presented by implementation year for survey, log, and teacher assignments measures, and also by all teachers and ELA teachers separately for survey measures.

Exhibit C-51

Variety of ELA-Oriented Genres from Survey in 1st Year of Implementation (1359 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.04	0.08
ELA teacher	1.58**	0.06
Baseline school average	0.74**	0.13
Intercept	-0.03	0.21
Random Effects	Variance Component	
School mean	0.14	
Teacher effect	1.03	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-52

Variety of ELA-Oriented Genres from Survey in 2nd Year of Implementation (1362 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.07
ELA teacher	1.51**	0.06
Baseline school average	0.54**	0.13
Intercept	0.27	0.21
Random Effects	Variance Component	
School mean	0.13	
Teacher effect	1.04	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-53

Variety of ELA-Oriented Genres from Survey in 3rd Year of Implementation (1215 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.08
ELA teacher	1.45**	0.07
Baseline school average	0.57**	0.14
Intercept	0.17	0.22
Random Effects	Variance Component	
School mean	0.14	
Teacher effect	1.04	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-54

Variety of ELA-Oriented Genres from Survey in 1st Year of Implementation (382 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.10
Baseline school average	0.61**	0.18
Intercept	1.69**	0.30
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.94	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-55

Variety of ELA-Oriented Genres from Survey in 2nd Year of Implementation (357 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.11
Baseline school average	0.66**	0.20
Intercept	1.54**	0.32
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	0.86	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-56

Variety of ELA-Oriented Genres from Survey in 3rd Year of Implementation (312 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.21	0.13
Baseline school average	0.55*	0.23
Intercept	1.60**	0.37
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	0.93	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-57

Variety of Content-Oriented Genres from Survey in 1st Year of Implementation (1361 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.08
ELA teacher	0.84**	0.08
Baseline school average	0.65**	0.10
Intercept	0.62*	0.25
Random Effects	Variance Component	
School mean	0.13	
Teacher effect	1.25	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-58

Variety of Content-Oriented Genres from Survey in 2nd Year of Implementation (1365 Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.07	0.09
ELA teacher	0.78**	0.08
Baseline school average	0.65**	0.12
Intercept	0.52	0.29
Random Effects	Variance Component	
School mean	0.20	
Teacher effect	1.22	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-59

Variety of Content-Oriented Genres from Survey in 3rd Year of Implementation (1218 Teachers in 35 Schools)

Fixed Effects	Coefficient		SE
Partnership	0.10		0.10
ELA teacher	0.84**	**	0.08
Baseline school average	0.81**	**	0.13
Intercept	0.01		0.30
Random Effects	Variance Component		
School mean	0.20		
Teacher effect	1.21		

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-60

Variety of Content-Oriented Genres from Survey in 1st Year of Implementation (382 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient		SE
Partnership	0.13		0.12
Baseline school average	0.44**		0.15
Intercept	1.85**		0.37
Random Effects	Variance Component		
School mean	0.14		
Teacher effect	1.02		

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-61

Variety of Content-Oriented Genres from Survey in 2nd Year of Implementation (357 ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.18	0.14
Baseline school average	0.65**	0.19
Intercept	1.24**	0.45
Random Effects	Variance Component	
School mean	0.29	
Teacher effect	0.93	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-62

Variety of Content-Oriented Genres from Survey in 3rd Year of Implementation (312 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.26	0.16
Baseline school average	0.85**	0.21
Intercept	0.67	0.48
Random Effects	Variance Component	
School mean	0.30	
Teacher effect	1.00	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-63

Variety of ELA-Oriented Genres from Log in 1st Year of Implementation (1161 logs for 159 7th- and 8th-Grade ELA Teachers in 38 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.02	0.02
Baseline school average	0.24*	0.12
Intercept	0.15**	0.03
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.01	
Log effect	0.03	

Source: 2007–08 and 2008–09 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-64

Variety of ELA-Oriented Genres from Log in 2nd Year of Implementation (1130 logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.02	0.03
Baseline school average	0.34*	0.16
Intercept	0.14**	0.04
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.02	
Log effect	0.03	

Source: 2007–08 and 2009–10 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-65

Variety of ELA-Oriented Genres from Log in 3rd Year of Implementation (971 Logs for 129 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.02	0.03
Baseline school average	0.26	0.17
Intercept	0.16**	0.04
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.02	
Log effect	0.02	

Source: 2007–08 and 2010–11 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-66

Variety of Content-Oriented Genres from Log in 1st Year of Implementation (1161 Logs for 159 7th- and 8th-Grade ELA Teachers in 38 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.03
Baseline school average	0.48*	0.19
Intercept	0.17**	0.05
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.02	
Log effect	0.04	

Source: 2007–08 and 2008–09 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-67

Variety of Content-Oriented Genres from Log in 2nd Year of Implementation (1130 Logs for 146 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.03
Baseline school average	0.32	0.20
Intercept	0.21**	0.05

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.02
Log effect	0.04

Source: 2007–08 and 2009–10 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-68

Variety of Content-Oriented Genres from Log in 3rd Year of Implementation (971 Logs for 129 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.03	0.03
Baseline school average	0.22	0.19
Intercept	0.21**	0.05

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.02
Log effect	0.04

Source: 2007–08 and 2010–11 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-69

Teacher Assignments Clarity Score for Grade 7 in 2nd Year of Implementation (277 Assignment Samples from 73 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.17
Baseline school average	0.41*	0.19
Intercept	1.65	0.58
Random Effects	Variance Component	
School mean	0.03	
Teacher mean	0.14	
Assignment sample effect	1.21	

Source: 2007–08 and 2008–09 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-70

Teacher Assignments Clarity Score for Grade 7 in 3rd Year of Implementation (254 Assignment Samples from 65 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.07	0.18
Baseline school average	0.28	0.19
Intercept	2.10	0.58
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.23	
Assignment sample effect	1.00	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-71

Teacher Assignments Clarity Score for Grade 8 in 2nd Year of Implementation (229 Assignment Samples from 63 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.26	0.21
Baseline school average	0.27	0.27
Intercept	1.82	0.83
Random Effects	Variance Component	
School mean	0.15	
Teacher mean	0.04	
Assignment sample effect	1.24	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-72

Teacher Assignments Clarity Score for Grade 8 in 3rd Year of Implementation (233 Assignment Samples from 60 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.01	0.25
Baseline school average	0.41	0.32
Intercept	1.48	0.96
Random Effects	Variance Component	
School mean	0.30	
Teacher mean	0.00	
Assignment sample effect	1.21	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-73

Teacher Assignments Construction of Knowledge Score for Grade 7 in 2nd Year of Implementation (237 Assignment Samples from 73 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.21*	0.10
Baseline school average	0.14	0.20
Intercept	1.79	0.46
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.00	
Assignment sample effect	0.61	

Source: 2007–08 and 2008–09 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-74

Teacher Assignments Construction of Knowledge Score for Grade 7 in 3rd Year of Implementation (199 Assignment Samples from 64 ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.27*	0.12
Baseline school average	0.14	0.22
Intercept	1.69	0.50
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.02	
Assignment sample effect	0.55	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-75

Teacher Assignments Construction of Knowledge Score for Grade 8 in 2nd Year of Implementation (191 Assignment Samples from 63 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.07	0.14
Baseline school average	-0.04	0.34
Intercept	2.44	0.79
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.12	
Assignment sample effect	0.52	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-76

Teacher Assignments Construction of Knowledge Score for Grade 8 in 3rd Year of Implementation (191 Assignment Samples from 60 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.04	0.13
Baseline school average	0.63*	0.30
Intercept	0.61	0.68
Random Effects	Variance Component	
School mean	0.02	
Teacher mean	0.00	
Assignment sample effect	0.61	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-77 to C-112 present HLM model estimates for student writing prompt ITT analyses presented in Chapter 4 by grade level and by implementation year.

Exhibit C-77

Writing Prompts Holistic Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 ELA Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.00	0.10
Baseline fall holistic score	0.68**	0.23
Baseline spring holistic score	0.03	0.21
Intercept	0.98	0.74
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.09	
Writing sample effect	0.85	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-78

Writing Prompts Holistic Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.00	0.11
Baseline fall holistic score	0.34	0.23
Baseline spring holistic score	0.14	0.21
Intercept	1.78	0.77
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.12	
Writing sample effect	0.78	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-79

Writing Prompts Holistic Score for Grade 7 in 3rd Year of Implementation (484 Writing Samples from 63 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.12
Baseline fall holistic score	0.30	0.27
Baseline spring holistic score	0.19	0.27
Intercept	1.78	0.83
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.13	
Writing sample effect	0.75	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-80

Writing Prompts Holistic Score for Grade 8 in 1st Year of Implementation (537 Writing Samples from 70 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.12	0.14
Baseline fall holistic score	0.27	0.29
Baseline spring holistic score	0.63*	0.29
Intercept	0.64	1.00
Random Effects	Variance Component	
School mean	0.02	
Teacher mean	0.19	
Writing sample effect	0.88	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-81

Writing Prompts Holistic Score for Grade 8 in 2nd Year of Implementation (462 Writing Samples from 60 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.22	0.15
Baseline fall holistic score	0.53	0.32
Baseline spring holistic score	0.45	0.29
Intercept	0.25	1.06
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.19	
Writing sample effect	0.87	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-82

Writing Prompts Holistic Score for Grade 8 in 3rd Year of Implementation (451 Writing Samples from 58 ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.17
Baseline fall holistic score	0.23	0.42
Baseline spring holistic score	0.22	0.38
Intercept	2.07	1.30
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.32	
Writing sample effect	0.86	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-83

Writing Prompts Content Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.08	0.10
Baseline fall content score	0.56*	0.22
Baseline spring content score	0.11	0.20
Intercept	1.20	0.71
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.06	
Writing sample effect	0.91	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-84

Writing Prompts Content Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.11	0.11
Baseline fall content score	0.42	0.26
Baseline spring content score	0.16	0.23
Intercept	1.48	0.82
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.12	
Writing sample effect	0.80	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-85

Writing Prompts Content Score for Grade 7 in 3rd Year of Implementation (484 Writing Samples from 63 Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.13
Baseline fall content score	0.47	0.30
Baseline spring content score	0.17	0.28
Intercept	1.27	0.85
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.12	
Writing sample effect	0.81	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-86

Writing Prompts Content Score for Grade 8 in 1st Year of Implementation (537 Writing Samples from 70 Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.11	0.10
Baseline fall content score	0.36	0.33
Baseline spring content score	0.64*	0.30
Intercept	0.31	1.00
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.19	
Writing sample effect	0.94	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-87

Writing Prompts Content Score for Grade 8 in 2nd Year of Implementation (462 Writing Samples from 60 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.18	0.15
Baseline fall content score	0.58	0.34
Baseline spring content score	0.42	0.30
Intercept	0.17	1.08
Random Effects		
Variance Component		
School mean	0.03	
Teacher mean	0.15	
Writing sample effect	0.92	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-88

Writing Prompts Content Score for Grade 8 in 3rd Year of Implementation (484 Writing Samples from 63 Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.16	0.17
Baseline fall content score	0.15	0.42
Baseline spring content score	0.40	0.37
Intercept	1.68	1.30
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.30	
Writing sample effect	0.91	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-89

Writing Prompts Structure Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 ELA Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.10
Baseline fall structure score	0.72**	0.24
Baseline spring structure score	-0.13	0.22
Intercept	1.35	0.71
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.10	
Writing sample effect	0.88	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-90

Writing Prompts Structure Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.14	0.11
Baseline fall structure score	0.49	0.26
Baseline spring structure score	0.03	0.24
Intercept	1.64	0.77
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.12	
Writing sample effect	0.84	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-91

Writing Prompts Structure Score for Grade 7 in 3rd Year of Implementation (485 Writing Samples from 63 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.02	0.13
Baseline fall structure score	0.46	0.28
Baseline spring structure score	0.05	0.26
Intercept	1.69	0.80

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.13
Writing sample effect	0.82

Source: 2007–08 and 2010–11 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-92

Writing Prompts Structure Score for Grade 8 in 1st Year of Implementation (537 Writing Samples from 70 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.09	0.14
Baseline fall structure score	0.30	0.30
Baseline spring structure score	0.61*	0.28
Intercept	0.59	0.93

Random Effects	Variance Component
School mean	0.03
Teacher mean	0.13
Writing sample effect	0.96

Source: 2007–08 and 2008–09 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-93

Writing Prompts Structure Score for Grade 8 in 2nd Year of Implementation (462 Writing Samples from 60 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.14
Baseline fall structure score	0.51	0.31
Baseline spring structure score	0.44	0.27
Intercept	0.38	0.93

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.16
Writing sample effect	0.89

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-94

Writing Prompts Structure Score for Grade 8 in 3rd Year of Implementation (451 Writing Samples from 58 ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.14	0.17
Baseline fall structure score	0.37	0.39
Baseline spring structure score	0.08	0.35
Intercept	2.01	1.18

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.27
Writing sample effect	0.95

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-95

Writing Prompts Stance Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 ELA Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.11
Baseline fall stance score	0.55*	0.24
Baseline spring stance score	0.18	0.22
Intercept	0.98	0.89

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.12
Writing sample effect	0.98

Source: 2007–08 and 2008–09 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-96

Writing Prompts Stance Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.09	0.12
Baseline fall stance score	0.47	0.26
Baseline spring stance score	0.19	0.24
Intercept	1.26	0.90

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.15
Writing sample effect	0.84

Source: 2007–08 and 2009–10 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-97

Writing Prompts Stance Score for Grade 7 in 3rd Year of Implementation (485 Writing Samples from 63 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.05	0.13
Baseline fall stance score	0.26	0.28
Baseline spring stance score	0.36	0.26
Intercept	1.33	0.90

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.13
Writing sample effect	0.84

Source: 2007–08 and 2010–11 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-98

Writing Prompts Stance Score for Grade 8 in 1st Year of Implementation (537 Writing Samples from 70 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.13	0.14
Baseline fall stance score	0.08	0.29
Baseline spring stance score	0.83**	0.31
Intercept	0.55	1.06

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.21
Writing sample effect	0.90

Source: 2007–08 and 2008–09 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-99

Writing Prompts Stance Score for Grade 8 in 2nd Year of Implementation (462 Writing Samples from 60 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.14
Baseline fall stance score	0.22	0.30
Baseline spring stance score	0.58*	0.28
Intercept	0.88	1.09

Random Effects	Variance Component
School mean	0.01
Teacher mean	0.16
Writing sample effect	0.98

Source: 2007–08 and 2009–10 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-100

Writing Prompts Stance Score for Grade 8 in 3rd Year of Implementation (451 Writing Samples from 58 ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.08	0.16
Baseline fall stance score	0.23	0.35
Baseline spring stance score	0.18	0.33
Intercept	2.38	1.25

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.24
Writing sample effect	0.89

Source: 2007–08 and 2010–11 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-101

Writing Prompts Sentence Fluency Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 ELA Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.12
Baseline fall sentence fluency score	0.62*	0.24
Baseline spring sentence fluency score	0.15	0.24
Intercept	0.75	0.84

Random Effects	Variance Component
School mean	0.00
Teacher mean	0.13
Writing sample effect	0.96

Source: 2007–08 and 2008–09 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-102

Writing Prompts Sentence Fluency Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.10	0.12
Baseline fall sentence fluency score	0.50	0.26
Baseline spring sentence fluency score	0.06	0.27
Intercept	1.51	0.87

Random Effects	Variance Component
School mean	0.01
Teacher mean	0.13
Writing sample effect	0.85

Source: 2007–08 and 2009–10 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-103

Writing Prompts Sentence Fluency Score for Grade 7 in 3rd Year of Implementation (485 Writing Samples from 63 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.05	0.13
Baseline fall sentence fluency score	0.23	0.27
Baseline spring sentence fluency score	0.17	0.28
Intercept	2.04	0.86
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.13	
Writing sample effect	0.82	

Source: 2007–08 and 2010–11 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-104

Writing Prompts Sentence Fluency Score for Grade 8 in 1st Year of Implementation (537 Writing Samples from 70 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.08	0.16
Baseline fall sentence fluency score	0.12	0.33
Baseline spring sentence fluency score	0.59	0.35
Intercept	1.30	1.12
Random Effects		
Variance Component		
School mean	0.04	
Teacher mean	0.21	
Writing sample effect	0.89	

Source: 2007–08 and 2008–09 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-105**Writing Prompts Sentence Fluency Score for Grade 8 in 2nd Year of Implementation (462 Writing Samples from 60 ELA Teachers in 35 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.04	0.15
Baseline fall sentence fluency score	0.50	0.30
Baseline spring sentence fluency score	0.60	0.31
Intercept	-0.07	1.11
Random Effects		
Variance Component		
School mean	0.01	
Teacher mean	0.16	
Writing sample effect	0.98	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-106**Writing Prompts Sentence Fluency Score for Grade 8 in 3rd Year of Implementation (451 Writing Samples from 58 ELA Teachers in 31 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.19	0.17
Baseline fall sentence fluency score	0.29	0.37
Baseline spring sentence fluency score	0.36	0.36
Intercept	1.34	1.33
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.29	
Writing sample effect	0.90	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-107

Writing Prompts Diction Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 ELA Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.01	0.11
Baseline fall diction score	0.24	0.29
Baseline spring diction score	0.39	0.22
Intercept	1.21	0.84
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.11	
Writing sample effect	0.86	
<i>Source: 2007–08 and 2008–09 writing prompts.</i>		
<i>*$p < 0.05$, **$p < 0.01$.</i>		

Exhibit C-108

Writing Prompts Diction Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 ELA Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.03	0.12
Baseline fall diction score	0.10	0.31
Baseline spring diction score	0.35	0.24
Intercept	1.84	0.90
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.12	
Writing sample effect	0.75	
<i>Source: 2007–08 and 2009–10 writing prompts.</i>		
<i>*$p < 0.05$, **$p < 0.01$.</i>		

Exhibit C-109**Writing Prompts Diction Score for Grade 7 in 3rd Year of Implementation
(485 Writing Samples from 63 ELA Teachers in 32 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.03	0.12
Baseline fall diction score	0.41	0.37
Baseline spring diction score	0.17	0.27
Intercept	1.45	0.96
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.11	
Writing sample effect	0.85	

Source: 2007–08 and 2010–11 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-110**Writing Prompts Diction Score for Grade 8 in 1st Year of Implementation
(537 Writing Samples from 70 ELA Teachers in 36 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.04	0.15
Baseline fall diction score	0.14	0.37
Baseline spring diction score	0.79*	0.32
Intercept	0.47	1.17
Random Effects		
Variance Component		
School mean	0.02	
Teacher mean	0.22	
Writing sample effect	0.84	

Source: 2007–08 and 2008–09 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-111

Writing Prompts Diction Score for Grade 8 in 2nd Year of Implementation (462 Writing Samples from 60 ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.14
Baseline fall diction score	0.33	0.40
Baseline spring diction score	0.49	0.30
Intercept	0.83	1.19
Random Effects		
Variance Component		
School mean	0.02	
Teacher mean	0.14	
Writing sample effect	0.94	

Source: 2007–08 and 2009–10 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-112

Writing Prompts Diction Score for Grade 8 in 3rd Year of Implementation (451 Writing Samples from 58 ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.18	0.17
Baseline fall diction score	0.70	0.57
Baseline spring diction score	0.11	0.39
Intercept	0.86	1.56
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.30	
Writing sample effect	0.86	

Source: 2007–08 and 2010–11 writing prompts.
* $p < 0.05$, ** $p < 0.01$.

Exhibit C-113**Writing Prompts Conventions Score for Grade 7 in 1st Year of Implementation (611 Writing Samples from 81 ELA Teachers in 37 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.12
Baseline fall conventions score	0.37	0.39
Baseline spring conventions score	0.44	0.29
Intercept	0.57	0.90
Random Effects		
Variance Component		
School mean	0.00	
Teacher mean	0.16	
Writing sample effect	0.96	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-114**Writing Prompts Conventions Score for Grade 7 in 2nd Year of Implementation (570 Writing Samples from 74 ELA Teachers in 36 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.06	0.14
Baseline fall holistic score	0.38	0.40
Baseline spring holistic score	0.26	0.31
Intercept	1.15	0.95
Random Effects		
Variance Component		
School mean	0.06	
Teacher mean	0.09	
Writing sample effect	0.85	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-115**Writing Prompts Conventions Score for Grade 7 in 3rd Year of
Implementation (485 Writing Samples from 63 ELA Teachers in 32 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.04	0.13
Baseline fall holistic score	0.37	0.38
Baseline spring holistic score	0.21	0.31
Intercept	1.41	0.91
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.15	
Writing sample effect	0.86	

Source: 2007–08 and 2010–11 writing prompts.

** $p < 0.05$, ** $p < 0.01$.*

Exhibits C-116 to C-127 present HLM model estimates for student work ITT analyses presented in Chapter 4 by grade level and by implementation year. Student work samples were collected and scored in the baseline year and years 2 and 3 of the study.

Exhibit C-116

Student Work Holistic Score for Grade 7 in 2nd Year of Implementation (562 Student Work Samples from 142 Teacher Assignments from 73 Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.06	0.16
Baseline school average	0.41	0.25
Intercept	1.92	0.87
Random Effects	Variance Component	
School mean	0.07	
Teacher mean	0.06	
Teacher assignments mean	0.33	
Student work sample effect	0.59	

Source: 2007–08 and 2008–09 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-117

Student Work Holistic Score for Grade 7 in 3rd Year of Implementation (495 Student Work Samples from 124 Teacher Assignments from 63 Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.06	0.14
Baseline school average	1.03*	0.22
Intercept	-0.02	0.74
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.03	
Teacher assignments mean	0.37	
Student work sample effect	0.52	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-118

Student Work Holistic Score for Grade 8 in 2nd Year of Implementation (475 Student Work Samples from 119 Teacher Assignments from 62 Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.17
Baseline school average	0.41	0.25
Intercept	2.27	0.85
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.17	
Teacher assignments mean	0.34	
Student work sample effect	0.73	

Source: 2007–08 and 2009–10 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-119

Student Work Holistic Score for Grade 8 in 3rd Year of Implementation (459 Student Work Samples from 116 Teacher Assignments from 60 Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.17	0.20
Baseline school average	0.69	0.35
Intercept	1.16	1.22
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.38	
Teacher assignments mean	0.30	
Student work sample effect	0.55	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-120

Student Work Construction of Knowledge Score for Grade 7 in 2nd Year of Implementation (453 Student Work Samples from 115 Teacher Assignments from 72 Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.09	0.14
Baseline school average	0.30	0.26
Intercept	1.56	0.54
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.00	
Teacher assignments mean	0.49	
Student work sample effect	0.20	

Source: 2007–08 and 2008–09 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-121

Student Work Construction of Knowledge Score for Grade 7 in 3rd Year of Implementation (353 Student Work Samples from 89 Teacher Assignments from 58 Teachers in 30 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.00	0.17
Baseline school average	0.19	0.32
Intercept	1.92	0.67
Random Effects	Variance Component	
School mean	0.05	
Teacher mean	0.00	
Teacher assignments mean	0.35	
Student work sample effect	0.20	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-122

Student Work Construction of Knowledge Score for Grade 8 in 2nd Year of Implementation (367 Student Work Samples from 92 Teacher Assignments from 59 Teachers in 34 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.14	0.17
Baseline school average	0.18	0.26
Intercept	2.03	0.53
Random Effects	Variance Component	
School mean	0.05	
Teacher mean	0.00	
Teacher assignments mean	0.33	
Student work sample effect	0.30	

Source: 2007–08 and 2009–10 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-123

Student Work Construction of Knowledge Score for Grade 8 in 3rd Year of Implementation (342 Student Work Samples from 87 Teacher Assignments from 53 Teachers in 27 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.05	0.17
Baseline school average	0.28	0.30
Intercept	1.70	0.60
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.03	
Teacher assignments mean	0.41	
Student work sample effect	0.21	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-124

Student Work Expository Writing Score for Grade 7 in 2nd Year of Implementation (567 Student Work Samples from 143 Teacher Assignments from 73 Teachers in 36 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.08	0.17
Baseline school average	0.37	0.22
Intercept	1.91	0.64
Random Effects	Variance Component	
School mean	0.07	
Teacher mean	0.10	
Teacher assignments mean	0.32	
Student work sample effect	0.64	

Source: 2007–08 and 2008–09 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-125

Student Work Expository Writing Score for Grade 7 in 3rd Year of Implementation (495 Student Work Samples from 63 Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.24	0.15
Baseline school average	0.33	0.18
Intercept	2.03	0.53
Random Effects	Variance Component	
School mean	0.04	
Teacher mean	0.01	
Teacher assignments mean	0.35	
Student work sample effect	0.54	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-126**Student Work Expository Writing Score for Grade 8 in 2nd Year of Implementation (475 Student Work Samples from 62 Teachers in 36 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.10	0.16
Baseline school average	0.08	0.22
Intercept	3.07	0.63
Random Effects	Variance Component	
School mean	0.05	
Teacher mean	0.04	
Teacher assignments mean	0.27	
Student work sample effect	0.59	

Source: 2007–08 and 2009–10 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-127**Student Work Expository Writing Score for Grade 8 in 3rd Year of Implementation (459 Student Work Samples from 60 Teachers in 32 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.03	0.18
Baseline school average	0.34	0.26
Intercept	2.14	0.74
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.15	
Teacher assignments mean	0.48	
Student work sample effect	0.47	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Analyses for teachers (and their students) who responded to all 4 years of survey

Exhibits C-128 to C-177 present HLM model estimates for teacher outcome ITT analyses discussed in Chapter 4, for the subset of teachers who responded to the teacher survey in each of the 4 years of the study (i.e., a longitudinal sample). The results are presented by implementation year for survey, log, and teacher assignments measures, and also by all teachers and ELA teachers separately for survey measures.

Exhibit C-128

Teachers' Perceived Influence of Professional Development in 1st Year of Implementation (682 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.34	0.22
ELA teacher	1.36**	0.16
Baseline school average	0.37**	0.14
Intercept	1.22*	0.57
Random Effects	Variance Component	
School mean	0.45	
Teacher effect	1.95	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-129

Teachers' Perceived Influence of Professional Development in 2nd Year of Implementation (671 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.82**	0.20
ELA teacher	1.57**	0.16
Baseline school average	0.25*	0.13
Intercept	1.15*	0.52
Random Effects	Variance Component	
School mean	0.37	
Teacher effect	1.89	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-130

Teachers' Perceived Influence of Professional Development in 3rd Year of Implementation (516 Teachers in 35 Schools)

Fixed Effects	Coefficient		SE
Partnership	0.81**	**	0.22
ELA teacher	0.54**	**	0.17
Baseline school average	0.66**	**	0.15
Intercept	0.45		0.61
Random Effects	Variance Component		
School mean	0.37		
Teacher effect	1.84		

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-131

Teachers' Perceived Influence of Professional Development in 1st Year of Implementation (224 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient		SE
Partnership	0.73*	*	0.29
Baseline school average	0.40*	*	0.19
Intercept	2.25**	**	0.74
Random Effects	Variance Component		
School mean	0.35		
Teacher effect	1.88		

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-132

Teachers' Perceived Influence of Professional Development in 2nd Year of Implementation (223 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.26**	0.35
Baseline school average	0.22	0.22
Intercept	2.63**	0.90
Random Effects	Variance Component	
School mean	0.65	
Teacher effect	1.86	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-133

Teachers' Perceived Influence of Professional Development in 3rd Year of Implementation (210 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.71**	0.30
Baseline school average	0.44*	0.20
Intercept	1.41	0.77
Random Effects	Variance Component	
School mean	0.42	
Teacher effect	1.81	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-134

Engagement in Any Writing Activity in 1st Year of Implementation (671 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.72*	0.35
Baseline school average	3.06*	1.47
Intercept	-1.29	1.05
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	1.24	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-135

Engagement in Any Writing Activity in 2nd Year of Implementation (659 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.10**	0.33
Baseline school average	2.61	1.40
Intercept	-0.90	0.99
Random Effects		Variance Component
School mean	0.00	
Teacher effect	0.98	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-136

Engagement in Any Writing Activity in 3rd Year of Implementation (654 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.94**	0.28
Baseline school average	2.16	1.18
Intercept	-0.62	0.83
Random Effects		Variance Component
School mean	0.00	
Teacher effect	0.54	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-137

Length of Writing from Log—At Least 1 or 2 One-Paragraph Responses in 1st Year of Implementation (461 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.33	0.34
Baseline school average	2.95	1.61
Intercept	-1.08	1.19
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.88	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-138

Length of Writing from Log—At Least 1 or 2 One-Paragraph Responses in 2nd Year of Implementation (484 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.29	0.32
Baseline school average	2.41	1.46
Intercept	-0.69	1.08
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.75	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-139

Length of Writing from Log—At Least 1 or 2 One-Paragraph Responses in 3rd Year of Implementation (484 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.03	0.37
Baseline school average	1.45	1.69
Intercept	0.02	1.26
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	1.37	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-140

Length of Writing from Survey—At Least 1 or 2 One-Paragraph Responses / Compositions in 3rd Year of Implementation (639 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Model for school means		
Partnership	0.08	0.05
ELA teacher	0.44**	0.04
Baseline school average	0.07	0.07
Intercept	0.17	0.16
Random Effects	Variance Component	
School mean	0.11	
Teacher effect	0.45	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-141

Length of Writing from Survey—At Least 1 or 2 One-Paragraph Responses/Compositions in 3rd Year of Implementation (161 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Model for school means		
Partnership	0.07	0.08
Baseline school average	0.11	0.11
Intercept	0.52*	0.25
Random Effects	Variance Component	
School mean	0.13	
Teacher effect	0.38	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-142

Writing to Learn in 3rd Year of Implementation (670 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.10	0.12
ELA teacher	0.33**	0.09
Baseline school average	0.93**	0.15
Intercept	-0.26	0.34
Random Effects	Variance Component	
School mean	0.23	
Teacher effect	1.04	

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-143**Writing to Learn in 3rd Year of Implementation (168 ELA Teachers in 33 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.19	0.20
Baseline school average	0.64*	0.28
Intercept	0.64	0.63
Random Effects	Variance Component	
School mean	0.41	
Teacher effect	0.86	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-144**Class Time Devoted to Four Key Writing Processes in 1st Year of Implementation (679 Teachers in 35 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.04	0.12
ELA teacher	1.69**	0.10
Baseline school average	0.48**	0.18
Intercept	0.50	0.33
Random Effects	Variance Component	
School mean	0.23	
Teacher effect	1.13	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-145

Class Time Devoted to Four Key Writing Processes in 2nd Year of Implementation (664 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.01	0.13
ELA teacher	1.60**	0.10
Baseline school average	0.45*	0.19
Intercept	0.48	0.36
Random Effects	Variance Component	
School mean	0.25	
Teacher effect	1.15	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-146

Class Time Devoted to Four Key Writing Processes in 3rd Year of Implementation (668 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.01	0.11
ELA teacher	1.55**	0.10
Baseline school average	0.41*	0.17
Intercept	0.47	0.32
Random Effects	Variance Component	
School mean	0.20	
Teacher effect	1.11	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-147

Class Time Devoted to Four Key Writing Processes in 1st Year of Implementation (182 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.27	0.19
Baseline school average	0.42	0.27
Intercept	2.14**	0.52
Random Effects	Variance Component	
School mean	0.33	
Teacher effect	0.93	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-148

Class Time Devoted to Four Key Writing Processes in 2nd Year of Implementation (174 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.05	0.15
Baseline school average	0.48*	0.22
Intercept	2.01**	0.42
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	0.88	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-149

Class Time Devoted to Four Key Writing Processes in 3rd Year of Implementation
(168 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.18
Baseline school average	0.28	0.28
Intercept	2.18**	0.51
Random Effects	Variance Component	
School mean	0.27	
Teacher effect	0.98	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-150

Student Engagement in Writing Processes in 1st Year of Implementation
(678 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.07	0.15
ELA teacher	1.70**	0.09
Baseline school average	0.47*	0.24
Intercept	0.51	0.43
Random Effects	Variance Component	
School mean	0.33	
Teacher effect	1.07	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-151**Student Engagement in Writing Processes in 2nd Year of Implementation
(664 Teachers in 35 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.11
ELA teacher	1.59**	0.10
Baseline school average	0.48**	0.18
Intercept	0.46	0.31
Random Effects		
Variance Component		
School mean	0.17	
Teacher effect	1.09	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-152**Student Engagement in Writing Processes in 3rd Year of Implementation
(669 Teachers in 35 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.01	0.11
ELA teacher	1.56**	0.09
Baseline school average	0.51**	0.19
Intercept	0.34	0.33
Random Effects		
Variance Component		
School mean	0.21	
Teacher effect	1.05	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-153**Student Engagement in Writing Processes in 1st Year of Implementation
(182 ELA Teachers in 32 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.07	0.14
Baseline school average	0.45	0.24
Intercept	2.17**	0.44
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	0.89	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-154**Student Engagement in Writing Processes in 2nd Year of Implementation
(174 ELA Teachers in 33 Schools)**

Fixed Effects	Coefficient	SE
Partnership	-0.05	0.13
Baseline school average	0.42	0.22
Intercept	2.18**	0.39
Random Effects	Variance Component	
School mean	0.09	
Teacher effect	0.82	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-155

Student Engagement in Writing Processes in 3rd Year of Implementation (168 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.23	0.17
Baseline school average	0.47	0.29
Intercept	1.85**	0.51
Random Effects	Variance Component	
School mean	0.26	
Teacher effect	0.91	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-156

Major Goal—Improving Skills in Writing Processes in 1st Year of Implementation (638 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.04	0.32
Baseline school average	1.53*	0.63
Intercept	-1.98*	0.78
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	1.13	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-157

Major Goal—Improving Skills in Writing Processes in 2nd Year of Implementation

(630 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.09*	0.44
Baseline school average	2.21*	0.88
Intercept	-2.04	1.06
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	2.20	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-158

Major Goal—Improving Skills in Writing Processes in 3rd Year of Implementation

(595 Logs for 67 7th- and 8th-Grade ELA Teachers in 30 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.46	0.41
Baseline school average	1.21	0.77
Intercept	-1.35	0.95
Random Effects	Variance Component	
School mean	0.13	
Teacher effect	1.53	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-159

Collaborative Writing Activities in 1st Year of Implementation (497 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.11	0.29
Baseline school average	3.36*	1.44
Intercept	-1.60**	0.43
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.64	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-160

Collaborative Writing Activities in 2nd Year of Implementation (522 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.18	0.29
Baseline school average	5.76**	1.48
Intercept	-2.58**	0.47
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.56	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-161

Collaborative Writing Activities in 3rd Year of Implementation (511 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.24	0.27
Baseline school average	2.81*	1.30
Intercept	-1.55**	0.39
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.48	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-162

Brainstorming or Organizing Ideas in 1st Year of Implementation (679 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.28	0.24
Baseline school average	0.17**	0.06
Intercept	-1.64**	0.37
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.40	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-163

Brainstorming or Organizing Ideas in 2nd Year of Implementation (595 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.31
Baseline school average	0.07	0.08
Intercept	-0.75	0.48
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	1.03	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-164

Brainstorming or Organizing Ideas in 3rd Year of Implementation (579 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.32
Baseline school average	0.02	0.08
Intercept	-0.33	0.51
Random Effects	Variance Component	
School mean	0.14	
Teacher effect	0.57	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-165

Composing Text in 1st Year of Implementation

(679 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.62*	0.29
Baseline school average	0.00	0.04
Intercept	0.01	0.48
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.88	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-166

Composing Text in 2nd Year of Implementation

(595 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.78**	0.29
Baseline school average	-0.02	0.04
Intercept	0.59	0.47
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.76	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-167

Composing Text in 3rd Year of Implementation

(579 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.04	0.26
Baseline school average	-0.01	0.04
Intercept	0.76	0.41
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.47	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

**p < 0.05, **p < 0.01.*

Exhibit C-168

Revising Text in 1st Year of Implementation

(679 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.16	0.33
Baseline school average	0.17*	0.08
Intercept	-1.69**	0.41
Random Effects	Variance Component	
School mean	0.26	
Teacher effect	0.50	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

**p < 0.05, **p < 0.01.*

Exhibit C-169

Revising Text in 2nd Year of Implementation

(595 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.07	0.29
Baseline school average	0.11	0.07
Intercept	-1.51**	0.38
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.72	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

**p < 0.05, **p < 0.01.*

Exhibit C-170

Revising Text in 3rd Year of Implementation

(579 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.15	0.32
Baseline school average	0.06	0.08
Intercept	-0.99*	0.40
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.96	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

**p < 0.05, **p < 0.01.*

Exhibit C-171

Editing Text in 1st Year of Implementation

(680 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.32	0.39
Baseline school average	0.11	0.07
Intercept	-1.61**	0.44
Random Effects	Variance Component	
School mean	0.23	
Teacher effect	1.21	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2008–09 teacher logs.

**p < 0.05, **p < 0.01.*

Exhibit C-172

Editing Text in 2nd Year of Implementation

(595 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.06	0.43
Baseline school average	0.12	0.08
Intercept	-1.53**	0.49
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	2.15	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2009–10 teacher logs.

**p < 0.05, **p < 0.01.*

Exhibit C-173

Editing Text in 3rd Year of Implementation

(579 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.18	0.41
Baseline school average	0.12	0.08
Intercept	-1.41**	0.48
Random Effects	Variance Component	
School mean	0.22	
Teacher effect	1.40	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher logs.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-174

Teacher Assignments Summary of Processes Score for Grade 7 in 2nd Year of Implementation (150 Assignment Samples from 39 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.12	0.18
Baseline school average	0.54	0.30
Intercept	0.28	0.18
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.13	
Assignment sample effect	0.72	

Source: 2007–08 and 2009–10 teacher assignments.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-175

Teacher Assignments Summary of Processes Score for Grade 7 in 3rd Year of Implementation (134 Assignment Samples from 34 ELA Teachers in 23 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.02	0.19
Baseline school average	0.47	0.34
Intercept	0.29	0.21
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.08	
Assignment sample effect	0.82	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-176

Teacher Assignments Summary of Processes Score for Grade 8 in 2nd Year of Implementation (122 Assignment Samples from 33 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.18
Baseline school average	0.48	0.28
Intercept	-0.02	0.22
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.14	
Assignment sample effect	0.39	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-177

Teacher Assignments Summary of Processes Score for Grade 8 in 3rd Year of Implementation (141 Assignment Samples from 36 ELA Teachers in 26 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.20	0.14
Baseline school average	-0.03	0.21
Intercept	0.29	0.16
Random Effects	Variance Component	
School mean	0.02	
Teacher mean	0.00	
Assignment sample effect	0.56	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-178 to C-203 present HLM model estimates for teacher outcome ITT analyses for teachers (and their students) who responded to all 4 years of survey on outcomes not discussed in Chapter 4. The results are presented by implementation year for survey, log, and teacher assignments measures, and also by all teachers and ELA teachers separately for survey measures.

Exhibit C-178

Variety of ELA-Oriented Genres from Survey in 1st Year of Implementation (679 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.10
ELA teacher	1.54**	0.09
Baseline school average	0.52**	0.17
Intercept	0.27	0.26
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	0.98	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-179

Variety of ELA-Oriented Genres from Survey in 2nd Year of Implementation (666 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.10
ELA teacher	1.48**	0.09
Baseline school average	0.51**	0.17
Intercept	0.32	0.27
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	1.02	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-180

Variety of ELA-Oriented Genres from Survey in 3rd Year of Implementation (671 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.05	0.09
ELA teacher	1.44**	0.09
Baseline school average	0.50**	0.16
Intercept	0.26	0.26
Random Effects	Variance Component	
School mean	0.14	
Teacher effect	1.00	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-181

Variety of ELA-Oriented Genres from Survey in 1st Year of Implementation (182 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.15	0.15
Baseline school average	0.59*	0.26
Intercept	1.63**	0.42
Random Effects	Variance Component	
School mean	0.13	
Teacher effect	0.93	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-182

Variety of ELA-Oriented Genres from Survey in 2nd Year of Implementation (174 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.13
Baseline school average	0.48*	0.23
Intercept	1.82**	0.36
Random Effects	Variance Component	
School mean	0.08	
Teacher effect	0.83	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-183

Variety of ELA-Oriented Genres from Survey in 3rd Year of Implementation (168 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.16	0.18
Baseline school average	0.33	0.31
Intercept	1.90**	0.49
Random Effects	Variance Component	
School mean	0.26	
Teacher effect	0.93	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-184

Variety of Content-Oriented Genres from Survey in 1st Year of Implementation (679 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.02	0.11
ELA teacher	0.64**	0.11
Baseline school average	0.72**	0.14
Intercept	0.48	0.32
Random Effects	Variance Component	
School mean	0.16	
Teacher effect	1.23	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-185

Variety of Content-Oriented Genres from Survey in 2nd Year of Implementation (667 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.09	0.13
ELA teacher	0.64**	0.11
Baseline school average	0.81**	0.16
Intercept	0.24	0.36
Random Effects	Variance Component	
School mean	0.22	
Teacher effect	1.22	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-186

Variety of Content-Oriented Genres from Survey in 3rd Year of Implementation (672 Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.06	0.12
ELA teacher	0.77**	0.11
Baseline school average	0.89**	0.16
Intercept	-0.14	0.36
Random Effects	Variance Component	
School mean	0.22	
Teacher effect	1.18	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-187

Variety of Content-Oriented Genres from Survey in 1st Year of Implementation (182 ELA Teachers in 32 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.07	0.19
Baseline school average	0.54*	0.24
Intercept	1.50**	0.57
Random Effects	Variance Component	
School mean	0.27	
Teacher effect	1.04	

Source: 2007–08 and 2008–09 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-188

Variety of Content-Oriented Genres from Survey in 2nd Year of Implementation (174 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.13	0.17
Baseline school average	0.77**	0.22
Intercept	1.07*	0.51
Random Effects	Variance Component	
School mean	0.24	
Teacher effect	0.92	

Source: 2007–08 and 2009–10 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-189

Variety of Content-Oriented Genres from Survey in 3rd Year of Implementation (168 ELA Teachers in 33 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.06	0.21
Baseline school average	0.82**	0.28
Intercept	0.77	0.64
Random Effects	Variance Component	
School mean	0.37	
Teacher effect	0.99	

Source: 2007–08 and 2010–11 teacher surveys.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-190

Variety of ELA-Oriented Genres from Log in 1st Year of Implementation (497 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.01	0.03
Baseline school average	0.40*	0.20
Intercept	0.11*	0.05
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.01	
Log effect	0.03	

Source: 2007–08 and 2008–09 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-191

Variety of ELA-Oriented Genres from Log in 2nd Year of Implementation (522 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.03	0.04
Baseline school average	0.37	0.26
Intercept	0.11	0.06
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.01	
Log effect	0.03	

Source: 2007–08 and 2009–10 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-192

Variety of ELA-Oriented Genres from Log in 3rd Year of Implementation (511 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.01	0.03
Baseline school average	0.71**	0.23
Intercept	0.04	0.05
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.01	
Log effect	0.02	

Source: 2007–08 and 2010–11 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-193

Variety of Content-Oriented Genres from Log in 1st Year of Implementation (497 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.03	0.04
Baseline school average	0.46	0.25
Intercept	0.15*	0.06
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.01	
Log effect	0.04	

Source: 2007–08 and 2008–09 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-194

Variety of Content-Oriented Genres from Log in 2nd Year of Implementation (522 Logs for 67 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.00	0.04
Baseline school average	0.26	0.30
Intercept	0.20**	0.08
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.02	
Log effect	0.04	

Source: 2007–08 and 2009–10 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-195

Variety of Content-Oriented Genres from Log in 3rd Year of Implementation (511 Logs for 68 7th- and 8th-Grade ELA Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.05	0.03
Baseline school average	0.41	0.24
Intercept	0.16*	0.06
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.02	
Log effect	0.03	

Source: 2007–08 and 2010–11 teacher logs.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-196

Teacher Assignments Clarity Score for Grade 7 in 2nd Year of Implementation (147 Assignment Samples from 39 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.31	0.19
Baseline school average	0.74**	0.20
Intercept	0.58	0.59
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.04	
Assignment sample effect	1.16	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-197

Teacher Assignments Clarity Score for Grade 7 in 3rd Year of Implementation (134 Assignment Samples from 34 ELA Teachers in 23 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.21	0.21
Baseline school average	0.74**	0.23
Intercept	0.71	0.69
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.12	
Assignment sample effect	1.03	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-198

Teacher Assignments Clarity Score for Grade 8 in 2nd Year of Implementation (120 Assignment Samples from 33 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.04	0.27
Baseline school average	0.47	0.36
Intercept	1.26	1.09
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.26	
Assignment sample effect	1.22	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-199

Teacher Assignments Clarity Score for Grade 8 in 3rd Year of Implementation (141 Assignment Samples from 36 ELA Teachers in 26 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.30
Baseline school average	0.34	0.37
Intercept	1.60	1.12
Random Effects	Variance Component	
School mean	0.24	
Teacher mean	0.09	
Assignment sample effect	1.27	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-200

Teacher Assignments Construction of Knowledge Score for Grade 7 in 2nd Year of Implementation (128 Assignment Samples from ELA 39 Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.24	0.13
Baseline school average	0.05	0.24
Intercept	2.06	0.55
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.00	
Assignment sample effect	0.54	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-201

Teacher Assignments Construction of Knowledge Score for Grade 7 in 3rd Year of Implementation (102 Assignment Samples from 34 ELA Teachers in 23 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.09	0.15
Baseline school average	-0.15	0.25
Intercept	2.59	0.58
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.00	
Assignment sample effect	0.51	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-202

Teacher Assignments Construction of Knowledge Score for Grade 8 in 2nd Year of Implementation (93 Assignment Samples from 33 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.07	0.21
Baseline school average	-0.39	0.61
Intercept	3.33	1.43
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.16	
Assignment sample effect	0.49	

Source: 2007–08 and 2009–10 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-203

Teacher Assignments Construction of Knowledge Score for Grade 8 in 3rd Year of Implementation (114 Assignment Samples from 36 ELA Teachers in 26 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.13	0.15
Baseline school average	0.47	0.46
Intercept	0.88	1.05
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.00	
Assignment sample effect	0.67	

Source: 2007–08 and 2010–11 teacher assignments.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-204 to C-209 present HLM model estimates of ITT analyses for writing prompt holistic scores for the students of teachers who responded to the teacher survey in each of the 4 years of the study, by implementation year and grade level.

Exhibit C-204

Writing Prompts Holistic Score for Grade 7 in 1st Year of Implementation (267 Writing Samples from 35 ELA Teachers in 22 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.19	0.14
Baseline fall holistic score	0.93**	0.33
Baseline spring holistic score	0.24	0.32
Intercept	-0.61	1.12
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.03	
Writing sample effect	0.90	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-205

Writing Prompts Holistic Score for Grade 7 in 2nd Year of Implementation (294 Writing Samples from 38 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.18	0.14
Baseline fall holistic score	0.23	0.29
Baseline spring holistic score	0.22	0.31
Intercept	1.86	1.01
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.09	
Writing sample effect	0.71	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-206

Writing Prompts Holistic Score for Grade 7 in 3rd Year of Implementation (256 Writing Samples from 33 ELA Teachers in 23 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.09	0.16
Baseline fall holistic score	0.37	0.32
Baseline spring holistic score	0.23	0.37
Intercept	1.44	1.14
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.11	
Writing sample effect	0.75	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-207

Writing Prompts Holistic Score for Grade 8 in 1st Year of Implementation (254 Writing Samples from 33 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.40	0.21
Baseline fall holistic score	0.37	0.38
Baseline spring holistic score	0.41	0.40
Intercept	1.26	1.36
Random Effects	Variance Component	
School mean	0.17	
Teacher mean	0.00	
Writing sample effect	0.83	

Source: 2007–08 and 2008–09 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-208

Writing Prompts Holistic Score for Grade 8 in 2nd Year of Implementation (236 Writing Samples from 31 ELA Teachers in 24 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.09	0.16
Baseline fall holistic score	-0.15	0.36
Baseline spring holistic score	0.63	0.32
Intercept	1.95	1.19
Random Effects	Variance Component	
School mean	0.04	
Teacher mean	0.01	
Writing sample effect	0.96	

Source: 2007–08 and 2009–10 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-209

Writing Prompts Holistic Score for Grade 8 in 3rd Year of Implementation (268 Writing Samples from 35 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.14	0.24
Baseline fall holistic score	0.39	0.58
Baseline spring holistic score	0.15	0.49
Intercept	1.79	1.89
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.37	
Writing sample effect	0.87	

Source: 2007–08 and 2010–11 writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-210 to C-213 present HLM model estimates for ITT analyses of student work holistic scores, by implementation year and grade level.

Exhibit C-210

Student Work Holistic Score for Grade 7 in 2nd Year of Implementation (310 Student Work Samples from 78 Teacher Assignments of 39 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.34	0.22
Baseline school average	0.47	0.38
Intercept	1.63	1.32
Random Effects	Variance Component	
School mean	0.05	
Teacher mean	0.08	
Teacher Assignments mean	0.41	
Student work sample effect	0.62	

Source: 2007–08 and 2009–10 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-211

Student Work Holistic Score for Grade 7 in 3rd Year of Implementation (259 Student Work Samples from 65 Teacher Assignments of 33 ELA Teachers in 23 Schools)

Fixed Effects	Coefficient	SE
Partnership	-0.04	0.15
Baseline school average	0.85**	0.27
Intercept	0.68	0.94
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.00	
Teacher Assignments mean	0.24	
Student work sample effect	0.52	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-212

Student Work Holistic Score for Grade 8 in 2nd Year of Implementation (251 Student Work Samples from 63 Teacher Assignments of 32 ELA Teachers in 25 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.10	0.23
Baseline school average	0.66	0.38
Intercept	1.45	1.33
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.11	
Teacher Assignments mean	0.39	
Student work sample effect	0.66	

Source: 2007–08 and 2009–10 student work.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-213**Student Work Holistic Score for Grade 8 in 3rd Year of Implementation
(272 Student Work Samples from 69 Teacher Assignments of 36 ELA
Teachers in 26 Schools)**

Fixed Effects	Coefficient	SE
Partnership	0.48	0.27
Baseline school average	0.74	0.46
Intercept	0.76	1.63
Random Effects	Variance Component	
School mean	0.00	
Teacher mean	0.36	
Teacher Assignments mean	0.42	
Student work sample effect	0.54	

Source: 2007–08 and 2010–11 student work.

* $p < 0.05$, ** $p < 0.01$.

Correlational analyses: The relationship between participation in partnership professional development and teacher practices

In this section we first present results comparing teacher practices between teachers who participated in at least 90 hours of partnership professional development and all teachers in delayed partnership schools, followed by a summary table comparing teachers receiving either 90 or more hours or 60 or more hours of partnership professional development with all delayed partnership teachers and with delayed partnership teachers identified using propensity score matching. We then present results comparing teacher practices between those who participated in at least 90 hours of partnership professional development and other teachers in partnership schools, followed by results using hours of partnership professional development to predict teacher practices.

Comparing teachers who participated in at least 90 hours of partnership professional development with teachers in delayed partnership schools

Exhibits C-214 to C-217 present HLM model estimates for correlational analyses comparing teachers who participated in at least 90 hours of partnership professional development with all teachers in delayed partnership schools on teacher practices presented in Chapter 4. Exhibits C-212 to C-214 provide supporting data for Exhibit 4-6.

Exhibit C-214

Length of Writing—At Least 1 or 2 One-Paragraph Responses/Compositions (631 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Model for school means		
Partnership	2.76**	0.76
ELA teacher	2.00**	0.21
Baseline school average	0.24	0.27
Intercept	-1.37	0.62
Random Effects		
Variance Component		
School mean	0.05	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-215

Writing to Learn (654 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.43*	0.20
ELA teacher	0.33**	0.09
Baseline school average	0.72**	0.17
Intercept	0.24	0.40
Random Effects		
Variance Component		
School mean	0.24	
Teacher effect	1.04	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-216

Class Time Devoted to Four Key Writing Processes (649 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.40*	0.20
ELA teacher	1.55**	0.10
Baseline school average	0.39*	0.18
Intercept	0.52	0.34
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	1.13	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-217

Student Engagement in Writing Processes (652 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.58**	0.20
ELA teacher	1.52**	0.10
Baseline school average	0.47*	0.21
Intercept	0.42	0.36
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	1.08	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-218 to C-219 present HLM model estimates for correlational analyses comparing teachers who participated in at least 90 hours of partnership professional development with teachers in delayed partnership schools on outcomes not presented in Chapter 4.

Exhibit C-218

Variety of ELA-Oriented Genres from Survey (653 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.60**	0.18
ELA teacher	1.40**	0.09
Baseline school average	0.57**	0.20
Intercept	0.17	0.31
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	0.98	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-219

Variety of Content-Oriented Genres from Survey (656 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.45*	0.23
ELA teacher	0.73**	0.10
Baseline school average	0.69**	0.20
Intercept	0.31	0.46
Random Effects	Variance Component	
School mean	0.28	
Teacher effect	1.18	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Comparing teachers who participated in at least 60 hours of partnership professional development with all teachers in delayed partnership schools

Exhibits C-220 to C-224 present HLM model estimates for correlational analyses comparing teachers who participated in at least 60 hours of partnership professional development with all teachers in delayed partnership schools for outcomes presented in Chapter 4.

Exhibit C-220

Teachers' Perceived Influence of Professional Development (527 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	1.89**	0.30
ELA teacher	0.13	0.17
Baseline school average	0.53**	0.13
Intercept	1.31	0.54
Random Effects	Variance Component	
School mean	0.33	
Teacher effect	1.88	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-221

Length of Writing—At Least 1 or 2 One-Paragraph Responses/Compositions (650 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Model for school means		
Partnership	2.03**	0.47
ELA teacher	2.00**	0.21
Baseline school average	0.26	0.27
Intercept	-1.41	0.62
Random Effects		
Variance Component		
School mean	0.06	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-222

Writing to Learn (674 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.35*	0.18
ELA teacher	0.31**	0.09
Baseline school average	0.76**	0.18
Intercept	0.15	0.4
Random Effects		
Variance Component		
School mean	0.25	
Teacher effect	1.04	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

** $p < 0.05$, ** $p < 0.01$.*

Exhibit C-223

Class Time Devoted to Four Key Writing Processes (669 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.32	0.17
ELA teacher	1.52**	0.10
Baseline school average	0.39*	0.18
Intercept	0.53	0.34
Random Effects	Variance Component	
School mean	0.19	
Teacher effect	1.12	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-224

Student Engagement in Writing Processes (672 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.48**	0.17
ELA teacher	1.51**	0.09
Baseline school average	0.46*	0.20
Intercept	0.43	0.35
Random Effects	Variance Component	
School mean	0.18	
Teacher effect	1.07	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-225 and C-226 present HLM model estimates for correlational analyses comparing teachers who participated in at least 60 hours of partnership professional development with all teachers in delayed partnership schools for outcomes not presented in Chapter 4.

Exhibit C-225

Variety of ELA-Oriented Genres from Survey (673 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.46**	0.15
ELA teacher	1.37**	0.08
Baseline school average	0.60**	0.19
Intercept	0.13	0.30
Random Effects	Variance Component	
School mean	0.17	
Teacher effect	0.98	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-226

Variety of Content-Oriented Genres from Survey (676 Teachers in 31 Schools)

Fixed Effects	Coefficient	SE
Partnership	0.45*	0.20
ELA teacher	0.71**	0.10
Baseline school average	0.69**	0.19
Intercept	0.31	0.44
Random Effects	Variance Component	
School mean	0.27	
Teacher effect	1.17	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Comparing results from different approaches to comparing teachers receiving sufficient hours of partnerships professional development with delayed partnership teachers

Exhibit C-227 presents HLM comparative results for all teaching practice outcomes, comparing teachers receiving either 90 or more hours or 60 or more hours of partnership professional development with all delayed partnership teachers and with delayed partnership teachers identified using propensity score matching.

Exhibit C-227

Comparative Results Using Different Comparison Groups

Teachers with 90 or more hours of partnership PD (n=41)	Compared with matched teachers (n=41)		Compared with all comparison teachers (n=636)	
	Coefficient	SE	Coefficient	SE
Length - at least 1 or 2 one-paragraph responses/compositions	2.36**	0.81	2.76**	0.76
Writing to learn	0.41	0.21	0.43*	0.20
Class time on four key writing processes	0.49	0.28	0.40*	0.20
Student engagement in writing processes	0.55*	0.25	0.58**	0.20
Variety of ELA-oriented genres	0.70**	0.23	0.60**	0.18
Variety of content-oriented genres	0.63*	0.25	0.45*	0.23
Teachers with 60 or more hours of partnership PD (n=61)	Compared with matched teachers (n=61)		Compared with all comparison teachers (n=636)	
	Coefficient	SE	Coefficient	SE
Length - at least 1 or 2 one-paragraph responses/compositions	1.48*	0.60	2.03**	0.47
Writing to learn	0.14	0.19	0.35*	0.18
Class time on four key writing processes	0.29	0.24	0.32	0.17
Student engagement in writing processes	0.48*	0.24	0.48**	0.17
Variety of ELA-oriented genres	0.48**	0.17	0.46**	0.16
Variety of content-oriented genres	0.19	0.26	0.45*	0.20

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Comparing teacher practices between those who participated in at least 90 hours of partnership professional development and other teachers in partnership schools

Exhibits C-228 to C-231 present HLM model estimates for correlational analyses comparing teacher practices between those who participated in at least 90 hours of partnership professional development with other teachers in partnership schools on teacher practices presented in Chapter 4. Exhibits C-228 to C-231 provide supporting data for Exhibit 4-7.

Exhibit C-228

Length of Writing—At Least 1 or 2 One-Paragraph Responses/Compositions (393 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
90 or more PD hours	2.15**	0.67
ELA teacher	0.80	0.36
Baseline school average	0.59**	0.10
Intercept	-1.28	0.26
Random Effects	Variance Component	
School mean	0.44	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

**p < 0.05, **p < 0.01.*

Exhibit C-229

Writing to Learn (418 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
90 or more PD hours	0.25	0.18
ELA teacher	-0.11	0.14
Baseline school average	0.30*	0.04
Intercept	1.41	0.12
Random Effects	Variance Component	
School mean	0.15	
Teacher effect	0.97	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-230

Class Time Devoted to Four Key Writing Processes (419 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
90 or more PD hours	0.55**	0.17
ELA teacher	0.69**	0.13
Baseline school average	0.46**	0.04
Intercept	0.55	0.08
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.91	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-231

Student Engagement in Writing Processes (417 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
90 or more PD hours	0.60**	0.16
ELA teacher	0.67**	0.12
Baseline school average	0.50**	0.04
Intercept	0.50	0.08
Random Effects		Variance Component
School mean	0.02	
Teacher effect	0.73	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-232 to C-233 present HLM model estimates for correlational analyses comparing teacher practices between those who participated in at least 90 hours of partnership professional development with other teachers in partnership schools for teacher practices not presented in Chapter 4.

Exhibit C-232

Variety of ELA-Oriented Genres from Survey (418 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
90 or more PD hours	0.50	0.15
ELA teacher	0.49**	0.12
Baseline school average	0.56**	0.04
Intercept	0.43	0.07
Random Effects		Variance Component
School mean	0.00	
Teacher effect	0.74	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-233

Variety of Content-Oriented Genres from Survey (418 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
90 or more PD hours	0.42*	0.20
ELA teacher	0.33*	0.14
Baseline school average	0.47**	0.04
Intercept	0.87	0.12
Random Effects	Variance Component	
School mean	0.06	
Teacher effect	1.13	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Using hours of partnership professional development to predict teacher perceptions and practices

Exhibits C-234 to C-237 present HLM model estimates for correlational analyses using hours of partnership professional development to predict teacher perceptions and practices presented in Chapter 4.

Exhibit C-234

Length—At Least 1 or 2 One-Paragraph Responses/Compositions (393 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
Total PD hours	0.02**	0.00
ELA teacher	0.65	0.37
Baseline school average	0.56**	0.11
Intercept	-1.46	0.25
Random Effects	Variance Component	
School mean	0.32	

Note: A hierarchical model with a logit link function is posited for the dichotomous outcome. Coefficients and standard errors are in logits.

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-235

Writing to Learn (418 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
Total PD hours	0.00	0.00
ELA teacher	-0.09	0.14
Baseline school average	0.30**	0.04
Intercept	1.40	0.12
Random Effects	Variance Component	
School mean	0.05	
Teacher effect	0.97	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-236

Class Time Devoted to Four Key Writing Processes (419 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
Total PD hours	0.00**	0.00
ELA teacher	0.70**	0.13
Baseline school average	0.45**	0.04
Intercept	0.53	0.08
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.91	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-237

Student Engagement in Writing Processes (417 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
Total PD hours	0.00**	0.00
ELA teacher	0.67**	0.12
Baseline school average	0.49**	0.04
Intercept	0.47	0.07
Random Effects	Variance Component	
School mean	0.02	
Teacher effect	0.73	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-238 and C-239 present HLM model estimates for correlational analyses using hours of partnership professional development to predict teacher perceptions and practices not presented in Chapter 4.

Exhibit C-238

Variety of ELA-Oriented Genres from Survey (418 Teachers in 18 Schools)

Fixed Effects	Coefficient	SE
Total PD hours	0.00**	0.00
ELA teacher	0.50**	0.12
Baseline school average	0.56**	0.04
Intercept	0.41	0.07
Random Effects	Variance Component	
School mean	0.00	
Teacher effect	0.74	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-239**Variety of Content-Oriented Genres from Survey (418 Teachers in 18 Schools)**

Fixed Effects	Coefficient	SE
Total PD hours	0.00**	0.00
ELA teacher	0.30*	0.13
Baseline school average	0.47**	0.04
Intercept	0.85	0.12
Random Effects	Variance Component	
School mean	0.05	
Teacher effect	1.13	

Source: 2007–08 and 2010–11 teacher surveys; quarterly partnership monitoring, 2008–09 through 2010–11.

* $p < 0.05$, ** $p < 0.01$.

Correlational analyses: The relationship between teacher instructional practices and student writing prompt holistic scores

Here we present results investigating the relationship between teacher instructional practices and student writing prompt holistic scores. Exhibits C-240 to C-251 present HLM model estimates for correlational analyses using each teacher instructional practice measure to predict student writing prompt holistic scores for teacher practices presented in Chapter 4. Exhibits C-240 to C-251 provide supporting data for Exhibit 4-8.

Exhibit C-240

Length of Writing from Survey—At Least 1 or 2 One-Paragraph Responses/Compositions on Writing Prompts Holistic Score (919 Writing Samples from 120 7th- and 8th-Grade ELA Teachers in 35 Schools)

Fixed Effects	Coefficient	SE
Length - At least a 1 or 2 one-paragraph	0.27*	0.12
Pre-test score	0.41**	0.03
Intercept	1.94	0.15
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.73	

Source: 2007–08 and 2010–11 teacher surveys and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-241

Writing to Learn on Writing Prompts Holistic Score (948 Writing Samples from 124 7th- and 8th-Grade ELA Teachers in 37 Schools)

Fixed Effects	Coefficient	SE
Writing to learn	0.02	0.05
Pre-test score	0.41**	0.03
Intercept	2.10	0.16
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.08	
Student work sample effect	0.73	

Source: 2007–08 and 2010–11 teacher surveys and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-242

Class Time Devoted to Four Key Writing Processes on Writing Prompts Holistic Score (1908 Writing Samples from 267 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Class time on four key writing processes	0.05	0.03
Pre-test score	0.42**	0.02
Intercept	2.00	0.12
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.08	
Student work sample effect	0.73	

Source: 2007–08 and 2010–11 teacher surveys and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-243

Student Engagement in Writing Processes on Writing Prompts Holistic Score (1908 Writing Samples from 267 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Student engagement in writing processes	0.06	0.04
Pre-test score	0.42**	0.02
Intercept	1.97	0.13
Random Effects	Variance Component	
School mean	0.02	
Teacher mean	0.08	
Student work sample effect	0.73	

Source: 2007–08 and 2010–11 teacher surveys and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-244

Major Goal—Improving Skills in Writing Processes on Writing Prompts Holistic Score (1956 Writing Samples from 273 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Major Goal - Improving writing skills	-0.06	0.10
Pre-test score	0.41**	0.02
Intercept	2.21	0.10
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.73	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-245

Engagement in Any Writing Activity on Writing Prompts Holistic Score (1962 Writing Samples from 274 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Engagement in any writing activity	0.15	0.13
Pre-test score	0.41**	0.02
Intercept	2.06	0.12
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-246

Length of Writing from Logs—At least 1 or 2 One-Paragraph Responses on Writing Prompts Holistic Score (1948 Writing Samples from 272 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Length - At least 1 or 2 one-paragraph	0.13	0.12
Pre-test score	0.41**	0.02
Intercept	2.08	0.11
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-247

Collaborative Writing Activities on Writing Prompts Holistic Score (1954 Writing Samples from 273 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Collaborative writing activities	0.20	0.13
Pre-test score	0.41**	0.02
Intercept	2.12	0.09
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-248

Brainstorming or Organizing Ideas on Writing Prompts Holistic Score (1956 Writing Samples from 273 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Brainstorming or organizing ideas	0.12	0.12
Pre-test score	0.41**	0.02
Intercept	2.12	0.09
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-249

Composing Text on Writing Prompts Holistic Score

(1956 Writing Samples from 273 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Composing text	0.23*	0.12
Pre-test score	0.40**	0.02
Intercept	2.03	0.11
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-250

Revising Text on Writing Prompts Holistic Score

(1956 Writing Samples from 273 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Revising text	0.09	0.11
Pre-test score	0.41**	0.02
Intercept	2.14	0.09
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-251**Editing Text on Writing Prompts Holistic Score****(1956 Writing Samples from 273 7th- and 8th-Grade ELA Teachers in 39 Schools)**

Fixed Effects	Coefficient	SE
Editing text	0.05	0.10
Pre-test score	0.41**	0.02
Intercept	2.15	0.09
Random Effects		Variance Component
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2007–08 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibits C-252 to C-255 present HLM model estimates for correlational analyses using each teacher instructional practice measure to predict student writing prompts holistic score for teacher practices not presented in Chapter 4.

Exhibit C-252

Variety of ELA-Oriented Genres from Survey on Writing Prompts Holistic Score (1908 Writing Samples from 267 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Genre-ELA	0.08*	0.03
Pre-test score	0.42	0.02
Intercept	1.93	0.12
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.08	
Student work sample effect	0.73	

Source: 2009–10 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-253

Variety of Content-Oriented Genres from Survey on Writing Prompts Holistic Score (1908 Writing Samples from 267 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Variety of Content-Oriented Genres	0.06*	0.03
Pre-test score	0.42	0.02
Intercept	1.96	0.12
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.08	
Student work sample effect	0.73	

Source: 2009–10 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-254

Variety of ELA-Oriented Genres from Log on Writing Prompts Holistic Score (1948 Writing Samples from 272 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Genre-ELA	0.09	0.20
Pre-test score	0.41**	0.02
Intercept	2.15	0.09
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2009–10 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.

Exhibit C-255

Variety of Content-Oriented Genres from Log on Writing Prompts Holistic Score (1948 Writing Samples from 272 7th- and 8th-Grade ELA Teachers in 39 Schools)

Fixed Effects	Coefficient	SE
Variety of Content-Oriented Genres	0.09	0.19
Pre-test score	0.41**	0.02
Intercept	2.15	0.09
Random Effects	Variance Component	
School mean	0.01	
Teacher mean	0.09	
Student work sample effect	0.74	

Source: 2009–10 and 2010–11 teacher logs and student writing prompts.

* $p < 0.05$, ** $p < 0.01$.