

**NWP College-Ready Writers Program:
Teacher Professional Development in Writing and Critical Analysis to Improve Academic
Student Writing in Middle and High School**

Project Narrative

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This proposed project will implement the National Writing Project's (NWP) successful design and teacher leadership model through the NWP College-Ready Writers Program to help youth reach high standards in writing. The College-Ready Writers Program is an innovative program of intensive, collaborative, and ongoing professional development for middle and high-school rural teachers that addresses the implications of the Common Core State Standards (CCSS) for writing—a set of high standards currently adopted by 46 states, the District of Columbia, the U.S. Virgin Islands, and the Department of Defense Dependent Schools.

The NWP College-Ready Writers Program directly addresses *Absolute Priority 5: Improving Achievement and High School Graduation Rates (Rural Local Educational Agencies)* and establishes partnerships with participating rural LEAs to offer intensive and sustained professional development for middle and high school teachers to implement writing instruction aligned with the CCSS in 40 rural districts across eight states: Alabama, Arizona, Arkansas, Louisiana, Mississippi, Missouri, New York, and South Carolina. The proposal also directly addresses *Competitive Preference Priority 10—Technology* through the use of high-quality digital tools and materials to improve teacher effectiveness.

NWP partnerships with participating rural LEAs will offer rural teachers learning opportunities that are distinctively place-sensitive, yet leverage the capacity of NWP's national network to provide research-proven instruction aligned to these new standards. The College-Ready Writers Program will also leverage the power of NWP's online community of practice, NWP Connect. Face-to-face programming of NWP professional development (90 hours over two

years) will be extended through this online community with additional “just-in-time” learning opportunities that draw on NWP’s network of exemplary rural educators to assist LEAs with the challenges of improving instruction to address the CCSS.

Despite the central importance of writing in academic, civic, and professional life outside of school, inside of school writing has long been the neglected “R” (National Commission on Writing, 2003). The CCSS, thus, enter a landscape where thoughtful informative and argumentative writing are relegated to the margins of teaching. Applebee’s 1981 seminal study of high-school writing instruction demonstrated that although writing activities, very broadly defined, took place during 44% of class time, only 3% of this time involved students writing at least a paragraph. Most writing activities focused on mechanical, or fill-in-the blank, uses of writing and note taking. Nearly 30 years later, Applebee and Langer (2011) conducted a comprehensive study of writing instruction. What they found mirrors what we know from national assessment data (National Center for Education Statistics, 2003, 2008) and other research on writing (Graham & Perin, 2007). Writing has gained ground, but it is still not used consistently as a powerful learning tool, and the demands of writing assessments often relegate writing to short paragraphs rather than thoughtful extended essays or arguments.

There is broad agreement that the CCSS will require significant changes in teacher practice and curriculum-in-use at the classroom level if we are to support higher achievement and enable more young people to make successful transitions to college. This is particularly true in rural areas. According to *Current Challenges and Opportunities in Preparing Rural High School Students for Success in College and Careers, What Federal Policymakers Need to Know*, “one in four rural students fails to graduate from high school, and the rate is even lower for minority youth. In addition, only 17 percent of rural adults age twenty-five and older have a college

degree — half the percentage of urban adults" (Alliance for Excellent Education, 2010).

According to a recent study of graduation and college-going in rural areas, most significant in changing these statistics are well-prepared teachers who hold all their students to high standards (Howley & Hambric, 2011).

The NWP College-Ready Writers Program takes advantage of the NWP's unique design as an improvement infrastructure (St. John & Stokes, 2008) and a networked organization at both the local and national levels (St. John & Stokes, 2012). To improve student writing achievement, local NWP sites (191 university-based Writing Project sites serving all 50 states, Washington, D.C., Puerto Rico, and the U.S. Virgin Islands) work with school and district leaders to design programs that provide teachers with training and support in research-based strategies for teaching writing.

NWP regularly convenes local Writing Project sites to create and share knowledge about the teaching of writing and professional development, develop and disseminate resources, and conduct research on the effectiveness of local and national programs. NWP is well-positioned to work with partner rural districts to implement and disseminate new resources, tools, and services as well as to learn from and with rural teachers of writing as they develop more effective teaching practices.

A. QUALITY OF THE PROJECT DESIGN

The NWP College-Ready Writers Program (CRWP) offers strategically designed, intensive, and sustained professional development focused on college-ready and career-ready writing that improves classroom practices for writing instruction and, through enhanced instruction, students' writing achievement. Students' success in writing is essential for successful high school completion, entrance to college, and success in college. The eight states with districts

participating in College-Ready Writers already require four English Language Arts credits for high school graduation. The importance of writing is further amplified in the CCSS for English Language Arts (ELA). These standards establish rigorous new expectations for writing across subjects and grade levels in order to prepare students for college and post-secondary success (National Governors Association Center for Best Practices, Council of Chief State School Officers, 2010). NWP's proposed project provides teachers with the intensive professional and leadership development necessary for them to support students in reaching rigorous academic standards.

The CRWP design builds on NWP's core model of targeted professional learning opportunities both face-to-face and online to improve student achievement in writing. Core program elements include: (1) intensive and sustained professional development facilitated by teacher-leaders and adapted to local needs, in this case the specific strengths and challenges faced by rural districts; (2) initial leadership development in writing for selected local teachers through Invitational Summer Institutes and ongoing support for these teacher-leaders; and (3) opportunities for online professional development activities tied to the CCSS.

A.1. Clear goals and strategy.

The CRWP represents an exemplary approach to improving student writing achievement, thereby increasing the likelihood that students in high-need rural areas will complete high school and successfully enter college. The proposed project seeks to achieve the following **outcomes**:

- 1. Improve middle and high school teachers' practice in the teaching of academic writing;**
- 2. Improve middle and high school student academic writing achievement; and**
- 3. Increase the number of rural teacher-leaders in participating schools and districts.**

Strategy

1. Improve middle and high school teachers' practice in the teaching of academic writing

by: a) increasing the *amount of time* spent on writing instruction and in the *number of extended writing assignments*; b) increasing the *use of research-based instructional strategies* for teaching writing in ELA classrooms (e.g., writing about reading, study of models, use of a writing process approach, use of peer response and feedback, use of formative writing assessment); c) increasing the use of *writing to learn strategies*, as well as the number of more *extended writing assignments* that involve the analysis and use of evidence, in other *disciplines such as science*; and d) improving the *quality of writing assignments* and increasing their *alignment* with college- and career-ready standards (e.g., arguments that analyze non-fiction texts, development of informational texts that convey complex ideas and information).

2. Improve middle and high school student writing achievement, as measured through annual pre- / post-on demand writing assessments aligned with the CCSS, and the capacity to engage in demanding work that leads to success in college.

3. Increase the number of rural teacher-leaders in participating schools and districts who will be prepared to lead future professional development for their peers in the teaching of writing, with an emphasis on the CCSS.

The logic model (Figure 1) shows how the NWP College-Ready Writers Program (the treatment) would influence teacher practices (proximal outcomes), which in turn would impact student writing and, ultimately, high school graduation and college-entrance rates (distal outcomes). This causal chain would be mediated by the level of teachers' PD participation and students' exposure to these teachers, and moderated by teacher and district characteristics.

Figure 1: Logic Model

Treatment	Moderators & Mediators	Proximal Outcomes	Distal Outcomes
Intensive teacher PD in writing	<ul style="list-style-type: none"> – teacher characteristics – district characteristics 	Teachers improve their practices: <i>assign more writing, longer assignments, and require evidentiary support for claims; use more writing processes</i>	Student writing improves: <i>better argumentation and use of evidence</i>
Local leadership development (ongoing)	<ul style="list-style-type: none"> – level of participation in PD & other activities 	Teachers play leadership roles	Ultimately leads to higher graduation rates & college entrance

NWP College-Ready Writers **operates through a partnership model with rural LEAs, and represents an adaptive approach** to scaling that encourages adaptation of a core model to ensure that the program fits the local context and to build commitment to the reform (McDonald, Buchanan, & Sterling, 2004; McLaughlin, 1990; Mehan, Hubbard, & Datnow, 2010). Rural LEAs agree to form a partnership with NWP and their local Writing Project sites in order to access and co-design sustained professional and leadership development programs. These local partnerships offer professional development that incorporates features of effective professional development: content focus, active learning, coherence, sufficient duration, and collective participation (Borko, 2004; Desimone, 2009; Penuel, Fishman, Yamaguchi, & Gallagher, 2007). To ensure the coherence of the professional development with district and state goals, the local partnerships engage in a **study and planning phase** to learn more about teaching analytic, informational, and argumentative writing and to analyze their specific strengths and challenges with the teaching of writing. Local teams participate in a network-wide planning event and an online community of practice.

At the conclusion of the planning period, partnerships implement **two-year professional development (PD) sequences** that contain common elements but have been customized to the needs and strengths of the district.

Improve Teachers' Practice and Student Writing Outcomes. Intensive professional development for ELA and content area teachers comprises the central strategy for strengthening teachers' writing practice and improving student writing outcomes. NWP sites participating in CRWP will work with their partner LEAs, other participating local Writing Project sites, and NWP's national office to design and offer 90 or more hours of local professional development programs to teams of middle and high school teachers over two years (sufficient duration, Desimone, 2009). Specifically, this customized professional development, which will be delivered both face-to-face and online, will reach 80% of ELA teachers in grades 7–10, and will also engage interested content area teachers who can reach out to their peers within their disciplines. The local professional development for teams of ELA teachers from participating schools and districts will focus on:

- the types of writing outlined in the CCSS, including writing arguments that involve extensive analysis, writing explanatory texts that convey complex ideas, and using both reading and writing to support learning in subjects such as science and social studies (content focus, Desimone, 2009);
- the review, analysis, creation, and revision of rigorous writing assignments, aligned with the CCSS, that will engage students in the types of writing, reading, and research they will encounter in college and their careers and development of a district-wide “bank” of rich teaching exemplars for use and adaptation by teachers (active learning and coherence, Desimone, 2009 & Penuel, et al., 2007); and

- the development of teachers’ knowledge and skill in using research-based strategies and processes for writing instruction, such as collaborative writing, pre-writing, study of models (Graham & Perin, 2007), ongoing peer and self assessment (Graham, Harris, & Hebert, 2011) (content focus, Desimone, 2009), and writing to improve reading comprehension (Graham & Hebert, 2010).

These local professional development activities for school and district teams of teachers (collective participation, Desimone, 2009), will be led by expert Writing Project teachers and university faculty, who serve as local Writing Project site directors. Activities will include: (1) summer and school-year institutes that include professional reading about the CCSS and effective writing instruction; (2) demonstrations of classroom practice by expert teachers; (3) teachers engaging in the types of challenging analytic writing assignments their students will encounter (content focus and active participation); (4) school year meetings where teachers create and review writing assignments to improve the quality of the assignments (active participation); (5) school year meetings where teachers analyze samples of student writing (active participation, content focus); and (6) classroom-based teaching demonstrations that bring state-of-the-art teaching practices to life and debriefing of these teaching demonstrations (active learning). (Appendix J.1 outlines how these activities unfold in a two-year professional development sequence.)

All professional development activities include components that support teachers in “prepar[ing] for their classroom practice” (Penuel, et al., 2007, p. 928): a) Writing Project teachers model for other teachers; b) teachers “try on” the strategies modeled in their own classrooms; c) teachers share examples of the assignments they create and problem-solve during professional development; d) teachers go back into their classrooms with revisions and new ideas

from sharing with each other; e) teachers collect samples of student work; f) teachers collaboratively analyze samples of work and the assignments that led to that work; and g) Writing Project teachers provide reflection protocols to support other teachers in acting on what they have learned from the workshops and their work with their students.

In addition to locally planned and delivered professional development programs, teachers will be able to access NWP Connect, NWP's national online community of practice. NWP Connect provides a rich repository of resources focused on implementing the CCSS and participatory learning opportunities as well as access to mentors across the country. Further, NWP routinely publishes open educational resources about the teaching of writing and professional development on its website and conducts online professional development seminars and study groups to disseminate promising professional development and teaching approaches. (See Appendix J.2 for information on NWP Connect.)

Increase Number of Local Teacher-Leaders. Central to sustaining the impact of the College Ready Writers Program in the participating rural LEAs is the development of increased teacher leadership capacity that is locally based. Strengthening local teacher leadership capacity provides an additional mechanism for improving teachers' practice and sustaining the investment in participating districts (Lieberman & Friedrich, 2010; Lieberman & Miller, 2004; Mangin & Stoelinga, 2008; Penuel, Sun, Frank, & Gallagher, 2012; York-Barr & Duke, 2004). To build this capacity, local Writing Project sites will identify leading middle and high school teachers to participate in the Invitational Summer Institute (ISI), NWP's signature 120-hour training and leadership development program, or offer embedded ISIs in the participating districts. At the ISI, experienced teachers of writing from the region share promising practices for teaching writing, read current research on the teaching of writing, and write themselves.

Following the ISI, teacher-leaders have opportunities to lead professional development through their local Writing Project sites and also to exercise a variety of formal and informal leadership roles in their schools and districts. In addition to inviting selected teachers to participate in the ISI, local Writing Project sites will offer sustained, 30-40 hour Leadership Institutes on Literacy in the CCSS, and focus on particular challenges with implementing the Common Core in rural LEAs. This sequence of leadership development activities will both support participating teachers as they further develop their own classroom practice and prepare them to lead future professional development for their peers.

Ensuring Integrity of the Professional Development Model. Because NWP employs an adaptive professional development model (Rowan & Miller, 2007), ensuring implementation integrity, alignment, and fidelity is critical. NWP accomplishes this through a peer accountability and technical assistance model. LEAs and local Writing Project sites participating in the CWRP will receive extensive technical assistance from a national leadership team made up of site leaders and NWP staff with demonstrated expertise in designing and delivering this type of professional development. Technical assistance will continue throughout the two years of the program and includes: visits to local sites; a launch meeting for key leaders of participating sites; and two national institutes where LEA and local Writing Project teams will study writing in the Common Core, develop operational plans and budgets for local professional development focused on writing instruction, and participate in an ongoing process of peer review of professional development plans. Through this process, NWP will establish feedback and monitoring meetings that allow LEAs, local Writing Project sites, and NWP to identify and address needs for modification and opportunities for enrichment in the professional development

plans. The evaluation team will provide formative feedback at the summer institutes and mid-year review meetings.

A.2. Incorporation into ongoing work. Following two years of intensive professional and leadership development, the project will conclude with a series of **sustainability meetings** to support LEAs in planning for how to sustain the changes made during the program. Specifically, these meetings will identify how districts can draw on the middle and high school teachers who participated in leadership development activities. In addition, local Writing Project sites will plan strategies for keeping teacher-leaders from these districts involved in ongoing professional learning and leadership activities, including leading professional development in rural school districts. This will allow teacher-leaders to keep abreast of the latest research and trends in teaching writing.

NWP is committed to **scaling-up** CRWP. Local Writing Project sites in the eight states will first scale up CRWP within their own service areas by offering the first year of the program to the control districts with i3 funding (July 2015 – June 2016). In addition, NWP will engage and mentor leaders from other Writing Project sites in learning about implementation of the CRWP to reach students and teachers in high-need communities in other districts and states across the country (July 2015 – December 2016). In scaling up the program NWP will use the technical assistance, face-to-face, and online collaboration mechanisms outlined above to ensure implementation fidelity as this effort is replicated.

A.3. Reasonable costs. The total cost of the project, including evaluation and independent scoring of student writing samples, is \$16,637,000. These costs allow local Writing Project sites to use experienced, local secondary teacher-leaders during the school day as well as after school to facilitate intensive, high-quality professional development in rural LEAs for a two-year period

and pay for other professional development costs (see Strategy for a detailed description). This type of embedded professional development will facilitate teachers' implementation of new practices during the life of i3 funding and beyond, and help ensure improved student writing outcomes. Rural districts rarely have access to this type of intensive professional development resource. As an adaptive scaling model, this project also allows for regular interaction across geographic regions to ensure fidelity to the core elements of the program model. The project budgets for dissemination within the NWP network to facilitate future scale-up. Finally, the project includes an experimental evaluation design that will provide both quantitative and qualitative implementation data, including semi-annual reports of teacher and student outcome data to assess progress toward outcomes.

A.4. Estimates of costs and students served. The 40 high-need rural districts participating in College-Ready Writers serve approximately 25,000 7th – 10th grade students (U.S. Dept. of Education, NCES, 2009–10). Half of the districts will receive the full treatment of a planning phase and 90 hours of professional development for 7th – 10th grade ELA teachers over two years (January 2013 – June 2015) (see Section D). Half of the districts will comprise a delayed treatment group and receive one year of professional development (i.e., 45 hours of professional development, July 2015 – June 2016). We estimate that 80% of the 7th – 10th grade teachers will participate in the program and, therefore, 80% of students in participating districts will be reached. The program cost per student, including students from both the full treatment and delayed treatment groups, but excluding evaluation costs, is \$765 per student. The cost to scale up the project is estimated at \$569 per student, significantly less because it includes only the planning and two-year professional development costs and does not assume serving control

students for 1 additional year. The project would cost \$56,893,530 to reach 100,000 students, \$142,233,824 to reach 250,000 students, and \$284,467,649 to reach 500,000 students.

B. SIGNIFICANCE

B.1. Exceptional approach to raising achievement and college-entrance in rural LEAs.

The NWP College-Ready Writers Program represents an exceptional approach to addressing the challenges of rural teachers and districts as they help students to meet rigorous new writing standards aligned to the CCSS and prepare for success in college. Previous standards-based reform efforts teach us that effective professional development for teachers, K-12, will be key to successful implementation of these new and far-reaching standards (Cohen, 1990; Resnick, Stein, & Coon, 2008).

The Rural School and Community Trust (2012) has identified six of the states involved with College-Ready Writers as having the highest level of priority for attention to improving education. These states also report 4th and 8th grade NAEP reading scores for rural students that fall well below the national average. Professional development for rural educators is particularly challenging. Rural districts are typically smaller with limited flexibility in their financial and human resources. Rural teachers have demanding workloads and may be needed to cover areas of the curriculum outside their areas of expertise (McClure & Reeves, 2004). Professional isolation and lack of professional support are serious problems for rural teachers (Jean-Marie & Moore, 2004; Schmidt, 2004), particularly when a small staff pool means there are few other teachers to problem-solve work-related situations. In addition, opportunities available to rural districts through traditional means, such as online courses or attendance at conferences, are rarely customized to the unique characteristics, challenges, and strengths of rural districts.

The proposed program meets the particular challenges faced by rural districts by providing

intensive professional development (90 hours over two years) to a critical mass of 7th through 10th grade teachers. The program design includes several features—in-classroom teaching demonstration, mutual accountability for classroom implementation, and development of understanding about why practices work—that will facilitate classroom implementation and impact on student writing. In addition, the College-Ready Writers Program promises to sustain the instructional progress made by teachers and students by developing a cadre of local teacher-leaders to support ongoing professional development and school improvement. Rural districts, with their common characteristics of lower population density and greater distance from professional development providers, benefit from designs that support them to “grow their own” leaders. The NWP model of professional development provides an opportunity to build a local community of knowledgeable teachers who will use, adapt, and strengthen instructional tools and strategies to improve the writing performance of middle and high school students with a focus on the important skills of analytic, informational, and argumentative writing across the curriculum.

The NWP network has had an explicit focus on rural schools and districts since the 1992 formation of the NWP Rural Sites Network. It functions as a rural-focused research, development, and technical assistance network involving rural LEAs and rural higher education institutions. NWP has invested significantly in designing and providing professional development to rural LEAs. In 2010-11 alone, NWP conducted in-service training for 10,210 rural educators. Over the last 5 years, through its ISIs, NWP provided leadership development for 1,984 educators working in rural districts.

B.2. Reflect up-to-date knowledge from research and effective practice. NWP’s CRWP reflects three strands of up-to-date research and effective practice: an adaptive approach to scaling programs; instructional approaches for teaching writing verified by quasi-experimental

and experimental research; and a professional development design that reflects an emerging research consensus about the features of effective PD design.

Research on policy implementation over the past few decades has shown the role that local actors play in revising policies as they are enacted (Coburn, 2005; Lipsky, 1980; McLaughlin, 1990). For those designing interventions, this research raises a fundamental question about how best to address the issue of local adaptation so that implementation leads to the desired outcomes. CRWP adopts an **adaptive theory of scale-up**. As defined by Rowan and Miller (2007), “adaptive” scaling mechanisms are designed to support innovations that align with general operating principles but accommodate the local context. Adaptive programs purposely assign decisions about the nature of the intervention to local actors who customize the program in order to ensure the fit of the program to its context and build commitment to the reform. McLaughlin (1990) studied four major federal education programs and determined that policies implemented through a process of mutual adaptation were implemented more successfully. Similarly, Mehan, Hubbard & Datnow (2010) argue that adaptive scaling provides key advantages over programmed scaling. Because of its locally responsive and adaptive approach, CRWP is ideally positioned to respond to the diversity and complexity of rural contexts.

While the proposed program takes an adaptive approach, all local Writing Project sites focus their professional development on **effective practices for teaching writing**. Over the past six years, Steve Graham and his colleagues (Graham & Perin, 2007; Graham, Harris, & Hebert, 2011; Graham & Hebert, 2010) have produced three important meta-analyses about classroom practices that improve student learning outcomes in writing and reading. These practices are described in the Strategy section.

As detailed in the strategy description, CRWP reflects a growing research consensus about the features of effective professional development. Specifically, the proposed program provides active learning experiences for teachers including demonstration lessons, mentoring, and job-embedded learning opportunities that link curriculum development with effective instructional practices that extend over time (Desimone, 2009). Further, teachers' collective participation in the program will be enhanced through the formation of teacher professional learning communities, both in-person and online, that create opportunities for teachers to learn with and from each other (Horn, 2010; Lieberman & Wood, 2003; Little, 2003). The professional community dimension of CRWP is particularly critical as an antidote to the isolation often experienced by teachers in high-need schools. Finally, College-Ready Writers develops local teacher leadership capacity to sustain this work beyond the duration of i3 funding (Lieberman & Friedrich, 2010; Lieberman & Miller, 2004; Mangin & Stoelinga, 2008; York-Barr & Duke, 2004). Recent social network analyses identified a "spillover effect" that occurs when teachers seek advice from peers who have participated in extensive professional development (Penuel, Sun, Frank, & Gallagher, 2012). Building on this insight, creating teacher leadership capacity through intensive professional development provides an additional mechanism for improving teachers' practice.

B.3. Importance and magnitude of effect. Previous studies of NWP middle and high school in-service programs, similar to the proposed NWP College-Ready Writers Program, demonstrate improved student performance when professional development in writing is aligned with teachers' instructional contexts. Over an 8-year period, the NWP network conducted 1 experimental and 19 quasi-experimental studies to examine the impact of its intensive professional development programs on teachers' classroom practice and student writing

performance. These studies measured growth in writing achievement through on-demand writing tasks administered pre- and post- program. Scoring and data processing were conducted nationally and independently of local programs. Independent evaluation consultants conducted analyses of all student outcome data. Together, they offer moderate evidence that NWP programs have positive impact on students' writing achievement (National Writing Project, 2010) (See Appendix D).

Impact of Intensive Professional Development on Student Writing Outcomes

Four of the 19 studies provide evidence that College-Ready Writers will substantially and measurably improve student writing outcomes. These studies examine professional development that focuses on improving secondary students' academic writing skills in ways that are consistent with the CCSS; is situated in communities that serve high proportions of high-need students; and engages teachers in rural, high-need districts. These studies show statistically significant differences in growth in student writing performance, with effect sizes ranging from .22 to .81. These effect sizes are comparable to those reported in *Writing Next* (Graham & Perin, 2007), a meta-analysis of experimental and quasi-experimental studies on elements of writing instruction, such as collaborative writing ($d=.75$), pre-writing ($d=.32$), process writing approach ($d=.32$), and study of models ($d=.25$). These elements of writing instruction are a focus of the College-Ready Writers program.

Mississippi Statewide Program. The researchers examined the effects of 36 hours of professional development provided to 9th grade teachers in two high schools, one in a rural area and one near a small population center (Swain, Graves, & Morse, 2006). These schools, with 64% and 95% Free or Reduced Price Lunch (FRPL) eligible populations comprised of 81% and 99% African American youth, were each matched with two comparison schools on economic,

ethnic, school expenditure, and prior performance factors. Teachers participated in interactive workshops, study groups, coaching, and classroom demonstrations focused on effective strategies for improving writing. Program students' holistic scores increased by .5 point between pre and post intervention, while comparison students' holistic scores increased by .1 point; this difference was highly significant ($p < .001$), with an effect size of .59.

California Statewide Program. This California Writing Project professional development was designed to improve the achievement of traditionally non-college bound students through focusing on instructional approaches to teaching analytical writing and critical reading. Its effectiveness was examined in a 2-year study with high school teachers from rural northern California, Los Angeles, and greater Sacramento (Marlink & Wahleithner, 2011). The six high schools in the first year of the study served student populations in which 61 to 100% were eligible for FRPL and 3% to 44% were designated as English Language Learners (ELL). Teachers participated in 60 hours of professional development; between pre- and post-professional development, program students' holistic scores increased by .57, while comparison students' holistic scores increased by .24; the difference was statistically significant ($p < .05$), with an effect size of .48.

In a follow-up study, the program focused on 11th and 12th grade teachers in two Greater Sacramento area high schools serving student populations in which 69% to 100% were eligible for FRPL and 30% to 44% of students were designated as ELL. In the second year, teachers participated in 11 full day and 4 afternoon professional development sessions. Differences between pre and post holistic scores for the program students were on average .16, while differences between pre and post holistic scores for comparison students scores dropped by a

similar amount (- .15), resulting in a statistically significant difference at the $p < .05$ level in favor of the Writing Project students and an effect size of .32.

Santa Ana Unified School District, California. A multisite cluster randomized controlled trial of a cognitive strategies approach to teaching text-based analytical writing for mainstreamed Latino English language learners (ELLs) took place in the Santa Ana Unified School district, where 78% of students are low-income (Kim, Olson, Scarcella, Kramer, Pearson, van Dyk, Collins, & Land, 2011). The study involved 9 middle and 6 high schools, from which 103 English teachers stratified by school and grade were randomly assigned to treatment or control groups. Program teachers participated in 46 hours of training as part of the Pathway Project, conducted by the University of California, Irvine Writing Project, and learned how to apply cognitive strategies by using an on-demand writing assessment to help students understand, interpret, and write analytical essays about literature. Teachers were followed over two years; impact analyses using multilevel models conducted after each year of Pathway professional development revealed significant effects of the intervention on an on-demand writing assessment ($d=.35$) and the California Standards Test (CST) in English language arts ($d=.07$) in both years. In addition, diffusion effects were observed in the second year (Olson, Kim, Scarcella, Kramer, Pearson, van Dyk, Collins, & Land, 2012). Students in all classrooms taught by Pathway teachers outperformed their peers in all of the classrooms taught by control teachers. Pathway students scored about .094 and .10 standard deviations higher than the control students on the CST ELA and the CST writing subtest, respectively.

Evidence of Impact of Leadership Development

In addition to providing intensive professional development for secondary ELA teachers, the College-Ready Writers Program will intentionally develop teacher-leaders in the participating

districts through ISIs. These institutes assist teachers in adopting practices demonstrated to improve student achievement in writing. In addition, they expand the reach of these teachers by enhancing their leadership development, engaging them in educating their colleagues, and supporting their continued involvement within the profession.

Increased Student Writing Performance. An Alabama study of middle and high school teachers (grades 7-12) involved 17 program teachers who participated in the ISI and follow-up professional development and 15 comparison teachers (nominated by their principals as excellent English teachers). Program teachers implemented strategies they learned during the ISI, such as organizing their classrooms into interactive communities of practicing writers and designing writing instruction as a non-routine task. The work arrangements in these classrooms supported critical thinking and problem-solving between the teacher and students (Whyte, 2011). The students in program classrooms (n = 246) grew more to a statistically significant degree in a holistic measure of writing achievement over the course of one school year than those in comparison classrooms (n = 231) with an effect size of .22 (Whyte, 2011).

Retain Teachers in Teaching. Data collected through NWP's Legacy Study, which surveyed 5,512 individuals who participated in ISIs between 1974 and 2006, demonstrates that 77% of teachers remain in the classroom for at least two years following the ISI and 97% remain in the field of education. On average, teachers who participate in the ISI teach for 22.7 years. Additional evidence to support NWP's role in retaining teachers comes from an independent, quasi-experimental study comparing teachers participating in Courage to Teach (CTT) with NWP teachers, in which NWP teachers served as the counterfactual. This study found that NWP teachers had slightly higher levels of professional engagement on two indicators of the Malasch Burnout Inventory than CTT teachers ($d = .12$). Further, descriptive analyses showed that NWP

teachers planned to remain in teaching, with not a single respondent planning to leave the profession as soon as possible and only 3.3% of the sample saying they would leave if a better opportunity emerged (Geil, 2011).

Prepare teachers for leadership roles. Writing Project participants who leave the classroom go on to play a variety of leadership roles in education with 3.2% becoming school administrators, 3.1% playing district leadership roles, and 11% working in higher education, often in teacher education. Qualitative analysis of interviews with a random sample of 18 Legacy survey principal respondents demonstrates that the Writing Project influenced three components of respondents' instructional leadership: bringing a focus on and vision for the teaching of writing, emphasizing and creating opportunities for professional development that reflect Writing Project values, and supervising teachers (Friedrich, 2009). Investment in the development of teacher-leaders through the Writing Project can therefore come to serve schools and districts more broadly over time.

Impact Summary

Collectively, the studies of student impact meet the i3 Validation criteria for moderate evidence (See Appendix D for details). They demonstrate student results that are consistent and favorable in those aspects of writing that are aligned with the expectations of the CCSS and that the NWP is best known for, such as development of ideas and organization. And, students in Writing Project classrooms gained more often than their peers in the area of conventions, suggesting that basic skills also benefit from the NWP approach to teaching writing (NWP, 2010). In studies with statistically significant results, effect sizes on gains in a holistic measure of student writing performance ranged from .22 to .81. They demonstrate the positive impact of NWP's programs on high-need students in rural areas and from different U.S. regions.

Importance and Magnitude of Anticipated Effects

Access to high quality writing instruction is critical for improving rural students' access to college and post-secondary career opportunities. The 40 rural education agencies partnering with NWP and its local Writing Project sites have identified improving the teaching of writing as a critical need for their students' success in high school and beyond. Nineteen districts (listed in Appendix C) have committed to participating in College-Ready Writers. Additional districts will be recruited from Alabama, Arizona, Arkansas, Louisiana, and Mississippi, which have been identified by the Rural Schools and Community Trust (2012) as states where strengthening rural education is critical. Local Writing Project sites will prioritize LEAs designated as RLIS or SRSA. If they are unable to identify such districts in their service areas, they will reach out to LEAs that serve high-poverty students and are designated as rural fringe. An average 68.3% of students in the participating districts are eligible for FRPL. Further, proficiency on state ELA assessments is low, with between 31% and 82% of students scoring proficient or above on state tests. These achievement levels in writing likely overestimate these students' preparedness to meet the demands of writing in college and the workplace, since the assessments linked to the CCSS will be designed with higher demands for reading, writing, and analysis.

Based on the body of research of NWP secondary writing professional development programs, we anticipate that the College-Ready Writers Program will result in increased writing achievement on direct measures of student writing achievement, with effect sizes of .25 – .30. Such improvements in writing achievement are critical for high-need students' ability to complete high school and to successfully enroll in college.

C. MANAGEMENT PLAN

C.1 Timeline and Milestones.

Project Timeline of Activities

Year of Program Quarters	Jan. – Dec. 2013				Jan. – Dec. 2014				Jan. – Dec. 2015				Jan. – Dec. 2016				Jan. – Dec. 2017			
	W	S	S	F	W	S	S	F	W	S	S	F	W	S	S	F	W	S	S	F
NWP Project Management/Technical Assistance																				
Finalize LEA partners (NWP, Local Writing Project Sites)	X																			
Bi-weekly planning and assessment (NWP Staff: LF, JA, SS, TF, HJB)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Individualized technical assistance, monthly (NWP: TA Team)	X	X	X	X	X	X	X	X	X	X	X	X	X	X						
Visits to sites/partner districts (NWP: TA Team)			X	X	X	X	X	X	X	X	X	X	X	X						
NWP Connect – Technical Assistance (NWP: PO)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
National Training																				
CRWP Launch Meeting (NWP: JA, TF, LF) (IR) (SRI)		X																		
Summer implementation institute (Summer 2015 for Control turned Treatment districts)			X				X					C								
Mid-year partnership meeting				X				X												
Local Writing Project Professional Development																				
Collaborative planning with partner districts	X	X	X	X	X	X	X	X	X	X	C	C	C	C	C					
NWP Connect: Literacy and the Common Core online community resources, study groups, meetings, courses			X	X	X	X	X	X	X	X	X	X	X	X	X	X				
District-embedded institutes, study groups, workshops, and/or classroom demonstrations			X	X	X	X	X	X	X	X	C	C	C	C	C					
Teacher Leadership development support			X	X	X	X	X	X	X	X	C	C	C	C	C					
Evaluation																				
Finalize sample & random assignment (SRI)	X																			
Finalize design & instruments (SRI, IR consultation w/ NWP & IES)	X																			
Data collection of baseline data (SRI, IR)		X		X																
Evaluation coordination, bi-weekly meetings (NWP, SRI, IR)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	IR	IR	IR	IR		
Data collection (teachers) (SRI, IR)			X	X	X	X		X	X	X		C	C	C						
Data collection (students) (SRI)		X		X		X		X		X		C								
Data collection (professional development) (IR, SRI)			X	X	X	X	X	X	X	X	X	C	C	C						
Scoring conference (NWP: LF) (SRI: AG)			X				X				X				X					
Briefings and Reports (SRI, IR – Assumes formal reporting determined in conjunction with IES technical assistance)					B		B	R			B		B	R		R		R		
Scale Up/Sustainability for CRWP																				
Continued use of NWP Connect’s online CCSS resources																	X	X	X	X→
Support for local teacher leadership to sustain CRWP																	X	X	X	X→
Disseminate CRWP to NWP national network of sites																	X	X	X	X→
NWP – LF: Linda Friedrich; TF: Tom Fox; SS: Sherry Swain; JA: Joye Alberts; HJB: Hee Jin Bang; PO : Paul Oh; SRI -- AG: Alix Gallagher; Inverness -- LS: Laura Stokes; SRI: SRI International; IR: Inverness Research; LSRC: Local Site Research Coordinator; B: Briefing; R: Report. Note: C indicates activities will take place in LEAs originally assigned to control only.																				

C.2. Qualifications. The National Writing Project is the nonprofit applicant and is responsible for the overall management and program design for the NWP College-Ready Writers Program. NWP has long experience in developing, implementing, and scaling up professional development programs to improve the teaching of writing. **Tom Fox** and **Joye Alberts** will direct the project as NWP College-Ready Writers Project Co-Directors. **Paul Oh** will provide support for NWP Connect, through matching funds provided through a grant from the Bill & Melinda Gates Foundation. **Linda Friedrich** will serve as the primary liaison with the evaluation team and oversee the independent scoring of student writing samples. Local Writing Project site directors, who are experienced university faculty, will co-lead local professional development activities with experienced teacher-leaders (See Appendix C for biographical sketches).

Joye Alberts, M.Ed., National Director of Site Development for NWP, has more than 30 years of experience working with local programs across the country. She has served as a project director on a number of national programs including the coordination of NWP's State and Regional Networks team to strengthen the NWP network's capacity to offer professional development that addresses state or regional needs, issues, and educational priorities. She will supervise all NWP program staff working on CRWP. With Tom Fox she will oversee the implementation of national activities and the work of the national leadership team, assure the integrity and implementation targets for local activities, and design dissemination and scale-up efforts.

Tom Fox, Ph.D., Associate Director of Site Development, has developed and led professional development in rural schools for over twenty years, concentrating on schools in culturally diverse communities with high poverty. His research emphasizes students' resilience and focuses on how writing instruction can support increased participation in public spheres for

students who are geographically isolated. In addition to co-leading the project with Joye Alberts, he will provide technical assistance to the local Writing Project sites. **Paul Oh**, Project Manager for NWP Connect, has extensive experience with NWP's online community of practice. He will provide online support for the participants in College-Ready Writers.

Linda Friedrich, Ph.D., NWP Director of Research and Evaluation, has extensive experience working with sites and independent evaluators on impact evaluations. As the primary liaison with the SRI International and Inverness Research evaluation teams, she will ensure that the independent evaluation is well-coordinated with the program. She will also be the primary liaison for the local site research coordinators and supervise NWP's senior research staff in conducting the independent scoring of student writing samples. **Sherry Swain, Ph.D.**, Senior Research Associate, will recruit scorers from the NWP network and be responsible for the design of the scoring. **Hee Jin Bang, Ph.D.**, Senior Research Associate, will supervise the preparation and management of data files.

SRI International's Center for Education Policy will serve as the independent evaluation contractor with **H. Alix Gallagher, Ph.D.**, and **Katrina Woodworth, Ed.D.**, both of whom have experience with cluster randomized trials, serving as co-principal investigators. Dr. Gallagher's leadership experience includes major studies on teacher professional development that use experimental and quasi-experimental designs to estimate the effects of interventions on teacher and student outcomes, including the National Evaluation of Writing Project Professional Development, the Evaluation of the Teacher Incentive Fund, and Supporting the Development of the California Subject Matter Project's Research Capacity. Dr. Woodworth has a long record of research on K-12 school reform efforts and experience leading large, mixed-methods research studies, including a national study looking at how states are preparing for the implementation of

the CCSS. **Haiwen Wang, Ph.D.**, has leadership experience in quantitative research design and statistical modeling, and is especially interested in applying rigorous research methodology in evaluation studies. She has also led the impact studies of a variety of projects, including Florida's Master Teacher Program (funded by a Department of Education Investing in Innovation grant) and the Texas High School Project evaluation, and has been the lead on the quantitative design and analysis on two Institute for Educational Sciences grants, Reclassification of English Learners Study and the Content Rich Vocabulary Study.

Inverness Research will collaborate with SRI International on the independent evaluation. They will collect and analyze qualitative data to examine implementation in treatment years and develop cases to provide feedback for midcourse correction of implementation, to strengthen explanation of outcomes, and describe the key features of the model to facilitate replication and scale up. **Mark St. John, Ph.D.**, founder and president of Inverness Research, has been involved in the evaluation and study of public and private initiatives aimed at improving science and mathematics education for over 25 years. Dr. St. John and his colleagues at Inverness Research have served in the roles of developmental, formative, and summative evaluators studying investments made in professional development and teacher leadership networks, curriculum design projects, informal science education efforts, multi-institutional partnerships and centers, and systemic reform initiatives at the state, district, and school levels. **Laura Stokes, Ph.D.**, has worked with Inverness Research since 1993, directing studies of a variety of state, federal, and foundation-funded teacher leadership, professional development, and systemic reform projects. These include the National Writing Project; Washington's Center for Strengthening the Teaching Profession; the American Museum of Natural History's Seminars on Science; the Teacher

Institute at the Exploratorium; and the Seattle Public Schools Expository Writing and Science Notebooks Project.

C.3. Capacity to Scale Up. NWP has the capacity to scale up College-Ready Writers, both within the states participating in the i3 and beyond. NWP's leadership at the national level has extensive experience in disseminating learning from large initiatives and in bringing complex and intensive reforms to scale. This proposal includes 6 months of national staff time (July – December 2016) to disseminate and plan for scaling up College-Ready Writers. These preliminary scale-up activities will be aided by the findings from the experimental evaluation as well as the implementation case studies to be produced by Inverness Research. These case studies will provide the kind of detail that local Writing Project sites need to replicate and adapt College-Ready Writers.

The NWP's network of nearly 200 local, university-based Writing Project sites has broad capacity to offer intensive and sustained professional development in college-ready writing. Over a three year period (2008-09 to 2010-11), 167 local Writing Project sites offered district-based professional development with a duration of at least 45 hours in one year in 875 high-need LEAs. Local Writing Project sites are intentionally building new and current teacher-leaders' knowledge base around the CCSS, through explicit discussions of the CCSS in Invitational Summer Institutes and advanced leadership institutes so that teacher-leaders can plan work with their peers to meet the demands of the CCSS. Together with the nearly 2,000 rural teacher-leaders NWP sites have cultivated over the past five years, the NWP network is poised to broadly scale up College-Ready Writers.

D. QUALITY OF PROJECT EVALUATION

SRI and Inverness Research (IR) will conduct an independent evaluation of College-Ready Writers. The study uses a cluster randomized trial, with districts as the unit of randomization. Data collection includes measures of teacher and student outcomes and fidelity of implementation (listed in Exhibit 1). Findings will be shared through annual reports and regular project briefings, giving NWP data necessary to support implementation with fidelity.

Evaluation Questions

SRI and IR will address the research questions shown in Exhibit 1.

Exhibit 1: Research Questions and Data Sources

	<i>Writing Prompts</i>	<i>Teacher Survey</i>	<i>Teacher Logs</i>	<i>Principal Survey</i>	<i>PMP</i>	<i>PD Survey</i>	<i>Site Visits/ Observations/ Interviews</i>
Impact							
(1) What is the effect of the program on students' ability to produce college and career-ready writing?	•		•				
(2) What is the effect of the program on teachers' practices in writing instruction?		•	•				
Mediation							
(1) Which features of the College-Ready Writers program appear most related to changes in teacher practice?		•	•	•	•	•	•
(2) Which teacher practices correlate with increases in student ability to produce college and career-ready writing?	•	•	•				•
Implementation and replication							
(1) To what extent was College-Ready Writers implemented with fidelity to the NWP's logic model?		•			•	•	•
(2) What contextual factors impeded or enhanced implementation of the College-Ready Writers program features and desired changes in teacher practices?		•		•		•	•
(3) How did local and national context influence the implementation of the local Writing Project partnership?		•		•			•
(4) How did the technical assistance provided by the NWP interact with contextual factors to influence implementation of the local Writing Project partnership?							•
(5) To what extent does the program increase the access teachers in rural communities have to high-quality professional development in writing?		•		•			•
(6) To what extent were Local Writing Project sites successfully able to replicate the College-Ready Writers program in their first year of implementation with the delayed treatment districts?						•	•
Cost effectiveness							
(1) What is the cost per student of the estimated impacts on student achievement?	•	•			•		

Sample and Study Design

The NWP recruited ten local Writing Project sites with a history of leading partnership work, making them cases of mature implementation. Each local Writing Project site is recruiting two to six high-need, rural districts where they have not offered intensive professional development on college-ready writing.

To assess the impact of the NWP's College-Ready Writers Program on student achievement and teacher practice, SRI will randomize half of the districts at each local Writing Project site into treatment and half into control (delayed treatment). Randomization together with a balanced design at the local level will provide better equivalence across baseline indicators of key outcomes and of local context factors than randomization without regard to the local level. To monitor the quality of implementation of the College-Ready Writers Program, SRI and IR will collect data focusing on fidelity, dosage, intensity and the influence of local and national context in all districts during the first two years of the study. In Year 3, they will monitor program replication in the delayed treatment districts. Finally, IR will develop case studies that identify the model's features, implementation strategies, and ways to leverage supports and overcome barriers that make the model feasible for effective replication in other high-need rural settings.

The implementation of the CCSS and their related assessments in the 2014–15 school year deserves special consideration, since all states in our sample have adopted them. Given the importance of these new assessments and their emphasis on writing, we cannot ask control districts to withhold writing PD from teachers. We therefore do not know whether we will be testing the impact of College-Ready Writers against: no writing PD; a smaller amount of similar

writing PD; or a smaller amount of different writing PD.¹ While our inability to completely delay the treatment in control districts means that the counterfactual condition will be unknown until after data collection, the opportunity to develop a rich understanding of how districts and teachers react to this landmark policy shift compensates for not knowing the comparison condition in advance.

Data Measures and Collection

Student Writing Samples. An on-demand writing sample aligned to the text types articulated in the CCSS will provide a measure of student writing ability. These writing prompts will be scored using NWP's Analytic Writing Continuum (AWC) system. The AWC was originally modeled after the Six+1 Trait Writing Model, which is widely used in classrooms and provides the basis for many state writing assessment systems (Culham, 2003). The AWC has demonstrated high inter-rater reliability (overall 90% agreement across attributes), test-retest reliability, and internal consistency (Cronbach's $\alpha = .97$). (See Appendix D.) Scoring will occur annually. We will not use state assessments since only four participating states offer a separate writing assessment; moreover, the CCSS will introduce assessment changes during the study.

SRI will sample 10 student prompt responses from each 7th through 10th grade teacher in treatment and control districts in spring of baseline and in spring and fall of each intervention year. All identifying information will be removed prior to annual scoring (e.g., student identity, location, treatment condition, time of administration). Baseline data will be used to determine equivalence between treatment and control groups and adjust for district-level pre-treatment performance in the impact analysis. Spring scores will be used as outcomes for impact analysis.

¹ It seems unlikely that control districts will, on average, invest in the same PD levels, given the promise of delayed treatment and that the intervention offers a higher dosage of PD than typical.

Teacher and Principal Surveys. Annual teacher surveys collected from each 7th through 10th grade teacher in treatment and control districts will provide data about teachers' attitudes and beliefs about writing instruction, their participation in PD on writing, the content of PD, teacher professional practices, and teacher background. Measures proposed have been validated and found to be reliable (Gallagher, et al., 2011). Annual principal surveys will also be collected to assess the importance of writing in the school's curriculum, PD opportunities focused on writing instruction that have been provided to teachers, and other contextual issues (e.g., accountability pressure, implementation of CCSS).

Teacher Logs. All 7th through 10th grade teachers in treatment and control districts will complete daily logs for two weeks in the baseline and three weeks of both intervention years. These logs will measure the frequency of type of writing taught. An additional log will document the number and percent of students passing their core English classes. These data will be used as an outcome to indicate student progression toward high school graduation.²

Interviews. Semi-structured interviews will be conducted to triangulate outcome data and to better understand the implementation context. Questions will focus on the policies and practices shaping writing instruction at schools and districts, perceptions of partnership implementation, supports and barriers, and perceived changes in teacher practice. If survey results suggest possible contamination, interviews will be used to investigate these concerns. Year 3 interviews, conducted in delayed treatment schools, will track the replication process in new settings.

² Grades can be highly subjective measures, but all states in our sample require four years of English as a high school graduation requirement. Students failing a core English class must repeat that class and pass the next year's class, creating a barrier to high school graduation.

Classroom Observations. Observations will ground interviews in examples of classroom practice, providing richer resources for replication of the model. We will develop a classroom observation rubric to measure key features of teacher practices emphasized in PD (e.g., study of models, peer assessment of draft writing, writing to aid comprehension and analysis of reading).

Professional Development Observations and Survey. We will observe summer Writing Project PD using a structured observation form. These observations will assess the extent to which PD offered in the partnerships reflects the College-Ready Writers model in the content foci and instructional practices it promotes, the learning experiences of participating teachers participants (e.g., doing text-based analytic writing), and opportunities to develop teacher leadership capacity (e.g., sharing best practices with peers). We will also administer a short survey to teachers after each PD activity to measure its content focus and qualities.

Partnership Monitoring Protocol (PMP). The PMP captures fidelity of implementation in treatment districts and will be collected three times a year. It will provide information on teacher's participation, duration, and content of partnership PD. In Year 3, PMP data will be collected from control districts to document the progress of replication.

Data Analysis

Impact. To assess the impact of the College-Ready Writers intervention on outcomes of interest, we will estimate hierarchical linear model (HLM) with the effect of the intervention at the district level (binary outcomes will be estimated using a hierarchical model with logit link function). HLM adjusts standard errors associated with the clustering of observations and point estimates for the different sample sizes of clusters, thus minimizing Type I error associated with nested models (Raudenbush & Bryk, 2002). We will use pre-treatment data to test baseline

equivalence. We will analyze the impact on student outcomes each year of evaluation to determine whether and when the program had an effect.

The predicted writing ability for student i , taught by ELA teacher j , in district k as a function of attending a district assigned to treatment is given as:

$$Y_{ijk} = \beta_0 + \beta_1(\text{Partnership}_k) + \beta_2(\overline{\text{Baseline}_k}) + e_{ijk} + r_{jk} + u_k$$

Random effects e_{ijk} , r_{jk} and u_k allow for error at the student, teacher and district level, respectively. We include the districts' mean pre-treatment score as a control at the district level to improve precision of the estimate. β_1 provides an estimate of the effect of assignment to a district receiving College-Ready Writers PD on student writing ability (the Intent to Treat effect).

To estimate power, we have 40 districts, with an average of 12 teachers per district, and plan to sample 10 students per teacher. Based on an earlier study of writing PD (Gallagher, et al., forthcoming), we conservatively estimate that only 3.4% of variance will be at the district level and 30% at the teacher level. Baseline scores accounted for 20% of variance in the outcomes. These empirically-based assumptions for a 3-level HLM with treatment assignment at the district level predict a Minimum Detectable Effect Size (MDES) of .22 with .8 power. Standard assumptions of .5 reduction of variance at the student level from pre-treatment covariates and 10% of variance accounted for at each the teacher and district level estimate an MDES of .23. These MDES estimates are in line with earlier studies of intensive NWP PD (See B.3).

To estimate College-Ready Writers' impact on teacher outcomes, we will compare survey outcomes and log indicators of teaching practice using a similar methodology. Survey outcomes will require a 2-level HLM (district and teacher); models using log data, which have multiple measurements per teacher, require a 3-level HLM with logs as the third level. Data will be imputed as is deemed appropriate given the pattern of missingness (at random or not). Our prior

study suggests using similar assumptions. We assume a survey and log response rate of 85%, changing our estimated teacher sample to 10 per district. These assumptions give an estimated MDES of .32–.34 for survey outcomes and .26–.27 for log outcomes. We will estimate a second set of student and teacher impact analyses, using hours of writing PD received in each condition to estimate the effect of the treatment on the treated, accounting for the differences in treatment.

Mediation. Both quantitative and qualitative data collected will allow us to analyze the causal chain between PD, changes in teacher practice, and resulting changes in student ability.

Descriptive HLM models run within only treatment districts will reveal the correlation between the distinctive features of College-Ready Writers and differences in teacher practice, and between differences in teacher practice and changes in student outcomes. Students' spring scores will be the outcome, and student-level fall scores will be control; we will examine growth within individual students. Interviews and observations will triangulate and enrich these findings.

Implementation and Replication. Annual teacher survey data will allow us to assess the extent to which College-Ready Writers provides teachers in treatment districts with more and higher quality PD in writing than is available in control districts. Additionally, this analysis will use data from the PMP, PD observations and PD surveys, to assess implementation fidelity.

These data will be triangulated with interviews, which will be transcribed, coded, and examined for data on context factors related to implementation and any contamination or cross-over.

Cost Effectiveness. A cost per student amount will be calculated by dividing total costs by student enrollment in treated grades. This number will be divided by the estimated treatment effects on student writing to calculate an estimate of cost effectiveness.

Evaluation Resources

SRI International and IR have a long tradition of work with school districts and will collaborate closely with each other and NWP to complete a successful evaluation. The two organizations bring complementary strengths in terms of qualitative and quantitative expertise. SRI will focus more heavily on measuring implementation fidelity and estimating outcomes; IR will focus on documenting key features of the model to support replication. The evaluation staff will follow a detailed work plan guided by a timeline of required tasks and will meet regularly with NWP staff to review progress and collaboratively address upcoming issues in project implementation and its evaluation. SRI and IR will prepare and submit regular reports to the NWP. The budget for the proposed evaluation is \$4,400,888.

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