

Evaluation of Leading with Learning i3 Development Initiative

FINAL REPORT

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Evaluation of Leading with Learning i3 Development Initiative: Final Report

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Executive Summary

In close partnership with two, large school districts in California, WestEd implemented a systems approach for improving teaching for English learners, called Leading with Learning: Systematically Transforming Teaching for English Learners. This effort involved intensive two-year program of professional learning for teachers, instructional coaches, principals, district co-facilitators, and district leaders. Leading with Learning (LwL) was initially supported by a three-year award from the United States Department of Education Investing in Innovation (i3) fund, along with support from The Ford Family Foundation, The California Endowment, The Sierra Health Foundation, The David and Lucile Packard Foundation, and Amazon.

Rockman et al (REA) conducted the two-year, external evaluation of LwL schools under a sub-contract by WestEd. The evaluation examined both program impacts and implementation efforts at the public elementary schools in California that were the focus of the i3-funded project. The first school year involved four LwL schools, two in each school district. The second school year of implementation added a new cohort of five LwL schools to the continuing first cohort of schools. All schools were Title I schools. This final evaluation report summarizes findings after these two years of program implementation supported through the three-year i3 award.

The LwL model used a blended learning approach to provide professional learning supports for elementary school teachers, instructional coaches, principals, and district leaders. District leaders and principals were supported in developing systems and policies to support instructional coaches in their EL work. In turn, instructional coaches were to provide 1:1 and group support for teachers in their learning and application of EL instructional strategies. These participating teachers worked on enhancing their support for ELs and other diverse learners through implementing EL practices and collaborating with the LwL community of professional learners. Through the implementation of LwL classroom practices, students were to engage in instruction targeting their needs. The aim was for students to improve their understanding of complex texts and engagement with complex tasks and to improve their understanding of academic English. These improved student outcomes were expected to lead to improve EL student achievement on state academic and language assessments.

Effects of LwL were investigated with a matched quasi-experimental design conducted in both years of program implementation. The comparison condition involved similar district schools that engaged in business-as-usual professional learning, which did not involve extensive workshops or iterative onsite coaching focused on ELs. The school-level, multivariate matching was based on the average English language arts/Literacy achievement, mathematics achievement, and English language proficiency, and on key demographic variables, including EL status, ethnicity, and eligibility for free or reduced lunch. Matching was based on Mahalanobis distance, a multivariate metric of similarity of covariate values for the matched groups. The matching procedure occurred prior to the availability of outcome data. School level data for all elementary schools in each district (including K–8) were used to identify matched comparison schools for the Leading with Learning focus schools. Researchers at REA examined student achievement in English language arts (ELA) and mathematics as well as rates of English learners being reclassified fluent English proficient. Achievement analyses relied upon the state summative assessments in ELA and mathematics.

Fidelity of program implementation was assessed by measuring the extent that each of the key components of the LwL intervention was implemented each school year. These components were teacher professional learning, instructional coach professional learning, principal professional learning, and district leader professional learning. The indicators for each component focus on levels of participation of the four types of learners in relation to threshold levels established as necessary for fidelity of LwL implementation to be achieved. Scores for fidelity of implementation were averaged across schools to determine an overall metric by for the project by cohort each school year. Attendance records served as a primary source of data, as identified in the fidelity matrix table.

To further study implementation, REA used surveys, interviews, focus groups, observations, and coaching logs. The teachers and coaches of LwL schools participated in baseline and follow-up surveys and focus groups at the end of each school year. The surveys contained measures of teacher efficacy, frequency of classroom practices, attitudes, and knowledge. REA conducted focus groups with teachers and coaches to learn about their expectations concerning LwL, their experiences with professional learning during the year, their perceptions of practice changes and student impacts associated with LwL, and their needs and suggestions. In addition, REA researchers conducted classroom observations conducted at the beginning, midpoint, and end of year to understand implementation of LwL practices. The researchers recorded the frequency and characteristics of various discussion, reading, and writing activities.

Impact on Student Achievement and English Language Proficiency

The primary purpose of the impact evaluation was to test whether students in LwL schools experienced greater ELA or mathematics achievement compared to students at matched comparison schools. Achievement in both domains was measured using scores from the California Smarter Balanced Summative Assessments. Results of the primary impact study analyses showed no statistically significant effects of the two-year LwL professional learning on the ELA or mathematics achievement among ELs or non-ELs. Additional exploratory analysis found there were no statistically significant differences in rates of ELs being reclassified as English language proficient after the initial year of implementation (the two-year outcomes were unavailable for analysis).

Fidelity of Implementation

Determined through a formal scoring system, thresholds for attaining fidelity of program implementation were achieved in both districts and in both years of implementation during the impact study. Additional understanding about LwL implementation and impacts was learned through surveys, observations, and interviews. While the outcomes on the state summative assessments did not provide evidence of LwL effects, other data sources revealed important improvements in outcomes for students, teachers, and EL coaches. Teachers learned new practices and iteratively practiced them in their classrooms. They collaborated with each other and the EL coaches to deepen their learning, plan instruction, and reflect. The new classroom practices focused on increasing student active engagement and independence, which afforded enhanced opportunities for scaffolding. Lastly, teachers and coaches described positive impacts of these practice changes on EL students' ability to access complex texts, their understanding of how to engage in academic discourse, and their awareness of academic English and its use in writing.

Introduction

Rockman et al (REA) conducted the external evaluation of the project titled, *Leading with* Learning: Cultivating Language and Literacy Development, Collaboration, and Equity (leadingwithlearning.wested.org), which was awarded a three-year i3 Development grant (U411P140062) in 2014 by the Office of Innovation and Improvement of the U.S. Department of Education. The purpose of the Leading with Learning (LwL) initiative was to develop and test a new blended learning model for elementary teachers of English learners. Specifically, the LwL model involved a two-year program of professional learning designed to provide California teachers new knowledge and skills to help students meet California standards for both the English Language Arts (CA Standards for ELA/Literacy, California Department of Education, 2013) and the English Language Development Standards (CA ELD Standards, California Department of Education, 2012), which were adopted by the state board of education in 2012. This effort was steered by the English Language Arts/English Language Development Framework for California Public Schools: Kindergarten Through Grade Twelve (ELA/ELD Framework, California Department of Education, 2015), which was created to explain and guide educators on the alignment of the CA ELD Standards and the CA ELA/Literacy Standards. Members of the WestEd LwL team had helped to develop the CA ELA/ELD Framework.

The LwL model involved teachers, coaches, school administrators, and district leaders in face-to-face and online support for professional learning. Administrators and district leaders were supported in developing systems and policies to support instructional coaches in their EL work. In turn, instructional coaches were to offer 1:1 and group support for teachers as they engaged in learning and applying EL instructional strategies. These participating teachers worked on enhancing their support for ELs and other diverse learners through implementing EL practices and collaborating with the LwL community of professional learners. Through the implementation of LwL classroom practices, students were to engage in instruction targeting their needs. The aims for students were to improve their understanding of complex texts and engagement with complex tasks, their understanding of academic English, as well as their use of oral and written academic English. These improved student outcomes were expected to lead to improved EL student achievement on state academic and language assessments.

During the second and third year of the three-year initiative, LwL was implemented for grades TK–6 at a total of nine public schools across two cohorts and two districts (see Table 1). Four schools began in project year 2 and continued to participate in the intervention in project year 3, which enabled them to participate in the full two-year program of professional

learning, while five schools began in project year 3. These nine schools were referred to within the project as "LwL focus schools"¹.

District	Cohort 1 (Implementation Year 1)	Cohort 2 (Implementation Year 2)	Total
A	2	3	5
В	2	2	4
Total	4	5	9

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Table 1.	Leading	with	Learning	Intervention	Schools

The LwL schools shared some commonalities, such as all being Title I schools, and all had expressed a schoolwide desire to commit to robust professional learning for improving instruction for ELs. But the schools also varied in important ways. For example, some of the schools use a dual language approach to language and literacy development.

The districts, too, shared similarities and differences. Both were large, urban districts with a high level of commitment to systemic improvement for EL success, including improvement of their reclassification processes to reduce time to exit EL status. One important way that they differed was that district B, relative to district A, initially had a less structured coaching model for the specialists who supported efforts for improving English learner success. This influenced the process—particularly during the first year—of coaches and teachers developing relationships with one another to collaboratively move instruction forward. During the second year of implementation, district A began implementing a new ELA curriculum, McGraw-Hill Education's *California Wonders/Maravillas*, which challenged all the LwL stakeholders on how to balance those implementation efforts with what they were trying to accomplish through the LwL initiative.

The evaluation included both a study of program impacts as well as a study of implementation efforts. The impact study design was a quasi-experiment with each treated school separately matched to untreated comparison schools. The study sample included all EL students at the 9 LwL elementary schools and 14 non-LwL elementary schools. Kindergarten through sixth grade were included in the study for the testing of effects on rates of ELs being redesignated as fluent English proficient (RFEP), while grades four through

¹ One of the district B schools in Cohort 2 was a charter school with two campuses that functioned separately and were treated by the LwL as two individual schools (bringing the total to 10 schools).

Unfortunately, the test data is aggregated by the state across the two campuses, so they were analyzed as one school. Furthermore, there were three additional schools that had a partial level of involvement in the LwL intervention model beginning in the second year of implementation. Prior to this initiative, these schools had also been involved in some similar professional development that was a precursor to LwL. These schools were not included in the scope of this evaluation study.

six were included in the analyses of state summative assessments in ELA and mathematics. Given the nested nature of the data, hierarchical linear modeling was used to test outcomes.

Fidelity of implementation was assessed by measuring the extent that each of the key components of the LwL intervention was implemented each school year. These components—teacher professional learning, instructional coach professional learning, and district leader professional learning—are identified as the outputs in the LwL logic model. The indicators for each component focus on levels of participation of the three types of learners in relation to threshold levels established as necessary for fidelity of LwL implementation to be achieved. Scores for fidelity of implementation were averaged across schools to determine an overall metric for the project each year. Attendance and program records served as the primary sources of data. As part of the overall evaluation of the LwL i3 project, direct observations of professional learning activities and participant surveys served as additional sources for understanding and describing fidelity of implementation.

This final evaluation report summarizes the evaluation methodology and findings after the two years of program implementation supported in part through the LwL i3 development award. The report is divided into four major parts: an introduction to LwL and the evaluation, description of the impact study and key results, followed by the methodology and findings of the implementation study, and lastly the concluding summary.

Description of Leading with Learning

The primary goal of LwL is to support academically rich, culturally sustaining, and positive teaching and learning for all students to improve language and literacy learning and academic achievement. A distinctive feature of the LwL model is that it takes a systematic approach to developing capacity and shared leadership within a system for professional learning for the different educator groups. Four, two-year courses are provided—one for each key educator group (teachers, coaches, principals, and district team leaders). Figure 1 presents the **logic model** used in the evaluation of LwL. The logic model identifies the resources inputs and the four components of the professional learning system. Each professional learning components were expected to influence teacher and coach understanding, collaboration, and capacity to enact targeted instructional practices, which were designed to enhance language and literacy learning outcomes for ELs such as understanding of complex texts and achievement on academic and language assessments.

The LwL professional learning system is guided by **four tenets**: (1) focus on social justice and fairness, (2) promote continuous learning and growth, (3) focus on students and their assets, and (4) build shared leadership (see Box 1 for description of each tenet). In addition, there are four areas of emphasis for teaching practice within the LwL model, which are

referred to as the "4 Daily Essential Practices". These teaching practices are: (1) positive, culturally and linguistically sustaining teaching; (2) collaborative discussions, reading, and writing; (3) academic language development; and (4) scaffolding and student ownership. A model of the 4 Daily Essential Practices along with some description of each practice is provided in Box 2.

Box 1. Leading with Learning Core Tenets for Professional Learning

Focus on Social Justice and Fairness

- Explicitly seek to recognize inequities and actively redress them.
- Use culturally sustaining materials, techniques, and topics.
- Embrace social and emotional learning principles (positive learning environments, student agency,
- o authentic connections, compassion, empathy, self-regulation.)

Promote Continuous Learning and Growth

- Ensure that professional learning for adults mirrors effective classroom practices (discussion-based, collaborative, inquiry-driven, relevant and meaningful, integrated.)
- Invest in people (high expectations require high support.)
- \circ $\;$ Use research and evidence-based practices to drive course content.
- Encourage risk-taking and reflection (and welcome missteps and approximations.)

Focus on Students and Their Assets

- Use student-centered problem solving to inform planning.
- Ensure that instructional shifts are inquiry-driven and based on evidence of student learning.
- View students as having assets and resources to leverage and build upon (not as having deficits that must be "fixed".)

Build Shared Leadership

- Recognize that trust and professionalism among the adults are key.
- Respect teachers as agents of their own learning.
- Consider all of the adults as sharing the responsibility for the students.

Leading with Learning i3 Logic Model



Box 2. LwL: 4 Daily Essential Practices

Positive, Culturally and Linguistically Sustaining Teaching

Students develop a sense of personal efficacy; maintain cultural identity and connections with their ethnic, linguistic, and cultural groups and communities; build positive relationships; and develop an ethic of success that is compatible with cultural pride.

Collaborative Discussions, Reading, and Writing

Students work together in intellectually rich and integrated learning around worthy and engaging inquiry questions, texts, and topics in ways that support their deep learning, ability to engage in extended academic discourse, and abundant and authentic writing.

Academic Language Development

Students are immersed in a language rich environment and engage in interactive and discussion-based learning tasks about the language in complex texts, with a focus on understanding the complex texts better and making informed and deliberate choices about language when speaking and writing.

Scaffolding and Student Ownership

Students develop autonomy and ownership of the learning process through scaffolding (planned and just-in-time) and formative assessment practices that are tailored to their individual needs.



A pedagogical framework that underlies the Leading with Learning approach is known as the Teaching and Learning Cycle (TLC). See Figure 2 for visual depiction of the model. The

TLC involves five stages of learning to scaffold "academic writing through deep and critical academic thinking tasks, discussions. interactive reading and language development" (Spycher, 2017, p.3). The five stages of learning are:

- 1. Building the field
- 2. Exploring the structure and language of text types
- 3. Jointly constructing texts
- 4. Independently constructing texts
- 5. Reflecting on one's own written texts

The TLC was intended as a design guide for a

coherent sequence of lessons within an instructional unit. In LwL, teachers designed their instructional units around the TLC with a focus on improving student writing within a particular genre, rather than broader, more general writing skills. For further information about the TLC, see Spycher (2017).

Figure 2. Teaching and Learning Cycle



LwL Evaluation. Final Report

I am most excited about engaging students in opportunities to learn the language of a particular text type. Not only do they get a chance to learn about the language of the text type, but they engage in it in meaningful ways. [Coach]

It should also be pointed out that a core part of the LwL professional learning content included example "high leverage" instructional practices that were collectively referred to as the **Keystone Pedagogies**. These practices were designed with ELs and other diverse learners in mind, or as one of the LwL coaches described it:

The Keystone Pedagogies are effective, easy to implement strategies that are designed to support EL's. Easily the most exciting piece of LwL. [Coach]

Some examples of the Keystone Pedagogies include the following:

- collaborative text reconstruction to explore the meaning of the text
- verb analysis to analyze the behaviors, thinking, and feelings of characters
- sentence unpacking to understand the meaning of densely written sentences
- discussing "on the surface" questions and "below the surface" questions to deepen the exploration of text themes
- interactive story mapping to examine text structures and how a story of events or characters unfold

Overtime, teachers learned about these practices through the LwL sessions and materials, modeling by coaches, and iterative attempts to adapt to their classrooms. One way that the LwL model systematized the application of learning was through what it referred to as Focused Application Tasks, which were "homework" assignments that teachers and coaches were tasked with completing between learning sessions. These tasks involved planning and testing out of new practices, followed by reflections which were shared at a future learning session.

Impact Evaluation

The evaluation of LwL model efficacy involved a quasi-experimental design (QED) with a matched comparison group. This QED compared student-level outcomes at LwL intervention schools to outcomes at matched comparison schools that did not have access to the same LwL professional learning opportunities. To match schools, REA used the same measures as our student achievement outcomes and key demographic variables for students (e.g., EL, free or reduced lunch eligibility, ethnicity/race, etc.) and educators (e.g., years teaching). REA conducted all major aspects of the evaluation, including gathering of outcomes, impact analyses, and reporting of findings on the efficacy of the LwL model and its implementation.

Design and Methodology

Impact research questions

- Does LwL have an effect on the mean English language arts/Literacy achievement of 4th–6th grade English learner (EL) students compared to the mean English language arts/Literacy achievement of 4th–6th grade EL students in the business-as-usual condition? (Confirmatory contrast)
- Does LwL have an effect on the mean mathematics achievement of 4th-6th grade EL students compared to the mean mathematics achievement of 4th-6th grade EL students in the business-as-usual condition? (Confirmatory contrast)
- Does LwL have an effect on K-6th grade ELs being redesignated as non-Els compared to K-6th grade EL students redesignated non-ELs in the business-asusual condition? (Exploratory contrast)
- Does LwL have an effect on the mean English language arts/Literacy achievement of 4th–6th grade non-EL students compared to the mean English language arts/Literacy achievement of 4th–6th grade non-EL students in the business-as-usual condition? (Exploratory contrast)
- Does LwL have an effect on the mean mathematics achievement of 4th-6th grade non-EL students compared to the mean mathematics achievement of 4th-6th grade non-EL students in the business-as-usual condition? (Exploratory contrast)

The primary student outcomes were the state tests of ELA/Literacy and math achievement (Smarter Balanced Summative Assessment) for students in grades 4–6 (no state test available for PreK–2, and grade 3 does not have a pretest (i.e., grade 2 test)) and the designated EL status for all K–6 students.

The Smarter Balanced scores were converted to z-scores as a common metric for analyzing scores together across grade. The state mean score across grades 3–6 was subtracted from the test score and divided by the state standard deviation. The z-scores represent the performance relative to the state average.

Methods for assessing impacts on student outcomes

The two school districts each recruited elementary schools (two to three per year) from their district to receive the LwL treatment (i.e., participate as LwL focus schools). The two school districts were selected by the LwL team from several California school districts with high numbers of EL learners living in poverty. All nine treatment schools were included in the impact study. The matched comparison schools were determined by the external evaluation team from the pool of similar elementary schools within each district. "Non-LwL" is used in this report to refer to the comparison group.

Students in grades K–6 were served by the initiative. The intervention particularly targets EL students, but non-EL students were also of interest in the impact study since teachers were

to implement practices classroom-wide and many non-ELs were formerly ELs². At baseline, the participating schools in the treatment and comparison conditions had about 41% ELs, while the average for K-6 schools across both districts was about 25% (see Table 2). All the schools were ethnically and racially diverse and had a high percentage of socioeconomically disadvantaged students (mean: 91%, range: 77%–98%).

	Distri	ct A	Distri	ct B
Cohort	Study schools Average	District K-6 Average	Study schools Average	District K-6 Average
1	47%	27%	32%	22%
2	36%	23%	47%	24%

Table 2. Average Percent English Learners at Baseline by Cohort and District

The sample for the test of LwL effects on English language proficiency represented the full population of ELs that were served by the initiative, students grades K–6. For testing of math and ELA achievement outcomes, the impact study relied on the state's annual summative assessments (Smarter Balanced assessments). Both pretest and posttest scores were only available for students in grades 4–6 since the Smarter Balanced assessments is administered beginning in the third grade. Therefore, all 4–6th grade students, both ELs and non-ELs, were included in the achievement analysis samples.

The LwL team worked with each district to recruit the LwL schools for the impact study. All nine of these LwL schools were included in the impact and implementation studies. Two LwL schools from each district were in Cohort 1, which started in school year 2015–16. Three LwL schools in district A and two LwL schools in district B (including the one school with two separate campuses) made up Cohort 2, beginning in school year 2016–17 (see again Table 1).

Matching Process

The school-level, multivariate matching was based on the average ELA/Literacy achievement, math achievement, and English language proficiency, and on key demographic variables, including EL status, ethnicity, and eligibility for free or reduced lunch. Matching was based on Mahalanobis distance, a multivariate metric of similarity of covariate values for the matched groups. The matching procedure occurred prior to the availability of

² In this study, the non-ELs included English only students, students initially fluent English proficient, and students reclassified fluent English proficient. Unfortunately, the study was unable to examine differences among these subgroups of non-ELs and did not have access to the English language development levels of English learners.

outcome data. School level data for all elementary schools in each district (including K–8) were used to identify matched non-LWL schools.

Initial plans for 1:k matching involved identifying three non-LwL schools for each treatment school to increase the number of schools in the comparison group; however, given the small pools of possible comparison schools, 1:k matching was problematic. Separate matching procedures were followed for the two districts to create a set of matched schools in each district. After selecting matches, balance between the LwL and non-LwL group was diagnosed by numeric and visual analysis. Numeric diagnosing involved both comparing distributions of covariates and Mahalanobis distance (MD) scores. Although it may be both intuitive and common to check balance between the matched groups by conducting *t*-tests, researchers have indicated that it is more appropriate to use Cohen's *d* to compare the standardized differences in group means of propensity scores (Ho, D. E., Imai, K., King, G., & Stuart, E. A., 2007; Stuart, 2010). Visual analysis relied on creation of histograms and other plots to see the distribution of covariates across the two groups.

The impact analyses involved three state assessments: the Smarter Balanced ELA Summative Assessment, the Smarter Balanced Mathematics Summative Assessment, and the California English Language Development Test (CELDT). Performance on the CELDT is one of several data sources that was used to determine English language proficiency status³. The impact analyses were conducted separately for ELs and non-ELs. In lieu of identifying a separate set of matches for each outcome sample—by district, EL status, and outcome— we instead created one set of matched schools for each district, which included the prior mean scores (school-level) of the three outcome assessments. Stratification was used in the matching processes for each district.

All students in grades 4–6 at the LwL and non-LwL schools were included in the tests of research questions 1, 2, 4, and 5, which pertained to student achievement. All students grades K–6 in the LwL and non-LwL schools were included in the analysis of research question 3, which pertains to the proportion of students with English language designation. The inferences from the study sample may be generalizable to similar schools within the participating districts as well as districts with similar characteristics. Students of focus schools who were in the 4th or 5th grade during the first year of implementation and returned to the same school the following year received a second year of the intervention. There were also students who entered the schools for the first time in the second year of implementation.

³ During the initiative, California was in the process of transitioning from the CELDT to a new assessment, the English Learner Proficiency Assessments for California (ELPAC). The final annual CELDT assessment was administered in fall 2016, while its replacement, the summative ELPAC, was first administered in spring 2018. This limited our access to only year 1 outcomes for English language proficiency. Further research could benefit from access to the ELPAC summative assessment, which is administered in spring rather than in the fall as was the former CELDT.

Our analysis was not able to robustly tease out the effects of different levels of exposure. Baseline achievement was students' state test scores from the prior spring.

Analytic approach

Given that students were nested within schools, impact of LwL on student outcomes was examined using a two-level, hierarchical linear model (HLM) where the treatment indicator appears in level-2, the school level⁴. Statistical analysis was conducted using HLM 7.03 software (Raudenbush, Bryk, & Congdon 2017). Block variables were included to account for the school district variable and for the cohort variable when the two cohorts were pooled to explore possible one-year LwL effects on achievement. See Appendix A for details about each of the multi-level models used to analyze the student outcomes. As recommended when faced with small sample sizes, Hedges' g, a bias-adjusted estimate of the standardized mean difference, was used to calculate effect sizes to measure the magnitude of the program's primary effects (Hedges & Olkin, 1985). Estimates were calculated from the data and a pooled SD will be used.

Approach to testing baseline equivalence of the analytic samples

To test the equivalence of the analytic sample at baseline for the achievement confirmatory outcomes, we relied on students' Smarter Balanced score from the prior school year in the respective domain (ELA/Literacy, math). For most students in grades 4–6, baseline scores were available from the Smarter Balanced (SB) tests administered the prior spring, when they were in grades 3–5.

The model for assessing baseline equivalence on the analytic sample used the same multilevel structural form as the model used to estimate impacts with the following differences: 1) the dependent variable was the pretest (SB scores 3rd-5th grade) in reading and math; and 2) the independent variables was limited to the school-level treatment indicator (0/1) and the 'Block' variables (see section model specifications above). All other covariates were excluded from the models for assessing baseline equivalence.

As planned a priori, when baseline equivalence was not established (i.e., the standardized difference is > 0.25 standard deviations), a matched sample was to be identified that does meet baseline equivalence standards to conduct impact analyses.

Findings about Impacts

This section present results of the evaluation of LwL impacts on student-level achievement and on rates of ELs being reclassified as fluent English language proficient (RFEP). Results

⁴ Due to large amounts of missing teacher-level data, the analyses were restricted to the two-level models.

are first shared for EL outcomes and then for non-EL outcomes. Each section is outlined by the pertinent impact study research questions.

English Learner Outcomes

Confirmatory Research Question 1: Does LwL have an effect on the mean English language arts/Literacy achievement of 4th–6th grade English learner (EL) students compared to the mean English language arts/Literacy achievement of 4th–6th grade EL students in the business-as-usual condition?

It was hypothesized that there would be greater achievement on the state ELA test among ELs at LWL schools after two years of school participation in LwL than among ELs at comparison schools. For the analytic sample used to test this contrast, Table 3 provides the overall unadjusted group means on the ELA pretest. To test for baseline equivalence between the two groups, we used a two-level model with the ELA pretest as the outcome at level one and a dummy block variable district at level two.

Level-1 Model: Student Level ZELA15_{*i*} = $\beta_{0i} + r_{i}$

Level-2 Model: School Level $\beta_{0j} = \gamma_{00} + \gamma_{01}^* (\text{DISTRICTB}_i) + \gamma_{02}^* (\text{CONDITION}_i) + U_{0j}$

Where, DISTRICTB: 0 =district A, 1 =district B; and CONDITION: 0 =non-LwL, 1 =LwL

Table 3. Baseline ELA Achievement Among English Learners in Analytic Sample of Two-Year Effects

			ELA Pretest (spring 2015)		
Condition	N schools	N students	М	SD	
Non-LwL	6	319	-2.68	1.24	
LwL	4	177	-2.33	1.36	
Total	10	496	-2.56	1.29	

Mean *z*-scores are presented. The *z*-scores represent the performance relative to the state average.

Results of the baseline testing showed that the groups met the WWC standards for equivalence (see Table 4). The coefficient for condition was .289 (p = .122), which indicates there was no statistically significant difference in baseline ELA scores (Hedges' g = .225).

		Standard			
Fixed Effect	Coefficient	error	df	t ratio	p value
For intercept1, β_0					
Intercept2, γ_{00}	-2.837	0.223	7	-12.744	<.001
DistrictB, γ_{01}	0.139	0.163	7	0.852	0.422
Condition, γ_{02}	0.289	0.164	7	1.759	0.122

Table 4. Baseline Equivalence Test for 2-year Effects ELA Sample

2-level Model with No Covariate

Impact Analysis for Two-Year Effects on EL ELA Achievement

As shown in Table 5, the unadjusted mean ELA scores after two years of LwL implementation show a mixed picture in group ELA achievement across the two districts. Namely, district A had a higher mean ELA score at LwL schools than non-LwL schools, while district B had a lower mean ELA score among LwL schools than non-LwL schools.

District	Condition	N schools	N students	ELA <i>z</i> -score mean (Spring 2017)	ELA <i>z</i> -score <i>SD</i> (Spring 2017)
А	Non-LwL	4	254	-1.52	1.57
	LwL	2	53	-0.55	1.77
-	Subtotal	6	307	-1.36	1.65
В	Non-LwL	2	65	-0.93	1.46
	LwL	2	124	-1.14	1.80
	Subtotal	4	189	-1.06	1.69
Total	Non-LwL	6	319	-1.40	1.57
	LwL	4	177	-0.96	1.80
	Total	10	496	-1.24	1.67

For the statistical analysis of 2-year LwL impacts on ELA among ELs, the final two-level model included grade level and the ELA pretest (z-score for spring 2015 Smarter Balanced Summative ELA Assessment) as level one covariates and district and condition at level two.

Level-1 Model ZELA17_{*ij*} = $\beta_{0j} + \beta_{1j}$ *(R.GRADE_{*ij*}) + β_{2j} *(ZELA15_{*ij*}) + r_{ij} Level-2 Model

 $\beta_{0j} = \gamma_{00} + \gamma_{01}^* (\text{DISTRICTB}_j) + \gamma_{02}^* (\text{CONDITION}_j) + u_{0j}$ $\beta_{1j} = \gamma_{10}$ $\beta_{2j} = \gamma_{20}$

The results of the final model are listed in Table 6. Condition was shown to not have a statistically significant overall effect on ELA performance, with the standardized effect size estimated to be .143. This suggested that the ELs at the intervention and comparison schools had similar levels of ELA achievement after two years of participation by LwL schools.

Table 6. 2-level model with ELA pretest and grade level L1 predictors, Tx and District as L2 predictors: 2 Year ELA Outcome for ELs

	Estimate of coefficient	Standard error	df	t ratio	p value
For Intercept1, β_0					
Intercept2, γ_{00}	-0.577	0.693	7	-0.832	0.433
District, γ_{01}	0.015	0.281	7	0.055	0.957
Condition, γ_{02}	0.237	0.282	7	0.841	0.428
For pretest slope, β_1					
Intercept2, γ_{10}	0.289	0.118	484	2.446	0.015
For grade, slope, β_2					
Intercept2, γ_{20}	0.786	0.046	484	17.179	<0.001

Confirmatory Research Question 2: Does LwL have an effect on the mean mathematics achievement of 4th-6th grade EL students compared to the mean mathematics achievement of 4th-6th grade EL students in the business-as-usual condition?

As with ELA outcomes, it was hypothesized that there would be greater math achievement among ELs at LWL schools after two years of school participation than among ELs at comparison schools. The raw group means for the math pretest (see Table 7) suggested there were significant differences, with the LwL schools having higher math achievement. To test for baseline equivalence, we used a two-level model with no covariates similar to the analysis for ELA achievement.

			Math Pretest (spring 2015)			
Condition	N schools	N students	М	SD		
Non-LwL	6	320	-2.71	1.57		
LwL	4	179	-2.17	1.70		
	10	499	-2.52	1.64		

Table 7. Baseline Math Achievement Among English Learners in Analytic Sample of Two-Year Effects

For the analytic sample of 2-year LwL effects on math achievement, the test for baseline equivalence did not meet the WWC requirement. Table 8 shows there was a statistically significant difference between conditions at baseline, with the LwL group having higher mean achievement in math based on the 2015 math scores for the Smarter Balanced assessment (Hedges' g = .369).

Table 8. Baseline Equivalence Test for 2-year Effects Math Sample: 2-level model with no covariate

Fixed Effect	Coefficient	Standard error	df	t ratio	p value
For intercept1, β_0					
Intercept2, γ_{00}	-2.695	0.156	7	-17.225	<0.001
DistrictB, γ_{01}	-0.130	0.244	7	-0.535	0.609
Condition, γ_{02}	0.597	0.245	7	2.435	0.045

Impact Analysis for Two-Year Effects on EL Math Achievement

It was hypothesized that after two-years of LWL participation, the cohort 1 LWL schools would have a significant effect on math achievement of ELs compared to cohort 1 comparison schools. As shown in Table 9, average math performance (unadjusted for prior achievement) was higher among LwL schools than non-LwL schools in both districts. The standardized difference in means was larger in district A than in district B.

District	Condition	N schools	N students	Math z-score mean (Spring 2017)	Math z-score SD (Spring 2017)
А	Non-LwL	6	256	-1.78	2.47
	LwL	4	54	-0.25	2.83
	Subtotal	10	310	-1.51	2.59
В	Non-LwL	6	64	-1.44	2.20
	LwL	4	125	-0.96	2.43
	Subtotal	10	189	-1.13	2.36
Both	Non-LwL	6	320	-1.71	2.42
	LwL	4	179	-0.75	2.57
	Total	10	499	-1.37	2.51

Table 9. Unadjusted Two-Year Math Outcomes for English Learners by District and Condition

Our two-level model used to contrast cohort 1 math performance among ELs at the end of two-years mirrored that which was used for the 2-year ELA contrast. This allowed us to control for prior achievement in math and to account for the clustering within grades, schools and districts. The final model included a block variable for district at level two and controlled for the math pretest and grade at level one. Results from the final multilevel model are shown in Table 10. Controlling for the pretest scores and the nesting factors, the coefficient for 'condition' was not statistically significant. This implied that there was no significant difference in math achievement among ELs after two years of implementation at LwL schools. The estimated standardized effect score was .184.

	Estimate of coefficient	Standard error	df	t ratio	p value
For Intercept1, β_0					·
Intercept2, γ_{00}	4.127	0.839	7	4.922	0.002
District, γ_{01}	0.077	0.453	7	0.169	0.870
Condition, γ_{02}	0.456	0.455	7	1.004	0.349
For pretest slope, β_1					
Intercept2, γ_{10}	-0.661	0.166	483	-3.974	<.001
For grade, slope, β_2					
Intercept2, γ ₂₀	1.0847	0.051	483	21.298	<.001

Table ⁻	10. 2-Level	Model Test	of 2-Year	Effects on	Math Among	g English	Learners

Exploratory Research Question 1: Does LwL have an effect on K–6th grade ELs being reclassified fluent English proficient compared to K–6th grade EL students reclassified fluent English proficient in the business-as-usual condition?

In addition to examining potential LwL effects on ELA and math achievement, the study explored whether there was a positive LwL effect on the rate of ELs being reclassified fluent English proficient (RFEP) after one year of LWL participation in comparison to rates at the matched comparison schools. The delayed availability of outcome data for English language proficiency in the 2017-2018 school year meant that the study could only compare outcomes for EL reclassification rates for the first year of implementation only, which occurred during the 2015-2016 school year. In other words, we were able to test whether there were differential proportions of EL reclassifications at LWL Cohort 1 schools compared to the non-LWL matched Cohort 1 schools after one year of intervention. The sample consisted of all students at cohort 1 schools in the impact study who were identified as ELs at the beginning of the study (Fall 2015). Although there was interest in examining the rates of reclassification within the study, the timing to reclassification usually involves at least several years and often lasts longer; thus, it was not expected that LwL participation would be significantly influence reclassification rates after just one year.

According to guidelines provided by the California Department of Education, determination of whether a student should be reclassified from EL to RFEP depends on a combination of their performance on the English language development assessment (formerly CELDT, now ELPAC) and the state ELA summative assessment, as well as the input of the teachers and parents/caregivers. It is important to point out that the quality of instruction and EL services are not the only factors influencing the rates of EL reclassification. Districts vary in their

criteria and in their processes for determining reclassification, and differences in factors such as home language or family background also can influence student performance and English language development (for a summary of issues, see Umansky, Readon, Hakuta, Thompson, Estrada, Hayes, Maldonado, Tandberg, & Goldenberg, 2015).

Baseline Equivalence Testing for RFEP Analytic Sample

Baseline equivalence between the LWL and non-LWL groups was tested by comparing scores from the Fall 2015 administration of the CELDT, which was the California state assessment used for measuring English language proficiency levels. Students meeting the criterion for English proficiency on the CELDT had to have an average score across all domains of Early Advanced or higher and no domain score below Intermediate. Of the 1,757 ELs at baseline (LWL=611, non-LWL=1,146), 34 did not have a pretest score (Fall 2015 CELDT score).

The student-level outcome variable was student EL status in Fall 2016. Of 1,723 EL students with pretest score (F2015 CELDT scale scores), data on Fall 2016 EL reclassification status was missing for 142 ELs (8.24%). All the students with missing data were in District B, and there was no difference in the percentage missing between the treatment and comparison group (LWL 21.84%, non-LWL 21.85%).

The final analytic sample for testing LWL effectiveness on increasing EL reclassification rates had 1581 students and the treatment and comparison groups were similar at baseline as assessed by CELDT pretest scores (see Table 11). The baseline equivalence test was conducted using a two-level model that parallels the approach for estimating impacts on EL reclassification rate for this analytic sample. Results of this test are shown in Table 12. The estimated coefficient for condition was .953 (p = .887), indicating there was no statistically significant difference in baseline pretest scores between LWL and non-LWL schools (Hedges' g = .015).

CELDTOVEIJ = $\gamma_{00} + \gamma_{01}$ *DISTRICTB + γ_{02} *CONDITION_j + u_{0j} + r_{ij}

Condition	N schools	N students	М	SD
Non-LwL	6	1085	465.40	63.19
LwL	4	496	466.90	66.66
Total	10	1581	465.87	64.29

Table 11. Descriptive Statistics for CELDT Pretest by Condition

	Estimate of coefficient	Standard error	df	t ratio	p value
For intercept1, β_0					
Intercept2, γ_{00}	465.544	4.178	7	111.433	<.001
DistrictB, γ_{01}	-0.142	6.444	7	-0.022	0.983
Condition, γ_{02}	0.953	6.460	7	0.148	0.887

Table 12. Test of Baseline Equivalence for CELDT Pretest

RFEP Impact Analysis

For investigating LWL effects on rates of reclassifying ELs as fluent English proficient (RFEP), we were restricted to exploring the one-year effects associated with LWL implementation for cohort 1 schools. This was established a-priori as an exploratory contrast. It would have been preferred to have acquired reclassification rates after Year 2 of LWL implementation to include cohort 2 schools in the analysis of one-year effects and to enable a confirmatory test of 2-year effects on cohort 1 schools. Paralleling our confirmatory contrasts of two-year effects of LWL participation on ELA and math achievement, we may have hypothesized that there would be positive two-year effects of LWL on reclassification rates.

As shown in Table 13, while the overall LWL reclassification rate was three percentage points lower than in non-LWL schools, the within district results showed a different pattern of results. Within district A, there appeared to be an equal percentage of ELs in each condition that were RFEP after the 2015-16 SY, while in district B there appeared to be a slightly higher rate of new RFEPs among the LWL schools compared to the non-LWL schools.

				RFEP Count	
District	Condition	N schools	N students	(Percentage)	SD
А	Non-LwL	4	899	154 (17.13%)	.377
	LwL	2	174	30 (17.24%)	.379
	Subtotal	6	1073	184 (17.15%)	.377
В	Non-LwL	2	186	12 (6.45%)	.246
	LwL	2	322	30 (9.32%)	.291
	Subtotal	4	508	42 (8.27%)	.276
Both	Non-LwL	6	1085	166 (15.30%)	.360
	LwL	4	496	60 (12.10%)	.326
	Total	10	1581	226 (14.29%)	.350

Table 13. Number of English Learners Reclassified Fluent English Proficient (RFEP) by Condition and District, Post Year 1

The analysis of EL reclassification rates specified a Bernoulli model given the binary outcome variable (1=reclassified, 0=not reclassified). The CELDT pretest was centered around the grand mean. The final modeling estimated probability of reclassification controlling for pretest and grade and included condition and district as level-two predictors. See Appendix A for details about the statistical model.

Table 14 displays the results of the two-level modeling of reclassification rate outcomes. The coefficient for condition was 0.234 and was not statistically significant. The standardized effect size was .004. Consequently, after Year 1 of LwL implementation, the results of this analysis suggested there was no overall statistically significant difference between LwL and non-LwL schools in the percentage of ELs that were newly reclassified English proficient. As explained earlier, the reclassification outcomes for Year 2 of the study were not available during the study. Longer term tracking of reclassification rates is one avenue for further research of possible LwL effects.

	Estimate of coefficient	Standard error	df	t ratio	p value
For Intercept1, β_0					
Intercept2, γ_{00}	-1.226	0.239	7	-5.131	0.001
District, γ_{01}	-1.654	0.309	7	-5.359	0.001
Condition, γ_{02}	0.234	0.263	7	0.890	0.403
For pretest slope, β_1					
Intercept2, γ_{10}	0.083	0.006	1569	14.741	<.001
For grade, slope, $meta_2$					
Intercept2, γ_{20}	-1.225	0.114	1569	-10.741	<.001

Table 14. 2-level model with CELDT pretest and grade level L1 predictors, Tx and District as L2 predictors

Non-English Learner Outcomes

Since the practice changes advocated through the LwL initiative were believed to be beneficial to all learners, the evaluation also explored whether there were LwL effects on the achievement of students who were not classified as English learners at baseline. Our research questions paralleled those directed at ELs by inquiring whether there were LwL effects on ELA and math achievement as assessed by the state summative assessments.

Exploratory Research Question 2: Does LwL have an effect on the mean English language arts/Literacy achievement of 4th–6th grade non-EL students compared to the mean English language arts/Literacy achievement of 4th–6th grade non-EL students in the business-as-usual condition?

To examine possible two-year effects of LwL on ELA performance of non-ELs, we first tested for baseline equivalence between the LwL and non-LwL schools. Our statistical testing for baseline equivalence mirrored the approach used with the preceding analyses. The results revealed that the analytic sample for investigating two-year effects on ELA achievement had equivalent levels of ELA achievement at baseline between the LwL and non-LwL and non-LwL schools (see Tables 15 and 16, Hedges' g = .060).

			ELA Pretest (spring 2015)		
Condition	N schools	N students	М	SD	
Non-LwL	6	498	-1.35	1.58	
LwL	4	215	-1.64	1.74	
Total	10	713	-1.44	1.64	

Table 15. Unadjusted standardized means and standard deviations for ELA baseline equivalence of <u>non-ELs</u> at Cohort 1 LWL and comparison schools

Mean z-scores are presented. The z-scores represent the performance relative to the state average.

Table 16. Baseline Equivalence Test for 2-year Effects on ELA in the Non-EL Sample: 2-level model with no covariate

Fixed Effect	Coefficient	Standard error	df	t ratio	p value
For intercept1, β_0					
Intercept2, γ_{00}	-1.230	0.098	-12.544	7	<0.001
DistrictB, γ_{01}	-0.468	0.155	-3.016	7	0.019
Condition, γ_{02}	-0.098	0.162	-0.605	7	0.565

Impact Analysis for Two-Year Effects on Non-EL ELA Achievement

After two years of LwL at intervention schools of cohort 1, the unadjusted means in ELA outcome scores showed mixed results between the two groups and districts (see Table 17). Within district A, there appeared to be a higher level of ELA achievement among non-ELs at LwL schools compared to non-LwL schools, but district B showed a slightly lower level of ELA achievement among non-ELs at LwL schools compared to non-LwL schools compared to non-LwL schools.

District	Condition	N schools	N students	ELA <i>z</i> -score mean (Spring 2017)	ELA <i>z</i> -score SD (Spring 2017)
А	Non-LwL	4	364	-0.04	2.14
	LwL	2	82	0.60	2.33
	Subtotal	6	445	0.09	2.19
В	Non-LwL	2	134	-0.27	1.65
	LwL	2	136	-0.40	2.06
	Subtotal	4	268	-0.32	1.86
Total	Non-LwL	6	498	-0.10	2.02
	LwL	4	218	-0.02	2.22
	Total	10	716	-0.08	2.08

Table 17. Unadjusted Two-Year ELA Outcomes for Non-English Learners by District and Condition

The analysis of 2-year LwL effects on ELA achievement among non-ELs used an approach that was similar to the analyses for achievement among ELs. The final two-level model included grade level, gender, and the ELA pretest (z-score for spring 2015 Smarter Balanced Summative ELA Assessment) as level one covariates and district and condition at level two. Table 18 displays the results of the final model. The LwL condition was not associated with a statistically significant effect on ELA performance. Thus, after two years of school participation in LwL, the EL students of cohort 1 schools showed similar levels of ELA achievement as EL students in matched non-LwL schools.

	Estimate of				
	coefficient	Standard error	df	t ratio	p value
For Intercept1, β_0					
Intercept2, γ_{00}	.136	.487	7	.278	.789
District, γ_{01}	131	.247	7	533	.611
Condition, γ_{02}	.472	.249	7	1.891	.101
For grade slope, β_1					
Intercept2, y10	.204	.097	700	2.100	.036
For gender, slope, β_2					
Intercept2, γ_{20}	.426	.096	700	4.418	<.001
For pretest, slope, $m{eta}_{3}$					
Intercept2, γ_{30}	.959	.030	700	31.579	<.001

Table 18. 2-level model with ELA pretest and grade level L1 predictors, Condition and District as L2 predictors: 2 Year ELA Outcome for non-ELs

Exploratory Research Question 3. Does LwL have an effect on the mean mathematics achievement of 4th-6th grade non-EL students compared to the mean mathematics achievement of 4th-6th grade non-EL students in the business-as-usual condition?

The final set of impact analyses explored possible LwL effects on math achievement among non-ELs. We were particularly interested in whether there would be a statistically significant positive LwL effect for non-ELs after two years of participation by cohort 1 intervention schools. Using the same approach as for the other impact analyses, the results of the baseline equivalence test indicated that the LwL and non-LwL schools were balanced at the start of the study (see Tables 19 and 20, Hedges' g = .033).

			Math Pretest (spring 2015)		
Condition	N schools	N students	М	SD	
Non-LwL	6	497	-1.41	1.74	
LwL	4	224	-1.68	1.99	
Total	10	721	-1.50	1.83	

Table 19. Unadjusted standardized means and standard deviations for math baseline equivalence of <u>non-ELs</u> at Cohort 1 LwL and comparison schools

Mean z-scores are presented. The z-scores represent the performance relative to the state average.

Table 20. Baseline Equivalence Test for 2-year Effects on Math Non-EL Sample: 2-level model with no covariate

Fixed Effect	Coefficient	Standard error	df	t ratio	p value
For intercept1, β_0					
Intercept2, γ_{00}	-1.257	0.175	7	-7.160	<0.001
DistrictB, yo1	-0.626	0.261	7	-2.402	0.047
Condition, γ_{02}	0.061	0.265	7	0.229	0.825

Impact Analysis for Two-Year Effects on Non-EL Math Achievement

It was hypothesized that after two-years of LWL participation, the cohort 1 LWL schools would have a significant effect on math achievement of ELs compared to cohort 1 comparison schools. As shown in Table 21, average math performance (unadjusted for prior achievement) was higher among LwL schools than non-LwL schools in both districts. The standardized difference in means was larger in district A than in district B.

District	Condition	N schools	N students	Math z-score mean (Spring 2017)	Math z-score SD (Spring 2017)
А	Non-LwL	4	363	0.01	2.76
	LwL	2	89	0.97	2.66
	Subtotal	6	452	.201	2.77
В	Non-LwL	2	134	-0.57	2.56
	LwL	2	135	-0.64	2.94
	Subtotal	4	269	-0.61	2.75
Both	Non-LwL	6	497	-0.15	2.72
	LwL	4	224	0.00	2.94
	Total	10	721	-0.10	2.79

Table 21. Unadjusted Two-Year Math Outcomes (for Non-ELs by District and Condition

The multilevel analysis of cohort 1 math performance among non-ELs after two-years of LwL mirrored the other achievement analyses. The final modeling included math pretest and grade level at level one and condition and district at level two. The results associated with the final model are shown in Table 22. The coefficient for group condition was not statistically significant, meaning there were no overall LwL effects on math achievement among ELs after two years of school participation in LwL.

	Estimate of coefficient	Standard error	DF	t ratio	p value
For Intercept1, β_0					P
Intercept2, γ_{00}	1.262	0.733	7	1.721	0.129
District, γ_{01}	-0.407	0.495	7	-0.822	0.438
Condition, γ_{02}	0.644	0.497	7	1.296	0.236
For pretest slope, β_1					
Intercept2, γ_{10}	0.086	0.139	709	0.616	<.001
For grade, slope, β_2					
Intercept2, γ_{20}	1.112	0.039	709	28.821	0.538

Table 22. 2-Level Model with Math Pretest and Grade Level L1 Predictors, Tx and District as L2 predictors: 2 Year Math Outcome for Non-ELs
Implementation Research Questions

The evaluation of the Leading with Learning project not only investigated student outcomes but also studied implementation, especially at the program level. The aim was to understand the key components of the LwL model and to assess the extent that they were implemented with fidelity. Questions that helped guide our research about implementation included the following:

- To what extent do the professional learning and coaching give teachers the knowledge, skills, and tools they needed to engage in the four big areas of essential practice?
- To what extent do teachers routinely embed targeted EL practices into their teaching units, and how much does classroom implementation vary between and within schools?
- Does LwL at focus schools have an effect on the mean frequency of academic English interactions and interactions with complex texts in complex tasks of K-6th grade students?
- In what ways do coaches improve their knowledge and skills about (a) implementing new practices to accelerate EL students' understanding of content and understanding and use of English academic language, and (b) supporting teachers to implement new practices?
- How do coaches provide opportunities for teachers to participate in a community of practice?

Fidelity of Program Implementation

Fidelity of implementation was assessed by REA by identifying the extent that each of the key components of the LwL intervention were implemented each school year. This measurement system was formalized within a fidelity matrix (see Appendix X). This matrix was collaboratively developed by REA and the LwL core team. The fidelity matrix involved two separate scoring systems, one for each year of the two-year LwL intervention. This meant that implementation fidelity was assessed twice for cohort 1 schools—first for implementation year 1, then again for year 2—while cohort 2 schools were assessed once at the end of project implementation.

As identified in the LwL logic model (see again Figure 1), the key components are: teacher professional learning, instructional coach professional learning, principal professional learning, and district leader professional learning. The indicators for each component focused on the participation levels of the learners. The participation levels were evaluated in relation to threshold levels established as necessary for fidelity of implementation to be achieved. The matrix includes information about data sources, collection schedules, and responsible entities. Attendance records served as the primary source of data. Each school

year, the scores of implementation fidelity were rolled-up across the schools within a cohort to determine an overall metric for that cohort. The implementation evaluation included additional methods for understanding program implementation and for examining teacher implementation of LwL practices. These aspects are described in the next section.

Further Methodology for Studying Implementation

Teachers were administered a survey during the LwL summer institute to gather baseline data for the project. At the end of each school year, teachers completed a follow-up survey. The collaboratively developed survey assessed teacher perceptions about changes in EL student classroom behaviors and changes in teacher knowledge and skills about implementing new EL practices. The measures for knowledge and skill about EL instruction were adapted from existing instruments and aligned with the CA ELA/ELD Framework and CA ELD Standards.

The implementation study sought evidence of growth in the capacity of the instructional coaches, regarding both their knowledge of specific strategies for accelerating EL learning (e.g., content understanding and use of academic language) and their implementation of support for teachers' use of effective EL instruction. Pre-post surveys and end-of-year group interviews with coaches provided valuable self-report data.

In addition, periodic classroom observations provided additional evidence. At the start, midpoint, and end of each school year, REA conducted observations in a sample of classrooms at each school, spanning both grades K-6 and academic content areas.

Measures

Researchers used several instruments to gather information about the perceived effectiveness of the LwL initiative. In collaboration with the WestEd team, researchers developed a teacher survey, a coach survey, focus group protocols, and a classroom observation tool. The constructs and questions in these tools were aligned to program elements, the CA ELA/ELD Framework and CA ELD Standards, and key outcomes. This subsection below provides a description of the instruments and the various measures within them.

Teacher Survey

Teachers were administered a survey at the beginning and end of the year. The collaboratively developed survey assessed teacher perceptions about changes in EL student classroom behaviors and changes in teacher knowledge and skills about implementing various EL practices targeted in LwL. More specifically, the purposes of this baseline survey were to assess the following:

- 1. Frequency of classroom practices that are targeted by the LwL initiative
- 2. Attitudes about English language learning and instruction
- 3. Perceived knowledge about English language learning and instruction
- 4. Self-efficacy to use specific EL teaching practices in the classroom
- 5. Perceived needs for instructional support

Description about the survey scales is provided in Appendix B, and the end-of-year teacher survey instrument is in Appendix C.

Coach Survey

The LwL initiative sought to improve the capacity of instructional coaches to conduct their work. Their knowledge of specific strategies for accelerating EL learning (e.g., content understanding and use of academic language) and their implementation of support for teachers' use of effective EL instruction was captured via a baseline survey and an end-of-year survey (see Appendix B for a description of the measures and see Appendix D for the end-of-year version of the coach survey instrument).

Classroom Observation Tool

Researchers conducted classroom observations at the beginning, middle, and end of the school year. The purpose of the observations was to assess EL practices and student learning, particularly for discussion, reading and writing tasks. Researchers worked with the LwL team to develop a classroom observation tool. The tool was designed to capture teacher and student behaviors when engaged in discussion, reading, and writing activities. Items about characteristics of discussion, reading, and writing tasks were aligned with the CA ELA/ELD framework and the CA ELD Standards. The tool was also used to capture aspects of positive and culturally sensitive learning environments and scaffolding strategies used. Lastly, the tool was aligned with the research goals of the project and other tools being used in the project (see the full tool in Appendix E).

Stakeholder Interviews

At the end of both school years, REA conducted focus groups with a sample of teachers from each focus school and a focus group in each district with the coaches that serve the LwL focus schools. These focus groups provided participants an opportunity to reflect on the overall experience, impact, and involvement with the program. At the end of the impact study, REA conducted interviews with principals, district and project leaders to develop deeper understanding of challenges and facilitators of LwL implementation and its perceived efficacy on student outcomes.

Findings about Implementation

In this section of the report, findings pertaining to implementation of LwL are outlined by the primary relevant questions. Overall, the implementation study was centered on assessing whether the key program components of the LwL model were implemented with fidelity, and this question is first addressed by a description of the results associated with the fidelity matrix. The next set of questions focus on teachers, which is then followed by questions focused on coaches. The section then concludes with findings based on evaluation data gathered from school and district administrators and from members of the core LwL team.

Fidelity of Program Implementation

Were the key program components of LwL implemented with fidelity?

As explained in the methodology section, fidelity of program implementation was formally assessed by REA using a scoring system detailed in the fidelity matrix (see Appendix F). Fidelity was assessed annually and by cohort, so levels of implementation are presented here in three tables (Table 23 for year 1, cohort 1; Table 24 for year 2, cohort 1; and Table 25 for year 2, cohort 1). These tables identify whether each of the four intervention components were implemented with fidelity (final column) and summarize the scoring methods for each component.

Overall, the results suggested fidelity of program implementation was high in relation to the established threshold criteria. In fact, there was only one exception to fidelity being achieved, and that was for some of the cohort 1 teachers during the second year of their professional learning participation. Specifically, the threshold was not attained (but close) at two of the four cohort 1 schools, one from each district. One school had 77% of teachers meet criteria for fidelity and the other school had 70% meet fidelity. In both cases, only six teachers did not meet the fidelity criteria for participation.

Intervention	Measurable indicators representing each component	Sample size at the sample level	Representative- ness of sample: Measured on all (A), some (S), or none (N) of the units representing the intervention group in the impact analyses	Component level threshold for fidelity of implementa- tion for the unit that is the basis for the sample level	Criteria for "implement ed with fidelity" at sample level	Component level fidelity score for the entire sample	Implement ed with fidelity?
Teacher Professional Learning PL	3	4	A	School-level: Adequate implementati on is 80% of teachers score ≥ 2	Program- level: Adequate implem. is 75% schools meet the school-level criterion	100%	Yes
Coach PL	5	4	A	School-level: Adequate implem. is 1 or more coaches at school score ≥ 4	Program- level: Adequate implem. is 75% of schools meet school criterion	100%	Yes
Principal PL	5	4	A	Adequate implem. at school level is score ≥ 4	Program- level: Adequate implem. is 75% of schools score ≥ 4	100%	Yes
District Leader PL	4	4	A	Adequate implem. at district team level is ≥ 3	Program- level: Adequate implem. is all district teams score ≥ 3	100%	Yes

Table 23. Levels of Program Implementation Year 1, Cohort 1

Intervention	Measurable indicators representing each component	Sample size at the sample level	Representative- ness of sample: Measured on all (A), some (S), or none (N) of the units representing the intervention group in the impact analyses	Component level threshold for fidelity of implementa- tion for the unit that is the basis for the sample level	Criteria for "implement ed with fidelity" at sample level	Component level fidelity score for the entire sample	Implement ed with fidelity?
Teacher PL	3	4	A	School-level: Adequate implementati on is 80% of teachers score ≥ 2	Program- level: Adequate implem. is 75% schools meet the school-level criterion	50%	No
Coach PL	5	4	A	School-level: Adequate implem. is 1 or more coaches at school score ≥ 4	Program- level: Adequate implem. is 75% of schools meet school criterion	100%	Yes
Principal PL	6	4	A	Adequate implem. at school level is score ≥ 4	Program- level: Adequate implem. is 75% of schools score ≥ 4	100%	Yes
District Leader PL	5	4	A	Adequate implem. at district team level is ≥ 4	Program- level: Adequate implem. is all district teams score ≥ 4	100%	Yes

Table 24. Levels of Program Implementation Year 2, Cohort 1

Intervention component	Measurable indicators representing each component	Sample size at the sample level	Representative- ness of sample: Measured on all (A), some (S), or none (N) of the units representing the intervention group in the impact analyses	Component level threshold for fidelity of implementa- tion for the unit that is the basis for the sample level	Criteria for "implement ed with fidelity" at sample level	Component level fidelity score for the entire sample	Implement ed with fidelity?
Teacher PL	3	6	A	School-level: Adequate implementati on is 80% of teachers score ≥ 2	Program- level: Adequate implem. is 75% schools meet the school-level criterion	83%	Yes
Coach PL	5	6	A	School-level: Adequate implem. is 1 or more coaches at school score ≥ 4	Program- level: Adequate implem. is 75% of schools meet school criterion	100%	Yes
Principal PL	5	6	A	Adequate implem. at school level is score ≥ 4	Program- level: Adequate implem. is 75% of schools score ≥ 4	83%	Yes
District Leader PL*	5	6	A	Adequate implem. at district team level is ≥ 4	Program- level: Adequate implem. is all district teams score ≥ 4	100%	Yes

Table 25. Levels of Program Implementation Year 1, Cohort 2

District leader scoring is uniform across cohorts.

Teachers

To what extent did the professional learning and coaching give teachers the knowledge, skills, and tools they needed to engage in the four big areas of essential practice?

Prior to their participation in the LwL initiative, teachers felt that ELs were held back from fully engaging in their academic work by limited understanding of English, and teachers said that there was a critical need for developing academic language, providing scaffolding, and

increasing student peer communication. By introducing teachers to the *Four Daily Essential Practices* (see again Box 2), LwL provided a model of effective pedagogy to potentially help address these need areas.

As teachers progressed through the LwL training and were provided with the support of LwL tools and coaching, teachers reported gaining knowledge and skills about EL learning and instruction. Specifically, when compared to baseline reports, teachers in both districts reported increased knowledge about how to support ELs to engage meaningfully with complex texts and to understand and use academic English (see Table 25). Teachers from both cohorts reported gains in knowledge and skills about how to support ELs to address language demands in complex texts and to foster collaborative conversations between students (see Appendix G for item level data).

District	Construct	Baseline	Post Survey
	Knowledge and Skill in EL Instruction ¹	3.29 (.38)	3.76 (.42)
A (N = 20)	Classroom Practices ²	4.99 (.73)	5.06 (.58)
	Self-Efficacy ³	7.07 (1.24)	7.65 (1.06)
	Knowledge and Skill in EL Instruction	3.48 (.61)	3.88 (.60)
B (N = 35)	Classroom Practices	5.00 (.59)	4.84 (.59)
	Self-Efficacy	7.74 (1.36)	7.81 (1.11)
	Knowledge and Skill in EL Instruction	3.48 (.61)	3.86 (.57)
Total	Classroom Practices	5.00 (.59)	4.79 (.61)
	Self-Efficacy	7.49 (1.34)	7.75 (1.09)

Table 25. Pre-Post Means and Standard Deviations for Teacher Survey Scales

¹5-point response scale: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree

² 6-point response scale: (1) never, (2) Less than once per week, (3) Once per week, (4) 2–4 times per week, (5) Once per week, (4) 2–4 times per week, (5) Once per week, (4) 2–4 times per week, (5) Once per week, (4) 2–4 times per week, (5) Once per week, (6) 2 or mere times per devi

(5) Once per day, and (6) 2 or more times per day

³11-point scale: 0 = Cannot do at all, 5 = Moderately certain can do, 10 = Highly certain can do

At the end of the first year of LwL implementation, the EL coaches had observed that teachers raised their expectations about the kinds of learning challenges that students could successfully navigate.

At the very beginning of the year as a system, and in particular within the Leading with Learning schools, just the notion of reading or doing a read aloud in primary from a text that's two or three years beyond the reading ability of your students was a stretch for some teachers. They didn't think the kids would be patient enough to stay with it and understand enough to be interested and yet they were. So just raising those expectations I think is a big part of it. [Coach]

Along the same lines, one teacher explained,

I noticed that I underestimated my kids a lot. I didn't think they could do as much as they really can. I would kind of put limits like "you only need to give me 2 details", but they could really come up with 6 details if I left it open-ended. So, I've changed that in my teaching, as in I don't limit them as much, I just give them something that they can just run with. [Teacher, Cohort 2, TK-1]

While there was evidence of positive changes in teacher expectations about the abilities of their students, based on teacher survey data, it appeared that cohort 1 teachers initially may have been somewhat overly confident as a group in their own abilities to support ELs. At baseline, cohort 1 teachers reported fairly high self-efficacy, but by the end of Year 1, their self-efficacy had slightly decreased. Yet, during the second year of LwL implementation, average ratings of teacher self-efficacy had increased among both cohorts (see Table X). Other sources of data, such as focus group and interview data, provided multiple examples of increases in teacher self-efficacy to support the overall gains detected in the teacher survey data.

Coaches, too, witnessed positive shifts in teachers' perceptions and understanding about ELs and instructional needs. Coaches reported that teachers participating in LwL were able to develop deeper understanding of how to select and integrate EL strategies into a comprehensive teaching and learning cycle. In addition, coaches observed that teachers had developed greater self-awareness in terms of their practice alignment with current ELD and ELA standards.

In the beginning, it seemed like we were learning separate, independent practices, but through the teaching and learning cycle, it's part of a process. I think that seeing that come together...has helped teachers to better plan and implement the practices in a more cohesive way in their teaching. [Coach]

I think this first year really opened the door for them to say, 'I don't know what language to call out'. So, there's an awareness level that was built of a gap...in their teaching practice that they want to know more about. [Coach]

To what extent did LwL teachers implement targeted EL practices, and how much did classroom implementation vary between and within schools?

Interestingly, the teacher survey data suggested that average implementation levels of targeted EL classroom practices were rather high at both baseline and after participation in LwL professional learning, although district B showed a slight decrease in frequency for most

practices in the follow-up Observation surveys. and interview data. however. suggested that there was more growth in the application of targeted practices overtime. Based on survey rating scales, frequency levels roughly averaged once daily for practices such as providing opportunities for students to interact meaningfully in collaborative conversations about complex texts or rigorous content. This particular example practice was

I am excited about the practice of focusing on disciplinary literacy. Having teachers look at the language of their content has been challenging, but rewarding as teachers begin to recognize that language and content are connected and addressing both increases student understanding.

identified both in the Four Essential Daily Practices and as a student outcome goal in the logic model. Teachers also reported providing frequent "just-in-time" scaffolding for their students. The Teaching and Learning Cycle was one of the ways that teachers explicitly introduced greater and more focused scaffolding into their learning activities.

Qualitative data from both surveys and focus groups with teachers revealed frequent examples of changes in instructional practices. For instance, teachers described being better at facilitating reading tasks where all students can interact and supporting "*students*"

Through my use of Leading with Learning strategies, my students' verbal and written language has visibly improved. Students have an easier time with creating summaries, discussing content, agreeing and disagreeing academically, and extending all of this into their formal and informal writing.

interactive. meaningful in collaborative conversations". Additionally, REA researchers observed teachers incorporating students' prior learning or cultural/familial backgrounds to make new connections. Classroom observations also often showed students paraphrasing or recasting information to help their peers clarify their thinking.

In addition, survey and observation data revealed that

teachers increasingly supported students to write purposefully about complex texts. During the initiative, teachers tended to find ways to provide more opportunities for student talking and writing. Observation data indicated that students more frequently engaged in paired discussions (think-pair-share) with each other and wrote independently. Teachers also increased their tracking and awareness of what their students were discussing.

Through my use of Leading with Learning strategies, my students verbal and written language has visibly improved. Students have an easier time with creating summaries, discussing content, agreeing and disagreeing academically, and extending all of this into their formal and informal writing. [Teacher, Cohort 1, District B, Grade 5]

It has had a positive impact on their writing. Because through creating charts while we break down the text helps students understand enough about the topic so they can write. It also gives them a format to follow, so it is a great scaffolding device. [Teacher, Cohort 2, District A, grade 3]

Does LwL increase academic English interactions and interactions with complex texts and tasks?

The WestEd LwL team had intentionally designed example units and lessons to integrate writing, discussions, and reading. As teachers became more immersed in the daily essential practices for EL learning, students began to use more academic language in their writing

and discussions. Several teachers and coaches noted shifts in students' use of language via their writing, discussions, or reading. These views were also shared by leaders from the project team.

Students were observed by REA researchers as engaging in collaborative discussions and were often seen co[The TLC] was really helping them identify [and] analyze language of the text type (a keystone pedagogy) to guide them to do that with their students, and really understand the purpose of language.

constructing texts with the teacher or other students. Through discussions, students explained how language in a text conveyed meaning or different elements of the text (main idea, character trait, etc.) routinely.

Academic language in science or mathematics was used integrated throughout LwL lessons in various ways. For example, in lessons with sentence reconstruction activities, teachers introduced lexical chains, text connectives, and transitional phrases. Students also incorporated academic vocabulary into their writing.

Over the course of the school year, teachers and coaches reported a dramatic increase in the amount and type of writing produced by students. The amount of student work and writing posted to classroom walls was observed with increasing frequency over the course of the school year. Teachers also reported feeling more confident letting students take ownership of their own learning.

My students writing has improved. Since we have been looking closely at texts my students are more aware of different kinds of transitional phrases and lexical chains. I knew something was working when they started asking if they could use the phrases that we learned about in their writing. [Teacher, Cohort 2, District A, Grade 2]

In addition to just seeing [their writing] in the hallways, I've had teachers come up to me and share...how excited they are about it, especially with the authentic writing. They'll share a piece and it's exciting because you can really hear the student voice. You can tell they're not just filling in frames. The teachers are excited about that...because they were setting expectations and not sure if the students would meet them and actually then went higher than they expected them to go. It's really exciting for them to read their writing and hear their own voice in that. [Coach]

Teachers who have tried the strategies have seen that students are more engaged in the learning process and can produce high quality pieces of work especially writing. Because there is a focus on integration of content students are exposed to more subjects especially science and social studies. Students are making the connections between reading and writing and now there is a purposeful focus on language to help students make sense of how language is used in different contexts. [Coach]

As indicated earlier, there was a trend overtime towards LwL teachers providing students with increased opportunities for student discourse and collaboration in their classrooms. This tendency allowed the teachers to increasingly step back from providing direct instruction and to engage in more observation of their students engaged in groupwork and hands-on science activities.

I have learned strategies which foster collaboration and cooperation, rather than having me explicitly teach them material. This has helped my students share their ideas and learn from each other. (Cohort 2, District B, grade 5)

Students are more comfortable interacting with one another and expressing their opinions. For example, when they are constructing a timeline all group members are engaged and participating. All students feel valued and comfortable sharing out, even my most introverted students. More often students are speaking in academic language and making connections with previous learned vocabulary words to future lessons that include the same words. (Cohort 2, District B, grade 3)

Students' understanding and use of academic language was evident in their conversations with one another. Teachers observed students making meaning out of how different parts of the text connect with one another.

In their academic conversations, I'm able to hear their use of metalanguage which is incredible. When they're reading, they're now able to notice how the text fits together by pointing out text connectives which is something they hadn't done before. They're incorporating these language structures in their writing which is awesome! [Teacher, Cohort 2, District A, grade 6]

I see my students discussing the text. They're really looking for those signal words and are trying to identify structures within them. When they're discussing the text, they ask each other questions like, "Oh, what is it in the text? Who are they referring to?" They're not just thinking about the comprehension anymore. They're actually analyzing the words and how the words are being used. [Teacher, Cohort 2, District A, gds 4-6]

Thus, through LwL participation, teachers became empowered to step back and allow students to take control of their learning by engaging in more shared discussions with their peers. There were several ways that the REA-conducted classroom observations revealed evidence of this shift from teacher-centered facilitation to more student-centered classrooms. For example, students were observed asking each other for elaboration, evidence, or reasoning behind a claim. And students built on shared ideas by increasingly adding relevant information from the text that was the object of their learning activity. During the second year of implementation, several classroom observations even revealed students engaged in Socratic seminars, which further reinforced the integration of reading, writing, and discussion activities. Lastly, teacher and coach expectancy beliefs about what students could do and achieve were dramatically raised as students were increasingly provided opportunities to engage with challenging texts and each other.

LwL has changed my beliefs about student learning, and thus raised my expectations for student success and achievement. I believe that ELs are capable of reading (and producing) rigorous, complete academic texts if they are equipped with the language resources and are provided with appropriate scaffolds. [Coach, District A]

Coaches

The district EL coaches were instrumental to the LwL model. Coaches were responsible for supporting the professional learning of teachers by helping to facilitate sessions and by providing mentoring and planning support to teachers as they worked to try out new practices in their classrooms. In addition, coaches engaged in their own coach coursework, which involved both face-to-face and online learning sessions throughout each year.

I think the coaching model was very supportive of both us as coaches, in that we were able to learn last year from the whole groups sessions when we did demo lessons with Leading With Learning partners, and then during the coaching session we were able to kind of replicate that and take it to a smaller group of our teachers at our sites and so I think that was a very supportive model to take some of that fear or concern from all eyes being on the teacher, because it was a collaborative process between the coach and the teacher at the Leading With Learning schools. [Coach]

Due to the important role that the district EL coaches performed in the LwL model, they were a key source of information about teacher experiences within the initiative, and thus

their insights and perspectives were interleaved in the above description of teacher participation and associated outcomes. As reported earlier, the implementation study also sought to answer several research questions related to the coaches who provide supports to schools for improving EL instruction and learning. Again, the questions were:

I love the fact that we can equip our ELs and other students with language resources that will ensure their academic success in various content areas.

- What are the ways that coaches expand their knowledge and skills about practices to accelerate the building of content knowledge and understanding and use of English academic language among ELs? And how do coaches support teachers to implement the new practices?
- How do coaches provide opportunities for teachers to participate in a community of practice?

Through their own professional learning, the coaches reported becoming more confident and rooted in the CA ELA/ELD Framework and the Teaching and Learning Cycle (TLC). They reported using their own learning trajectory or struggles to provide effective modelling for teachers. For example, coaches appreciated the opportunity to learn alongside teachers, as it solidified the bond between teachers and coaches. Because coaches experienced LwL material firsthand, they were able to anticipate challenges that teachers may encounter, allowing them to more effectively, and confidently, model lessons.

I love the fact that we can equip our ELs and other students with language resources that will ensure their academic success in various content areas. LwL taught us how to implement language-based pedagogies that helped students look at language in a much deeper way than any published curriculum our district has used. These pedagogies give us a way to explicitly teach Part 2 of the ELD Standards. This view was confirmed by project leaders, who reported that over the course of 2 years, coaches developed a deeper knowledge and understanding of the CA ELA/ELD Framework and were more confident when modeling instruction.

Just the difference between my interactions with them two years ago and my interactions with them now, they're a lot more confident. They have a lot more, they have deeper knowledge, they have deeper understanding, and they're doing things without second-guessing themselves. [Project staff]

Coaches were able to develop a much deeper understanding of how language works and how text types are connected to reading comprehension and writing. This learning mirrored the learning that teachers reported, in that they were able to internalize the Teaching and Learning Cycle (TLC) and apply it seamlessly to planning and implementing instruction. A common theme among coaches was that the TLC provided coherence and consistency to their own work and alignment of the work all the stakeholders engaged in the LwL effort.

The variety of ideas and practices for moving through the TLC that I experienced as a facilitator and learner has helped me provide additional suggestions to increase the lesson rigor and student ownership of the learning. [Coach, District A]

Learning was also rooted in the Keystone Pedagogies and the CA ELA/ELD Framework, and this allowed teachers and coaches to collaboratively build capacity to sustain and grow their teaching practices. Prolonged exposure to the Pedagogies and the Framework enhanced teachers' and coaches' understanding about language and complex text structures. We conclude with an extended quote from a coach:

I just want to share how much I appreciate having something so aligned to the Framework, which is supposed to be this legal document that we're all supposed to be using in California. I feel like in my previous life as a teacher, that was never there. It was always like you have to do this, this, this, and this, and no one really had any rhyme or reason. As someone who always taught ELs and worked in a Spanish immersion program, these things were so contrary to what I knew research said, and how I knew ELs learned best. To have the Framework…and then to be able to reference it and become so familiar with it through this training, I think has proven to be invaluable when working with teachers. [Coach, District B]

Other Stakeholders

At the end of the LwL initiative, REA conducted additional data gathering. These evaluation efforts included participation in various program reflection meetings/events facilitated by the WestEd LwL team and additional stakeholder interviews with principals, district leaders, and key members of the core WestEd LwL team. Both the reflection meetings and interviews

provided key stakeholders' reflections on the challenges and successes of the initiative as well as information about future plans and sustainability.

It was made clear through these data that although there was room for improvement in the consistency of implementation, there were strong gains realized for teachers, coaches, and students. The stakeholders had witnessed the excitement as teachers and coaches deepened their understanding about ELs and how to plan and implement instructional practices designed to enhance learning opportunities for ELs.

[Teachers] got much deeper into understanding language and how it works and what text types are and how that's connected to reading comprehension and writing. [Project staff]

What is more, they also had personally observed how these new understandings influenced changes in classrooms.

Much of what was shared by the school, district, and project leaders was focused on what would be happening in the coming school year now that the initiative was formally nearing its completion. A key next step was that the districts were rolling out the second year of intensive professional learning for the LwL schools of cohort 2. The districts also were focused on continuing the work with the LwL schools of cohort 1 to maintain their progress in implementing the ELA/ELD Framework. Stakeholders reported that cohort 1 teachers were continuing to use the Keystone Pedagogies. In addition, the districts were implementing their scaling and sustainability plans, which involved expanding to new schools. The core LwL team was continuing to advance their professional learning materials so that the districts had "implementation kits" to provide guidance to facilitators of professional learning. The systemic approach of LwL served both districts well in supporting the long-term process of enacting their district master plan for English learners.

Stakeholders felt that if the initiative had just focused on the teacher strand for professional development, then the work and momentum would have been at greater risk for fading out after the initiative had formally ended. The whole school commitment to the LwL initiative was also cited as key to the progress that was made. A schoolwide sense of shared responsibility was encouraged from the start through having schools obtain unanimous or nearly unanimous votes for participation in the initiative. Lastly, stakeholders felt that the schools were able to progress further in their learning and implementation because they benefitted from learning alongside the other LwL schools.

Conclusions and Discussion

This report provides results of the evaluation of the Leading with Learning (LwL) impacts and implementation. Certainly, the systemic approach of LwL is ambitious in its effort to simultaneously provide professional learning opportunities and resources to multiple educator strands (teachers, coaches, administrators) within school districts that are all jointly responsible for the learning needs of English learners (ELs)—and to do so while listening closely to their district partners and making adaptations to their contextual needs. Yet, through this systemic approach, the districts are arguably better situated for sustaining the professional learning and iterative efforts required to enhance instruction and learning for ELs compared to other improvement models that focus on the needs of one or two stakeholder groups.

The evaluation of program implementation revealed that thresholds for fidelity of key component implementation were met overall, which was determined through use of the formal scoring system that was jointly developed by REA and the LwL developers. This methodology relied heavily on assessing the participation levels of each educator strand in the designated professional learning coursework. In addition to this measuring of the volume and spread of engagement in professional learning, the implementation research also explored stakeholders' perceptions of the quality of learning and dug deeper into the consistency of both program implementation and classroom implementation. Stakeholders revealed the key shifts in understanding and practice that were influenced by the professional learning participation. They also shared differences in needs or preferences for content and support. Some teachers reported highly effective relationships with LwL coaches, while others had less effective coach support or no support. Some teachers had more time for collaborative planning than others. Coaches had different levels of success in developing new collaborative relationships with teachers or new ways of working with them.

The evaluation of LwL impacts on students centered on measuring possible positive effects on state test scores in ELA and mathematics, especially among the ELs. These are important indicators of progress towards reducing educational inequities and increasing EL access to the core curriculum, and are key long-term outcome goals identified in the LwL logic model. The confirmatory research questions involved testing of possible two-year LwL effects on the ELA and mathematics achievement of EL students, as measured by the state standardized test scores.

Results showed that students in LwL schools did not experience greater gains in ELA or mathematics achievement compared to students at non-LwL schools, and the ELs at LwL schools did not experience greater rates of reclassification as English language proficient. The statistical analyses suggested that, after two years of LwL implementation at the first cohort of schools, there was no statistically significant LwL effect, with LwL and the matched comparison schools showing similar levels of ELA achievement among ELs. The same results were found for mathematics achievement of ELs. The parallel exploratory analyses

of two-year effects on non-EL achievement in ELA and mathematics at cohort 1 schools yielded the same pattern of no significant LwL effects. Furthermore, there was no significant group difference in the one-year rates of ELs being reclassified as fluent English proficient and no evidence of significant one-year effects on ELA or mathematics performance.

While hypothesized effects of LwL on student achievement outcomes may not have been realized as measured by the state summative tests, a great deal of the evaluation evidence demonstrated important student, teacher, and coach learning outcomes being attained. In addition, these learning gains were followed by observable behavioral shifts among all three groups of learners.

Across schools and grade spans, teachers in LwL schools learned instructional practices and subsequently enacted them in their classrooms. Teachers implemented activities in ELA, science, math and other domains to foster more collaborative academic discussions and language analysis about complex texts. Many teachers also increased the volume of student writing around complex texts as well as the rate of progress. Plus, a key thread across the practice changes was an increased focus on student independence. In turn, these classroom changes and students' responses to the changes led to increases in teacher expectations of what their ELs and other learners could do and accomplish.

The process of planning these instructional changes, and becoming more confident and better skilled at implementing them, was fostered through the collaboration among teachers and coaches. Together, the educators planned lessons and whole units, supporting each other through shared goals, observing peer instructors, and sharing reflections and ideas. By engaging in professional learning of their own, coaches, principals, and district leaders developed shared understanding with teachers about the essential practices that could be implemented to support their ELs and other diverse learners. This fostered a shared focus in the initiative, which encouraged structural and policy affordances to support teachers in planning and trying out new practices. For example, administrators tried to provide teachers with protected time for planning, and some teachers were able to arrange to observe each other try out the new practices. Naturally, the participating district leaders were challenged with balancing the LwL efforts with other major initiatives in their districts. and so their personal involvement in the LwL professional learning fostered a strong awareness of the objectives and work involved with the LwL initiative, and this helped to better coordinate the efforts of EL coaches, whom are responsible for other important efforts such as supporting teachers with enacting a new district ELA and language development curriculum. Yet, despite these efforts, resource constraints and other challenges limited the intensity and perhaps other key characteristics of coaching for some teachers, which may have been an influential factor in curtailing overall gains in student academic achievement. Finally, some of the principals had more competing initiatives or priorities at their site than others, and the balancing act inhibited some of the LwL-related progress, including the degree of teacher-coach collaboration.

The kinds of shifts in practice that teachers made were focused on active studentcentered engagement. There was more frequent and deeper student engagement in discussing texts. There were some reported and observed examples of improved focus on academic English, both in conversations and in writing. And in classrooms and across schools there was an increased in writing for authentic purposes in science, math, and other disciplines.

Lastly, in reference to desired long-term student outcomes, the intentional, scaffolded learning activities, which were centered on Keystone Pedagogies and sequenced within the Teaching and Learning Cycle, were reported by stakeholders to support several long-term outcomes for EL students. Specifically, teachers and coaches shared examples of how EL students showed: (1) a greater ability to access complex texts, (2) greater awareness of how to engage in academic discussions, and (3) improved understanding of academic English and its use in writing.

As an i3 development project, iterative enhancements were made each year to the LwL professional learning curriculum and how it is delivered; thus, the final set of materials, tools, and guidelines should be rigorously examined in research involving new school districts. Future efforts to adapt the Leading with Learning model to new districts, schools, and classrooms can afford new opportunities to extend the research into the implementation process and its effects on students, educators, and systems. For example, it would be interesting to enrich the exploration of coaching and classroom implementation by including coach and teacher logs as a program expectation. The development of coaching logs was deliberated at the onset of the initiative, but was decided to not be programmatically feasible in either district. Such data could be used to explore how levels of implementation may correlate with student outcomes. Another important issue to research is what can be learned about possible LwL effects through the inclusion of more proximal measures of student learning. The inclusion of uniform formative assessments and end-of-unit assessments could benefit both student learning and the professional learning of the teachers as they engage in the LwL coursework. The LwL initiative, in particular, could have profited from additional time to study outcomes associated with the second cohort of schools that completed the two-year program of professional learning. Relatedly, it would be valuable to examine outcomes from a follow-up year to develop understanding about the extent of continued implementation and investigate effects over time. A lack of research on follow-up outcomes has recently been identified as a gap in studies examining coaching programs (Kraft, Blazar, & Hogan, 2018). Clearly, the intention of both program implementers and participants was for the efforts and effects to be sustained beyond the lifecycle of the threevear i3 development grant.

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Appendix A. Details of Statistical Models for Analyzing LWL Impacts on Students

The specification of the multi-level analytic models used in the impact study reflect the nested nature of the data. Students were nested within schools, and there were two cohorts of schools across the two school years of implementation. Cohort 1 participated in both years of LWL implementation, while cohort 2 participated in the second year. This is a two-level, hierarchical linear model where the treatment indicator appears in level-2, the school level. A 'block' variable was included to account for the nesting within in the two districts of the study. For the analysis of one-year effects of school LWL participation, another 'block' variable was included to account for the two cohorts (i.e., separate school years: cohort 1 2015-16, cohort 2 2016-17) that were pooled together.

The same analytic approach was used to test impacts on ELA and math. For the analysis of comparing whether ELs were reclassified as English proficient after the first year of LWL, our student-level binary outcome was examined using a Bernoulli 2-level HLM.

Two-Year LwL Effects on Achievement (Confirmatory Contrasts)

Analysis of effects of two years of school participation in LWL on ELA and math achievement as measured by the state summative assessment used in California, the Smarter Balanced Summative Assessment. The pretest was the scale score in ELA or math from the Spring 2015 administration. The assessment is administered to all students in grades 3-8. Therefore, to examine two-year gains in achievement at the PreK-6 schools in the LWL and comparison conditions, the analysis was limited to students from cohort 1 schools who were in the 4th or 5th grade during year one. Their ELA or math Smarter Balanced scores from the spring of 2017 in grades 5 and 6, respectively, were the outcome measures.

Level-1 Model: Student Level

$$Y_{ij} = \beta_{0j} + \beta_{1j} (Y^*_{ij}) + \sum_{m=3}^{M} \beta_{mj} x_{mij} + \mathcal{E}_{ij}$$

Where,

 Y_{ij} is posttest score (5th-6th grade SB math or reading) for student *i* at school *j*;

 β_{0j} is the conditional mean posttest score for control students at school j,

 Y_{ij}^{*} is the pretest score (3rd-4th grade SB math or reading) for student *i* at school *j*;

 β_{1j} is the average pretest slope for students at school *j*;

 x_{mij} are *M* additional covariates representing demographic characteristics of student *i* at school *j* (e.g. gender, ethnicity), dummy variables to represent grade-level of students (e.g. 4th, 5th, 6th grades), or other student-level covariates.

 β_{mj} are M coefficients corresponding to student-level demographic covariates; and

 \mathcal{E}_{ij} is the random effect representing the difference between student *ij*'s score and the predicted mean score for school *j*. These residual effects are assumed normally distributed with mean 0 and variance σ^2 .

Level-2 Model: School Level

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(T_j) + \sum_{q}^{Q} \gamma_{0q} W_{qj} + \lambda_{01} (Block_{1j}) + \mu_{0j}$$
$$\beta_{1j} = \gamma_{10}$$
$$\beta_{mj} = \gamma_{m0}$$

where,

 $T_j = 1$ if school *j* is an intervention at school *j*, and 0 if control;

 γ_{00} is the conditional school-level mean for control schools;

 γ_{01} is the treatment effect, i.e. the difference between treatment and control school conditional means;

 W_{qj} are Q school level covariates (e.g., percent free/reduced lunch, school mean scores, etc.)

 γ_{oq} are Q coefficients corresponding to school-level covariates;

effect is assumed normally distributed with mean 0 and variance au

 $Block_{1j} = 1$ if the jth school in district B, 0=otherwise

 μ_{0j} is the deviation of school j's mean from the grand mean, conditional on covariates

One-Year Effects on ELA or Mathematics (Exploratory Contrasts)

Level-1 Model: Student Level

$$Y_{ij} = \beta_{0j} + \beta_{1j} (Y^*_{ij}) + \sum_{m=3}^{M} \beta_{mj} x_{mij} + \mathcal{E}_{ij}$$

Where,

 Y_{ij} is posttest score (4th-6th grade SB ELA or math) for student *i* at school *j*;

 β_{0j} is the conditional mean posttest score for control students at school j,

 Y_{ij}^{*} is the pretest score (3rd-5th grade SB ELA or math) for student *i* at school *j*;

 β_{1j} is the average pretest slope for students at school *j*;

 x_{mij} are *M* additional covariates representing demographic characteristics of student *i* at school *j* (e.g. gender, ethnicity), dummy variables to represent grade-level of students (e.g. 4th, 5th, 6th grades), or other student-level covariates.

 β_{mj} are M coefficients corresponding to student-level demographic covariates; and

 \mathcal{E}_{ij} is the random effect representing the difference between student *ij*'s score and the predicted mean score for school *j*. These residual effects are assumed normally distributed with mean 0 and variance σ^2 .

Level-2 Model: School Level

$$\beta_{0j} = \gamma_{00} + \gamma_{01}(T_j) + \sum_{q}^{Q} \gamma_{0q} W_{qj} + \lambda_{01} (Block_{1j}) + \lambda_{02} (Block_{2j}) + \mu_{0j}$$

$$\beta_{1j} = \gamma_{10}$$

$$\beta_{mj} = \gamma_{m0}$$

where,

 $T_j = 1$ if school *j* is an intervention at school *j*, and 0 if control;

 γ_{00} is the conditional school-level mean for control schools;

 γ_{01} is the treatment effect, i.e. the difference between treatment and control school conditional means;

 W_{qj} are Q school level covariates (e.g., percent free/reduced lunch, number of students at school, school mean scores, etc.)

 γ_{oq} are Q coefficients corresponding to school-level covariates;

effect is assumed normally distributed with mean 0 and variance au

 $Block_{1j} = 1$ if the jth school in district B, 0=otherwise $Block_{2j} = 1$ if the jth school within 2nd cohort (2016-17), 0=otherwise

 μ _{0j} is the deviation of school j's mean from the grand mean, conditional on covariates

One-Year Effect on ELs Being Reclassified as Fluent English Proficient (Exploratory Contrast)

Due to the binary outcome variable of whether or not an EL was reclassified fluent English proficient after the first year of LWL implementation, a Bernoulli distribution was used.

The final model specified was:

Level-1 Model

$$\begin{split} &Prob(DVY1.REC_{ij}{=}1|\beta_j) = \varphi_{ij} \\ &log[\varphi_{ij}/(1 - \varphi_{ij})] = \eta_{ij} \\ &\gamma_{ij}{=} \beta_{0j} + \beta_{1j}*(CELDTOVE_{ij}) + \beta_{2j}*(GRADE.15_{ij}) \end{split}$$

Level-2 Model

 $\begin{aligned} \beta_{0j} &= \gamma_{00} + \gamma_{01} * (DISTRICTB) + \gamma_{02} * (TX_j) + u_{0j} \\ \beta_{1j} &= \gamma_{10} \\ \beta_{2j} &= \gamma_{20} \end{aligned}$

DVY1.REC_{ij} is the probability of being reclassified fluent English language proficient. The pretest, CELDTOVE, was centered around the grand mean. The pretest was the score on the California English Language Development Test (CELDT). Level-1 variance = $1/[\phi_{ij}(1-\phi_{ij})]$

Teacher Survey Scales

Classroom Practices

Teachers responded to a set of items about how often they implemented certain classroom practices during the prior school year. The classroom practice scale consisted of 16 items. The 6-point response scale was: (1) never, (2) Less than once per week, (3) Once per week, (4) 2–4 times per week, (5) Once per day, and (6) 2 or more times per day. Example items included: Support my students to interact meaningfully in collaborative conversations about complex texts and/or rigorous content, and Support my students to monitor their own learning and persevere when they experience challenges. The reliability, or internal consistency, of the classroom practices scale was strong (Cronbach's $\alpha = .90$).

Teacher Perceived Knowledge and Skills in English Learner Instruction

The teacher survey included a researcher-developed scale to measure respondents' perceived knowledge and skills about EL instruction and learning. The items for knowledge and skill about EL instruction were developed to align with the CA ELA/ELD Framework and CA ELD Standards. Example items included: *I know how to support my English learners to interact meaningfully with complex texts*, and *I know how to foster effective collaborative conversations between students around complex content and complex texts*. The scale consisted of ten Likert-type items and had the following 5-point response scale: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. The inter item reliability coefficient for the knowledge and skills scale was unacceptably poor (Cronbach's a = .37), suggesting the scale had poor reliability.

Teacher Attitudes about EL Learning and Instruction

The survey included eight Likert items designed to measure teacher attitudes towards EL Learning and Instruction. These items used the same 5-point response scale as for the measure of perceived knowledge and skills. Three items represented negative attitudes — these items were reverse coded for the overall scale mean. An example of a positive attitude statement was: Learning about language should be integrated into all content areas and an ongoing focus of instruction. An example of a negative attitude item was: English learners learn English best when it is taught as a set of rules. Reliability of the scale was strong (Cronbach's $\alpha = .50$).

English Learner (EL) Teacher Self-Efficacy

A pilot scale designed to assess EL teacher self-efficacy consisted of 12 items, each with an 11-point response scale, ranging from 0-10, with the following anchors: 0 = Cannot do

at all, 5 = Moderately certain can do, and 10 = Highly certain can do. The internal reliability of the self-efficacy scale was strong (Cronbach's a = .95); and in fact, the high coefficient value suggested there might be some redundancy in items and the scale might be further shortened. Using the baseline survey data, and prior to the administration of the end-of-year survey, researchers had run factor analyses on the teacher self-efficacy scale (originally 22 items) and found that most items fell into one of three factors. The third factor consisted of only a few items and was not particularly robust; therefore, to reduce the length of the survey, researchers decided to eliminate these items from the scale. The internal reliability coefficient of the revised self-efficacy scale remained the same (Cronbach's a = .95). The revised scale contained four subscales, which were identified as follows:

- Efficacy to Support Meaningful Interactions in Complex Tasks with Complex Texts
 - Example: Engage your EL students in tasks that are purposeful and intellectually rich.
- Efficacy to Support Academic Language Development
 - Example: Support your EL students to actively develop their understanding of how English works to make meaning.
- Efficacy for Observing Students Closely to Provide Planned and Just-in-time Scaffolding
 - Example: Plan for scaffolding learning for my EL students.
- General Efficacy about EL Instruction
 - Example: Adapt classroom instruction to meet individual EL student needs.

Coach Survey Scales

Leader Perceived Knowledge and Skills in English Learner Instruction

Both the baseline version and the end-of-year version of the leader survey included a scale to measure respondents' perceived knowledge and skills about EL instruction and learning. The scale consisted of 14 Likert-type items and had the following 5-point response scale: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. Examples of items include: *I know how to support English learners to understand and use academic English*, and *I am deeply knowledgeable about the principles and practices in the CA ELD Standards and ELA/ELD Framework*. Based on data gathered at the start of the initiative, the scale was found to be reliable ($\alpha = .91$).

English Learner Leader Self-Efficacy

Another pre-post scale on the leader survey was designed to measure self-efficacy beliefs about teaching practices for ELs. The response scale ranged from 0-10, with the following anchors: $0 = Cannot \ do \ at \ all$, $5 = Moderately \ certain \ can \ do$, $10 = Highly \ certain \ can \ do$.

Based on baseline survey data gathered in Year 1, the set of 18 items showed high interitem reliability ($\alpha = .95$). The overall scale contained five subscales:

- Efficacy to Support Meaningful Interactions in Complex Tasks with Complex Texts
 - Example: Engage your EL students in tasks that are purposeful and intellectually rich.
- Efficacy to Support Academic Language Development
 - Example: Draw your EL students' attention to academic and disciplinary language in interactive and engaging ways.
- Efficacy for Creating Positive and Culturally Responsive Learning Environments
 - Example: Adapt instruction for individual student needs while also teach my class in a culturally and linguistically responsive manner.
- Efficacy for Observing Students Closely to Provide Planned and Just-in-time Scaffolding
 - Example: Provide "just-in-time scaffolding" for my EL students.
- General Efficacy about EL Instruction
 - Example: Adapt classroom instruction to meet individual EL student needs.

Leader Attitudes about EL Learning and Instruction

A set of Likert items were included on the baseline and end-of-year survey to measure respondents' attitudes towards EL Learning and Instruction. These items used the same response scale as for the measure of perceived knowledge and skills. Three of the items represented negative attitudes, and these items were reverse coded for the overall scale mean. This attitude scale was the same as used on the teacher survey.

Ratings of Effectiveness of Program Components

Respondents were asked to rate the effectiveness of different key parts of the LwL program using a 5-point scale: (1) Not effective, (2) slightly effective, (3) somewhat effective, (4) effective, (5) highly effective, and (6) did not participate. These components were: the summer institute, online discussions, LwL guides and materials, professional learning sessions, and in-person conversations or collaboration with LwL colleagues.

In addition to the above measures, several open-ended question items were included on the leader survey administered at the end of the year. Respondents were asked what practices or changes associated with LwL excited them the most, what practices still concerned them, what influence LwL had on teacher collaboration, and they give the opportunity for providing any other feedback.

Appendix C. End-of-year Teacher Survey Instrument

BACKGROUND

Your name:	Ir name: Your school:								
What grade(s) do you teach (cheo	k all that a	ylqqı							
	□ 1 st □	l 2 nd □ 3	rd □ 4 th	□ 5 th [□ 6 th				
This school year (2015-2016), app are ELs?: %	proximately	y what perc	centage of y	our studer	nts				
What instructional changes in you	r classroor	n associat	ed with LwL	are you m	nost excite	d about?			
What are some ways that LwL has had an impact on student outcomes in your classroom?									
How has LwL influenced teacher collaboration at your school?									
What did you like best about the s	supports fo	r professio	nal learning	offered th	rough LwL	.?			
What instructional changes neede	ed to suppo	ort ELs are	you still cor	ncerned ab	oout?				
What are the most important ways English learners?	s that LwL	could be in	nproved to b	oest suppo	ort you and	your			
How effective were each of the	he followi	ing comp	onents of	the LwL	initiative	in			
helping you to implement EL	support	<u>s?</u>							
LwL Summer Institute LwL online discussions: Canvas LwL guides, materials	Not Effective 1 1 1	Slightly Effective 2 2 2	Somewhat Effective 3 3 3	Effective 4 4 4	Highly Effective 5 5 5	NA/Did not participate 6 6 6			
LwL face-to-face professional	1	2	3	4	5	6			
In-person conversations or collaboration with LwL coaches	1	2	3	4	5	6			

How effective were other components in helping you to implement EL supports?

						NA/Did
	Not	Slightly	Somewhat		Highly	not
	Effective	Effective	Effective	Effective	Effective	participate
Support or buy-in from school administrators	1	2	3	4	5	6
Grade level team meetings	1	2	3	4	5	6

To what extent do you agree or disagree with the following statements about your learning experiences this year?

My LwL learning experiences	Strongly	Strongly					
	Disagree	Disagree	Undecided	Agree	Agree		
Gave me opportunities to work on aspects	1	2	3	1	5		
of my teaching that I am trying to develop	I	2	5	4	5		
Provided me with knowledge or information	1	2	2	1	Б		
that is very useful to me in the classroom	I	2	3	4	5		
Were coherently related to each other	1	2	3	4	5		
Allowed me to focus on a problem over an extended period of time	1	2	3	4	5		
Focused on an effective amount of content	1	2	3	4	5		
Provided me with useful feedback about my teaching	1	2	3	4	5		
Made me pay closer attention to particular things I was doing in the classroom	1	2	3	4	5		
Led me to seek out additional information from other teachers, an instructional leader, or some other source	1	2	3	4	5		
Led me to think about an aspect of my teaching in a new way	1	2	3	4	5		
Led me to try new things in the classroom	1	2	3	4	5		
Led me to make changes in my practice	1	2	3	4	5		
Led me to think about my students in a new way	1	2	3	4	5		

During this school year, how often, on average, did you do each of the following in your teaching?

	Never	Less than once per week	Once per week	2–4 times per week	Once per day	2 or more times per day
Support my students to interact meaningfully in collaborative conversations about complex texts and/or rigorous content	1	2	3	4	5	6
Support my students to write purposefully about complex texts	1	2	3	4	5	6
Facilitate reading tasks where all students interact meaningfully with complex texts	1	2	3	4	5	6
Support my students to think deeply about complex content ideas and/or complex texts	1	2	3	4	5	6

	Never	Less than once per week	Once per week	2–4 times per week	Once per day	2 or more times per day
Support my students to explain their thinking and/or reasoning	1	2	3	4	5	6
Support my students to monitor their own learning and persevere when they experience challenges	1	2	3	4	5	6
Discuss with my students how English works to make meaning	1	2	3	4	5	6
Support my students to understand and use academic language	1	2	3	4	5	6
Use what I know about my students' cultural, language, and community backgrounds to support new learning	1	2	3	4	5	6
Actively engage students in the formative assessment process	1	2	3	4	5	6
Observe my students closely to provide "just-in- time" scaffolding	1	2	3	4	5	6
Actively create a positive learning environment where students have positive relationships with one another and with me	1	2	3	4	5	6
Use classroom norms for students to monitor their interactions and relationships with peers and adults	1	2	3	4	5	6
Model optimism and enthusiasm for learning	1	2	3	4	5	6
Model respect for diverse perspectives	1	2	3	4	5	6
Discuss with students what type of language choices are most appropriate for different situations	1	2	3	4	5	6

During this school year, did you do each of the following?

	Yes	No
Worked with other teachers or coaches on planning lessons with a focus on for ELs.	1	2
Worked with other teachers or coaches on clarifying CCSS ELA and ELD standards for student learning through in-depth discussion and analysis of student's classroom work.	1	2
Worked with other teachers or coaches on planning and implementing instructional grouping strategies.	1	2
Watched another teacher model instruction in a classroom, focusing on the needs of ELs, and gave feedback to the teacher.	1	2
Another teacher observed me teach and gave me feedback about instruction, focusing on the needs of ELs.	1	2
Watched an instructional leader (coach, coordinator, specialist, etc.) model instruction in a classroom, focusing on the needs of ELs.	1	2
An instructional leader observed me teach and gave me feedback about my teaching, focusing on the needs of ELs.	1	2
An instructional leader helped me to analyze my EL students' work and provided feedback about improving/refining my instruction.	1	2

Please rate how confident you are that you can effectively use the following practices in your teaching. Rate your degree of confidence by indicating a number from 0 to 10 using this scale:

0 Cannot do at all, 5 Moderately certain can do,					/ C	ert	ain	Ca	an	do		
Engage your EL students in task intellectually rich.	ts that are purposeful and	0	1	2	3	4	5	6	7	8	9	10
Support your EL students to engliterary texts.	age meaningfully with complex	0	1	2	3	4	5	6	7	8	9	10
Support your EL students to eng informational (science, social stu	age meaningfully with complex udies) texts.	0	1	2	3	4	5	6	7	8	9	10
Ask open-ended questions that	allow for extended discourse.	0	1	2	3	4	5	6	7	8	9	10
Ask follow up questions that pro deeper thinking.	mpt students for elaboration and	0	1	2	3	4	5	6	7	8	9	10
Draw your EL students' attention language in interactive and enga	n to academic and disciplinary aging ways.	0	1	2	3	4	5	6	7	8	9	10
Focus on your EL students' lang directly relevant to their content	uage development in ways that are learning.	0	1	2	3	4	5	6	7	8	9	10
Support your EL students to act how English works to make mea	vely develop their understanding of ning.	0	1	2	3	4	5	6	7	8	9	10
Plan for scaffolding learning for	my EL students.	0	1	2	3	4	5	6	7	8	9	10
Provide "just-in-time scaffolding"	for my EL students.	0	1	2	3	4	5	6	7	8	9	10
Help students at Emerging level succeed in my classes.	s of English language proficiency	0	1	2	3	4	5	6	7	8	9	10
Adapt/differentiate classroom instudent needs.	struction to meet individual EL	0	1	2	3	4	5	6	7	8	9	10

Indicate your level of agreement with each of the following statements about English language learning and instruction.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
I understand how to design and implement		_			
teaching academic content to English	1	2	3	4	5
learners.					
I have a deep understanding of how to					_
design and implement effective instructional	1	2	3	4	5
approaches for teaching academic English.					
I know how to foster effective collaborative					_
conversations between students around	1	2	3	4	5
complex content and complex texts.					
I understand the language demands in					
complex texts and I know how to address	1	2	3	4	5
them with English learners.					
I know how to support my English learners	1	2	2	1	F
to interact meaningfully with complex texts.	I	Z	3	4	5
I know how to support my English learners	1	2	2	1	F
to understand and use academic English.	1	Z	3	4	5

I know how to determine why individual English learners might not be making adequate progress.	1	2	3	4	5
I have a strong understanding about the principles and practices in the CA ELD Standards ¹ and CA ELA/ELD Framework ²	1	2	3	4	5
I know how to use the CA ELD Standards and CA ELA/ELD Framework to differentiate instruction and monitor student progress.	1	2	3	4	5
I know how to implement integrated and designated ELD (as explained in the CA ELA/ELD Framework) in my classroom.	1	2	3	4	5

¹ California English Language Development Standards ² English Language Arts/English Language Development Framework for California Public Schools: Transitional Kindergarten Through Grade Twelve

Indicate your level of agreement with each of the following statements about English language learning and instruction.

	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
It is important to differentiate academic instruction for English learners based on their English language proficiency.	1	2	3	4	5
Learning about language should be integrated into all content areas and an ongoing focus of instruction.	1	2	3	4	5
Language should be taught as a separate component of the curriculum, separate from content instruction.	1	2	3	4	5
English learners learn English best when it is taught as a set of rules.	1	2	3	4	5
English learners at all English language proficiency levels can engage meaningfully with complex texts and complex thinking.	1	2	3	4	5
Teachers need to have deep knowledge about how language works in different content areas.	1	2	3	4	5
Allowing students to use their home language or a non-standard dialect of English during instruction inhibits the learning of English.	1	2	3	4	5
Teachers should make a strong effort to ensure instruction is relevant to the cultural, language, and community experiences of English learners.	1	2	3	4	5

Appendix D. End-of-year Coach Survey

BACKGROUND

Your name: _____

Your school: _____

Years of classroom teaching experience: _____

Your professional role: ____Principal ____Instructional coach

To what extent did you make changes in your practice since you participated in Leading with Learning?

What changes or practices associated with Leading with Learning are you most excited about?

What changes or practices are you still concerned about?

Describe the biggest impact LwL has had on teacher collaboration at your school.

Any other comments about the impact of LwL in your teaching, on your students, or on your school?

How effective were each of the following components of the Leading with Learning (LwL) initiative in helping you to implement EL supports?

	Not Effective	Slightly Effective	Somewhat Effective	Effective	Highly Effective	NA/Did not participate
LwL Summer Institute	1	2	3	4	5	6
LwL online discussions: Canvas	1	2	3	4	5	6
LwL guides, materials	1	2	3	4	5	6
LwL professional Learning sessions	1	2	3	4	5	6
Support or buy-in from school administrators	1	2	3	4	5	6
Grade level team meetings	1	2	3	4	5	6
In-person conversations or collaboration with other LwL coaches	1	2	3	4	5	6

Please indicate your level of agreement with each of the following statements.

	Stronaly			Stronaly	
	Disagree	Disagree	Undecided	Agree	Agree
I am deeply knowledgeable about the principles	0				<u>v</u>
and practices in the CA ELD Standards and	1	2	3	4	5
ELA/ELD Framework.					
I am highly skilled in facilitating professional					
learning using the ELA/ELD framework, CA ELD	1	2	3	4	5
Standards, and the CA ELD Standards Online		_	c	·	C
Professional Learning Modules.					
I am nighly skilled in leading teachers through EL-					
locused coaching cycles, involving modeling,	1	2	3	4	5
Lam highly skilled in collaborating with instructional					
coaches/specialists and principals to identify		-	-		_
patterns of strength and growth through observing	1	2	3	4	5
and giving feedback.					
I understand how to design and implement					
effective instructional approaches for teaching	1	2	3	4	5
academic content to English learners.					
I have a deep understanding of how to design and					
implement effective instructional approaches for	1	2	3	4	5
teaching academic English.					
I know how to foster effective collaborative	4	0	0		-
conversations between students around complex	1	2	3	4	5
content and complex texts.					
toxto and Lknow how to address them with English	1	2	2	4	Б
	I	2	3	4	5
know how to support English learners to interact					
meaningfully with complex texts	1	2	3	4	5
I know how to support English learners to					
understand and use academic English.	1	2	3	4	5
I know how to determine why individual English	1	0	2	4	F
learners might not be making adequate progress.	I	Z	3	4	5
I have a strong understanding about the principles					
and practices in the CA ELD Standards ¹ and CA	1	2	3	4	5
ELA/ELD Framework ² .					
I know how to use the CA ELD Standards and CA		-	-		_
ELA/ELD Framework to differentiate instruction	1	2	3	4	5
and monitor student progress.					
I Know now to implement integrated and	4	0	2	Λ	F
	I	2	3	4	Э

¹ California English Language Development Standards
² English Language Arts/English Language Development Framework for California Public Schools: Transitional Kindergarten Through Grade Twelve

Indicate your level of agreement with each of the following statements about English language learning and instruction.

	Strongly				Strongly
	Disagree	Disagree	Undecided	Agree	Agree
It is important to differentiate academic instruction for English learners based on their English language proficiency.	1	2	3	4	5
Learning about language should be integrated into all content areas and an ongoing focus of instruction.	1	2	3	4	5
Language should be taught as a separate component of the curriculum, separate from content instruction.	1	2	3	4	5
English learners learn English best when it is taught as a set of rules.	1	2	3	4	5
English learners at all English language proficiency levels can engage meaningfully with complex texts and complex thinking.	1	2	3	4	5
Teachers need to have deep knowledge about how language works in different content areas.	1	2	3	4	5
Allowing students to use their home language non- standard dialect of English during instruction inhibits the learning of English.	1	2	3	4	5
Teachers should make a strong effort to ensure instruction is relevant to the cultural, language, and community experiences of English learners.	1	2	3	4	5

Please rate how confident you are that you can effectively use the following practices. Rate your degree of confidence by indicating a number from 0 to 10 using this scale:

0 Cannot do at all 5 Moderately certain can do	10 Highly certain can do)			
Engage EL students in tasks that are purposeful and intellectually rich.	0	1	2	3	4	5	6	7	8	9	10
Support EL students to engage meaningfully with complex literary texts.	0	1	2	3	4	5	6	7	8	9	10
Support EL students to engage meaningfully with complex informational (science, social studies) texts.	0	1	2	3	4	5	6	7	8	9	10
Ask open-ended questions that allow for extended discourse.	0	1	2	3	4	5	6	7	8	9	10
Ask follow up questions that prompt students for elaboration and deeper thinking.	0	1	2	3	4	5	6	7	8	9	10
Accept the language EL students use in classroom learning while actively promoting their academic language use.	0	1	2	3	4	5	6	7	8	9	10
Draw EL students' attention to academic and disciplinary language in interactive and engaging ways.	0	1	2	3	4	5	6	7	8	9	10
Focus on EL students' language development in ways that are directly relevant to their content learning.	0	1	2	3	4	5	6	7	8	9	10
Support EL students to actively develop their understanding of how English works to make meaning.	0	1	2	3	4	5	6	7	8	9	10
Show and encourage enthusiasm for learning, students' curiosity, and pluralistic thinking.	0	1	2	3	4	5	6	7	8	9	10
Help students recognize their home languages and cultures as resources to value in their and to draw upon to build proficiency in English	0	1	2	3	4	5	6	7	8	9	10
Adapt instruction for individual student needs while also teach your class in a culturally and linguistically responsive manner.	0	1	2	3	4	5	6	7	8	9	10
Acknowledge students' ideas while supporting them to develop new and refined ideas.	0	1	2	3	4	5	6	7	8	9	10
Plan for scaffolding learning for EL students.	0	1	2	3	4	5	6	7	8	9	10
Provide "just-in-time scaffolding" for EL students.	0	1	2	3	4	5	6	7	8	9	10
Successfully help EL students understand the material.	0	1	2	3	4	5	6	7	8	9	10
Help students who have limited English proficiency succeed.	0	1	2	3	4	5	6	7	8	9	10
Adapt classroom instruction to meet individual EL student needs.	0	1	2	3	4	5	6	7	8	9	10
Appendix E: Observation Protocol

Observer:	Date:	Start:	End:	# Students:
School:	Teacher:	Grade:	Content area(s):	

% of class not in English:

What is the classroom environment like? Are there books/library? Is there student work on the walls? What does it feel like when you walk into the room?

1. What types of tasks does the lesson include? (circle all that apply)

Writing	Discussion	Reading
Small group	Small group	Small group
Pair	Pair	Pair
Individual	Individual	Individual
Whole class	Whole class	Whole class

2. For each task, is the task text-based or not text based *Please describe*.

Text 1	<u>.</u>				<u>Text 2</u>	<u>.</u>				
	Complex?	Y	Ν	Title:		Complex	‹ ?	Y	Ν	Title:
Text 3	<u>:</u>									
	Complex?	Y	Ν	Title:						

3. For each task, what appears to be the purpose of the task? Is it clear? How so?

4. What is the content?

	Student	Teacher	r Approximate % of tin			of time	
Discussion Task Types	Yes/No	Yes/No	0-20%	20- 40%	40- 60%	60- 80%	80- 100%
Teacher facilitated discussion (small or whole class open discussion							
Student facilitated discussion (small or whole class, open discussion)							
Teacher or one student talking to the class as a group (single person presenting, <i>not open for discussion</i>)*							
Students talking in pairs or small groups (note pair or group)							
Teacher talking with individual students (one on one)							

0 = No evidence, 1 = Minimal evidence, 2 = partial, inconsistent evidence, 3 = partial, promising evidence, 4 = consistent evidence

Student			Teacher							
Characteristics of Discussion Tasks	0	1	2	3	4	0	1	2	3	4
Contributing to the discussion (note percentage of students)										
Asking text dependent questions										
Answering text dependent questions										
Asking known-answer questions										
Answering known-answer questions (note multiple responses)										
Asking open-ended questions										
Answering open- ended questions (note multiple responses)										
Asking clarification questions										
Asking for elaboration, evidence, or reasoning										
Affirming ideas										
Adding relevant information to or building on ideas										
Restating/rephrasing/paraphrasing ideas										
Following turn-taking rules or other group process										
Providing instructions for participating in or facilitating discussions										
Using academic language (note who is using it, general or specific*)										

Student Te			Approximate % of time				
Reading Types	Yes/No	Yes/No	0- 20%	20- 40%	40- 60%	60- 80%	80- 100%
Reading independently (silently or with quiet voice)			2070	-1070	0070	0070	10070
Reading aloud to the whole class or to a small group							
Student facilitated collaborative reading (e.g., stopping at certain							
points to discuss the text in pairs or small groups)							
Teacher facilitated reading (teacher guiding the task in a small							
group or whole class)							

0 = No evidence, 1 = Minimal evidence, 2 = partial, inconsistent evidence, 3 = partial, promising evidence, 4 = consistent evidence										
			Studen	t		Teacher				
Characteristics of Reading Tasks	0	1	2	3	4	0	1	2	3	4
Providing definitions or explanations of language in the texts (academic vocabulary and other terms)										
Texts are rich with ideas and language and are engaging and										
interesting for students of this age.										
Providing planned scaffolding for reading complex texts appropriate										
for the task and student needs										
Observing students carefully and providing "just in time" scaffolding										
for reading complex texts appropriate for the task and student needs										
Providing feedback on students' reading performance that is										
respectful, judicious and accurate.										
Describing or explaining the ideas or phenomena in the text.										
Describing the text elements (e.g., main idea, character traits, etc.)										
Describing how the language of the text conveys meaning.										

	Student	Teacher	Approximate % of time				
Writing Types	Yes/No	Yes/No	0-	20-	40-	60-	80-
			20%	40%	60%	80%	100%
Writing in response to texts.							
Writing as part of an integrated task (e.g., writing in a science							
journal while doing an experiment or observation).							
Open-ended (student choice) writing							
Writing independently							
Writing collaboratively (pairs, small groups, whole class)							
Writing to explain thinking or to provide evidence or reasoning							
Writing a story, poem, or other creative writing task							
Writing an argument (also called opinion)							
Writing a description or explanation							
Writing using technology							

	Student			Teacher						
Characteristics of Writing Tasks	0	1	2	3	4	0	1	2	3	4
Writing tasks are directly related to reading and discussion tasks.										
Students' attention is drawn explicitly and intentionally to how writers										
use academic and disciplinary language to make meaning										

0 = No evidence, 1 = Minimal evidence, 2 = partial, inconsistent evidence, 3 = partial, promising evidence, 4 = consistent evidence

Characteristics of Complex Writing Tasks

Teacher provides planned scaffolding for complex writing tasks (e.g. written models

odener provideo plannoù odanelang fer complex whang table (e.g. whater modele							
No	Somewhat	Mostly	Yes				

Teacher provides "just in time" scaffolding for complex writing tasks that is appropriate for the task and addresses student needs

No	Somewhat	Mostly	Yes

Teacher collects information about students' writing performance

	No	Somewhat	Mostly	Yes
--	----	----------	--------	-----

Teacher provides feedback on writing performance that is respectful, judicious and accurate

No	Somewhat	Mostly	Yes

Positive and Culturally Responsive Learning Environments	No	Somewhat	Mostly	Yes
Provides multiple modes of representations for ways of acquiring, processing, and integrating				
knowledge				
Provides multiple modes of action and expression				
Provides multiple modes of engagement to tap individual learners' interests				
Students appear to understand the purpose of learning tasks and why they are relevant to broader				
learning goals.				
Respect for diverse cultures, languages and abilities/disabilities is clearly conveyed				
Students' native language(s) is/are used to support learning				
Pluralistic thinking (diverse perspectives) are encouraged and/or respected				
Participation in discussions is equitable (all students participate)				

Scaffolding Strategies	JIT or Planned	Instances	Example/Notes
Background Knowledge			
Comprehension			
Vocabulary			
Text Organization and Grammar			
Discussion			
Sequencing			
Re-reading			
Tools			
Writing			
Other			

Appendix F. Leading with Learning Matrix for Calculating Fidelity of Program Implementation

	Indicators	Definition	Unit of	Data	Data	Score for levels	Threshold for	Roll-up to	Roll-up to	Expected	Expected years of
			Impleme	Source(s)	Collection	of implementation	adequate	school level	program level	sample for	fidelity
			ntation			at unit level	implementation at		(score &	fidelity	measurement
							unit level		threshold)	measure	
(ey	Component 1: 1	Teacher Professiona	al Learning								
	Summer	1–2 face-to-face	Teacher	Attendance	Collected by	0 = Low	Adequate				
	institute	(F2F) daylong		records	WestEd staff	participation = 0	implementation at				
	(teachers)	sessions"			at each	sessions attended;	teacher level =				
					30331011	participation = 1-2	30010 01 1				
						sessions attended					
	Daylong	4–5 daylong F2F	Teacher	Attendance	Collected by	0 = Low	Adequate				
	sessions	sessions		records	WestEd statt	participation = 0-3	implementation at teacher level =				
	school year				session	1 = High	score of 1				
	(teachers)					participation = 4 or					
						more sessions					
	Teachers	6 focused	Teacher	Program	Collected by		Adequate				
	focused	application tasks	reaction	records	WestEd staff	participation = 0-2	implementation at				
	application				by end of	application tasks	teacher level =				
	tasks				school year	completed;	score of 1				
						participation = 3 or					
						more tasks					
						completed					
	All indicators	* 0' ' ' ' ' ' ' ' ' ' '		,		Range for teacher	Teacher-level:	School-level:	Program-level:	All LwL	Cohort 1 teachers:
		* Six total days of f	ace-to-tace pro	ofessional learni A davlong sessi	ng for teachers.	scores: 0–3	Adequate	Adequate	Adequate implem.	schools in	School year 2015-
		vear: and if a 1-day	v summer insti	tute. then 5 day	ona sessions		implementation is	Implem. Is	IS 75% SCHOOIS	their ist year:	To (project year T);
		during the year.		····, · · · · · · ,	9		SCOLE OF 2	teachers	level criterion	5 in cohort 2	SV 2016-17
								score 2	lever chitehon	5 III CONOIC 2	(project year 2)
۲ey	Component 2: (Coach Professional	Learning					00010 2			(p. 0)00()00(2)
				Tit				1			I
1	Summer	1–2 F2F daylong	Coach	Attendance	Collected by	0 = Low	Adequate				
	institute	sessions		records	WestEd staff	participation = 0 sessions attended	implementation at				
	(w/ teachers)				at each	1 = High	coach-level:				
					session	participation = 1-2	score = 1				
						sessions attended					

Indicators Definition Unit of Impleme ntation Data Source(s) implementation Score for levels of implementation at unit level Threshold for adquate implementation at unit level Roll-up to school level implementation at unit level Roll-up to school level implementation at unit level 2 Daylong sessions 4-5 daylong F2F sessions Coach Attendance records Collected by WestEd staff at each 0 = Low participation = 0-3 at each Adequate implementation at coach-level: session Roll-up to school level implementation at coach-level: Roll-up to school level implementation at coach-level: 3 Coaches' Course: sessions 4 face-to-face sessions Coach Attendance records Collected by WestEd staff at each session 0 = Low participation = 0-1 session; at each Adequate implementation at coach-level: score = 1 Adequate 4 Coaches' Course: Synchronous online sessions 5 sessions Coach Attendance records Collected by WestEd staff at each session; 0 = Low participation = 0-4 session; Adequate implementation at coach-level: score = 1 4 Coaches' Synchronous online sessions 5 sessions at each Collected by session; 0 = Low participation = 0-2 sessions; Adequate implementation at coach-level: score ≥ 1 5 Coache' the year Coach Course Coach Course Coach Course Coa	fear 1 of Implementation at School											
2 Daylong sessions during school year (w/ teachers) 4-5 daylong F2F sessions Coach sessions Coach ceords Attendance records Collected by westEd staff at each session 0 = Low session attended; session attended; 1 = High participation = 0-3 attended Adequate implementation at coach-level: score = 1 3 Coaches' Course: Face-to-face sessions 4 face-to-face sessions Coach sessions Coach sessions Coach sessions Coach sessions Coach sessions Attendance records Collected by WestEd staff at each session; session; 0 = Low participation = 0-1 session; Adequate implementation at coach-level: session; 4 Coaches' Course: Synchronous online sessions 5 sessions distributed over the year Coach coach sessions Coach coach sessions Collected by WestEd staff at each sessions 0 = Low participation = 0-1 sessions Adequate implementation at coach-level: sessions 4 Coaches' Synchronous online sessions 5 sessions sessions Coach the year Coach coach Coach coach sessions 0 = Low participation = 0-2 sessions Adequate implementation at coach-level: score ≥ 1 5 Coaches' the year 3 tasks to be coach Coach coach Course coach Collected by coach 0 = Low participation = 4-5 sessions Adequate coach-level: score ≥ 1	Expected sample for fidelity measure	Roll-up to program level (score & threshold)	Roll-up toExpectedExpected yeaprogram levelsample forfidelity(score &fidelitymeasurementthreshold)measurefidelity	/ears of ent								
3 Coaches' Course: Face-to-face sessions 4 face-to-face sessions Coach sessions Attendance records Collected by WestEd staff at each session 0 = Low participation = 0-1 session; Adequate implementation at coach-level: score = 1 4 Coaches' Course: Synchronous online sessions 5 sessions distributed over the year Coach Coach Attendance records Collected by VestEd staff at each sessions 0 = Low participation = 3-4 sessions; Adequate implementation at coach-level: score = 1 4 Coaches' Course: Synchronous online sessions 5 sessions distributed over the year Coach Coach Attendance records Collected by WestEd staff session 0 = Low participation = 0-2 sessions; Adequate implementation at coach-level: score > 1 5 Coaches' Course: 3 tasks to be course: Coach Coach Coach Course Coallected by course: 0 = Low participation = 4-5 sessions Adequate												
4 Coaches' 5 sessions Coach Attendance Collected by 0 = Low Adequate Synchronous distributed over the year the year VestEd staff participation = 0-2 implementation at coach-level: sessions sessions 1 = Moderate score ≥ 1 sessions 2 = Full participation = 4-5 sessions 5 Coaches' 3 tasks to be Coach Course Collected by 0 = Low 5 Coaches' 3 tasks to be Coach Course Collected by 0 = Low												
5 Coaches' 3 tasks to be Coach Course Collected by 0 = Low Adequate												
Focused coaches at by end of task completed coach-level: application school sites school year 1 = High tasks 1 = High participation = 2-3 tasks completed tasks completed												
All indicators Range for coach scores: 0–6 Coach-level: School-level: Adequate Adequate Adequate Adequate Adequate implementation is score ≥ 5 is 75% of schools Image: Score in the school in the score in the score in the score in the score in the school in the score in the score in the school in the score in the sc	All LwL n. schools in s their 1st year: 4 in cohort 1 5 in cohort 2	Program-level: Adequate implem. is 75% of schools meet the school- level criterion	Program-level: All LwL Cohort 1: Sch Adequate implem. schools in year 2015-16; is 75% of schools their 1st year: Cohort 2: Sch meet the school- 4 in cohort 1 year 2016-17 level criterion 5 in cohort 2 2016-17	chool I6; chool I7								

Ye	fear 1 of Implementation at School												
	Indicators	Definition	Unit of Impleme ntation	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementation at unit level	Roll-up to school level	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measurement		
Ke	y Component	3: Principal Pro	fessional L	earning	1					1	•		
1	Summer institute (w/ teachers)	1–2 F2F daylong sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0 sessions attended; 1 = High participation = 1–2 sessions attended	Adequate implementation at principal/school level is score = 1						
2	Daylong sessions during school year (w/ teachers)	4–5 daylong F2F sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–3 session attended; 1 = High participation = 4 or more sessions attended	Adequate implementation at principal level is score = 1						
3	Within district principal meetings	2 sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = No participation = 0 sessions; 1 = High participation = 1 or more sessions	Adequate implementation at principal level is score = 1						
4	Cross-district principal meetings	3 sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 sessions; 1 = High participation = 2 or more sessions	Adequate implementation at principal level is score = 1						
5	Focused application tasks	2 tasks to be implemented at school sites	Principals at focus schools	Program records	Collected by WestEd staff at each session	0 = Low participation = 0–1 task completed 1 = High participation = 2 tasks completed	Adequate implementation at principal level is score = 1						
	All indicators					Range for principal scores: 0-5	Adequate implementation at principal level is score ≥ 4	NA	Program-level: Adequate implem. is 75% of principals meet the principal level criterion	Principals in LwL schools: 4 in cohort 1, 5 in cohort 2	Cohort 1 principals in school year 2015-16; cohort 2 principals in SY 2016-17		

Ye	Year 1 of Implementation at School												
	Indicators	Definition	Unit of Impleme ntation	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementation at unit level	Roll-up to school level	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measurement		
Ke	y Component	4: District Leade	er Professi	onal Learnin	ig		L		· ·				
1	Summer institute (w/ teachers)	1–2 F2F daylong sessions	District leader team*	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0 sessions attended; 1 = High participation = 1–2 sessions attended by a district team member	Adequate implementation at district team level is score = 1						
2	Daylong sessions during school year (w/ teachers)	4–5 daylong F2F sessions	District leader team	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–3 session attended; 1 = High participation = 4 or more sessions attended by a district team member	Adequate implementation at district team level is score = 1						
3	Within district leadership meetings	1 session	District leader team	Attendance records	Collected by WestEd staff at each session	0 = 0 sessions attended; 1 = 1 session attended by a district team member	Adequate implementation at district team level is score = 1						
4	Inquiry walks	1 session	District leader team	Attendance records	Collected by WestEd staff at each session	0 = 0 sessions attended; 1 = 1 session attended by a district team member	Adequate implementation at district team level is score = 1						
	All indicators	* Each district team at each session list	n is represente ed above.	d by at least on	e team member	Range for district team scores: 0-4	Adequate implementation at district team level is score ≥ 3	NA	Program-level: Both districts score ≥ 3	District leader team members in both districts	Cohort 1: School year 2015-16; Cohort 2: School year 2016-17		

Ye	Year 2 of Implementation at School												
	Indicators	Definition	Unit of Implementat ion	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementati on at unit level	Roll-up to school level (score & threshold)	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measureme nt		
Key	Component 1: Tea	cher Profession	nal Learning			•							
1	Summer institute (teachers)	1 face-to- face (F2F) daylong session	Teacher	Attendance records	Collected by WestEd staff at each session	0 = Low participation = did not attend session 1 = High participation = attended session	Adequate implementatio n at teacher level = score of 1						
2	Daylong sessions during school year (teachers)	3 daylong F2F sessions	Teacher	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 session attended 1 = High participation = 2 or more sessions attended	Adequate implementatio n at teacher level = score of 1						
3	Teachers focused application tasks	3 focused application tasks	Teacher	Program records	Collected by WestEd staff by end of school year	0 = Low participation = 0-1 application tasks completed 1 = High participation = 2 or more tasks completed	Adequate implementatio n at teacher level = score of 1						
	All indicators					Range for teacher scores: 0–3	Teacher-level: Adequate implementatio n is score of 2	School-level: Adequate implementation is 80% of teachers score 2	Program-level: Adequate implementation is 75% schools meet the school-level criterion	All LwL schools in their 2nd year of participation: 4 in cohort 1	School year 2016-17 (project year 2)		
Key	Component 2: Coa	ach Professiona	I Learning										
1	Summer institute (w/ teachers)	1 F2F daylong session	Coach	Attendance records	Collected by WestEd staff at each session	0 = Low participation = did not attend session	Adequate implementatio n at coach- level:						

Ye	Year 2 of Implementation at School												
	Indicators	Definition	Unit of Implementat ion	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementati on at unit level	Roll-up to school level (score & threshold)	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measureme nt		
						1 = High participation = attended session	score = 1						
2	Daylong sessions during school year (w/ teachers)	3 daylong F2F sessions	Coach	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 session attended 1 = High participation = 2-3 sessions attended	Adequate implementatio n at coach- level: score = 1						
3	Coaches' Course: Face- to-face sessions	4 face-to- face sessions	Coach	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 session; 1 = High participation = 3–4 sessions	Adequate implementatio n at coach- level: score = 1						
4	Coaches' Course: Synchronous online sessions	5 sessions distributed over the year	Coach	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0-2 sessions; 1 = Moderate participation = 3 sessions; 2 = Full participation = 4-5 sessions	Adequate implementatio n at coach- level: score ≥ 1						
5	Coaches' Course: Focused application tasks	3 tasks to be implemented by coaches at school sites	Coach	Course records	Collected by WestEd staff by end of school year	0 = Low participation = 0–1 task completed 1 = High participation = 2–3 tasks completed	Adequate implementatio n at coach- level: score ≥ 1						
	All indicators					Range for coach scores: 0–6	Coach-level: Adequate implementatio n is score ≥ 4	School-level: Adequate implementation is 1 or more coaches score ≥ 4	Program-level: Adequate implementation is 75% of schools meet the school-level criterion	All LwL schools in their 2nd year of participation: 4 in cohort 1	School year 2016-17 (project year 2)		
									the school-level criterion				

Ye	Year 2 of Implementation at School												
	Indicators	Definition	Unit of Implementat ion	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementati on at unit level	Roll-up to school level (score & threshold)	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measureme nt		
Ke	y Component 3:	Principal Pro	ofessional Le	arning									
1	Summer institute (w/ teachers)	1 F2F daylong session	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = did not attend session 1 = High participation = attended session	Adequate implementatio n at district leader level is score = 1						
2	Daylong sessions during school year (w/ teachers)	3 daylong F2F sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 session attended 1 = High participation = 2 or more sessions attended	Adequate implementatio n at district leader level is score = 1						
3	Within district leadership meetings	2 sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = No participation = 0 sessions; 1 = High participation = 1 or more sessions	Adequate implementatio n at district leader level is score = 1						
4	Cross-district leadership meetings	3 sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 sessions; 1 = High participation = 2 or more sessions	Adequate implementatio n at district leader level is score = 1						
5	Focused application tasks	2 tasks to be implemented by leaders	Principals at focus schools	Course records	Collected by WestEd staff by end of school year	0 = No participation 1 = 1 or 2 tasks completed	Adequate implementatio n at coach- level: score ≥ 1						
6	Inquiry walks	3 sessions	Principals at focus schools	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 sessions; 1 = High participation = 2 or more sessions	Adequate implementatio n at district leader level is score = 1						

Ye	Year 2 of Implementation at School												
	Indicators	Definition	Unit of Implementat ion	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementati on at unit level	Roll-up to school level (score & threshold)	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measureme nt		
	All indicators					Range for principal scores: 0-6	Adequate implem. at principal level is score ≥ 4	NA	Program-level: Adequate implem. is 75% of principals score ≥ 4	Cohort 1 principals in LwL schools: 4 in cohort 1	School year 2016-17 (project year 2)		
Ke	y Component 4:	District Lead	der Professio	nal Learning									
1	Summer institute (w/ teachers)	1–2 F2F daylong sessions	District leader team*	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0 sessions attended; 1 = High participation = 1–2 sessions attended	Adequate implementatio n at district team level is score = 1						
2	Daylong sessions during school year (w/ teachers)	4–5 daylong F2F sessions	District leader team	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–3 session attended; 1 = High participation = 4 or more sessions attended	Adequate implementatio n at district team level is score = 1						
3	Within district leadership meetings	2 sessions	District leader team	Attendance records	Collected by WestEd staff at each session	0 = No participation = 0 sessions; 1 = High participation = 1 or more sessions	Adequate implementatio n at district team level is score = 1						
4	Cross-district leadership meetings	3 sessions	District leader team	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 sessions; 1 = High participation = 2 or more sessions	Adequate implementatio n at district team level is score = 1						
5	Inquiry walks	3 sessions	District leader team	Attendance records	Collected by WestEd staff at each session	0 = Low participation = 0–1 sessions; 1 = High participation = 2 or more sessions	Adequate implementatio n at district team level is score = 1						

Ye	Year 2 of Implementation at School												
	Indicators	Definition	Unit of Implementat ion	Data Source(s)	Data Collection	Score for levels of implementation at unit level	Threshold for adequate implementati on at unit level	Roll-up to school level (score & threshold)	Roll-up to program level (score & threshold)	Expected sample for fidelity measure	Expected years of fidelity measureme nt		
	All indicators	* Each district at each sessio	team is represent n listed above.	ted by at least on	e team member	Range for district leader scores: 0-5	Adequate implementatio n at district team level is score ≥ 4	NA	Program-level: Adequate implem. is both district teams score ≥ 4	District leader team members in both districts	School year 2016-17 (project year 2)		

Appendix G. Detailed Teacher Survey Results

Table 26. Teacher Frequency of Classroom Practices

		District A	A (<i>n</i> =20)		I	Total (n=55)						
How often did you do each of the following in your teaching?	Base	eline	End-of	-year	Base	line	End-of-year		Baseline		End-o	f-year
	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Support my students to interact meaningfully in collaborative conversations about complex texts and/or rigorous content	4.95	1.15	5.25	.85	4.86	1.12	4.85 ⁴	.97	4.89	1.12	5.00	.94
Support my students to write purposefully about complex texts	4.48	1.04	4.80	1.01	4.17	1.15	4.09	.70	4.28	1.11	4.35	.89
Facilitate reading tasks where all students interact meaningfully with complex texts	4.85	1.14	4.95 ¹	1.08	4.60	1.14	4.26	1.07	4.69	1.14	4.50	1.11
Support my students to think deeply about complex content ideas and/or complex texts	5.00	1.30	5.00	.97	4.91	1.01	4.57	.92	4.95	1.11	4.73	.95
Support my students to explain their thinking and/or reasoning	5.25	1.07	5.50	.76	5.26	.89	4.74	1.04	5.25	.95	5.02	1.01
Support my students to monitor their own learning and persevere when they experience challenges	4.77	1.24	5.05	.76	5.17	1.07	4.71 ⁴	1.09	5.03	1.14	4.83	.99
Discuss with my students how English works to make meaning	4.50 ²	1.47	3.94	1.34	4.71	1.10	4.33 ⁵	1.19	4.64	1.24	4.20	1.24
Support my students to understand and use academic language	5.05	1.10	5.15	1.14	5.364	.74	5.17	.86	5.25	.90	5.16	.96
Use what I know about my students' cultural, language, and community backgrounds to support new learning	5.07	1.13	4.65	1.23	4.86	1.19	4.61	1.06	4.94	1.16	4.63	1.11
Actively engage students in the formative assessment process	4.06 ³	1.30	4.34 ²	1.04	4.03	1.20	3.91	1.15	4.04	1.22	4.05	1.12
Observe my students closely to provide "just-in-time" scaffolding	5.30	.92	5.25	.85	5.37	1.09	5.34	.76	5.35	1.02	5.31	.79

Actively create a positive learning environment where students have positive relationships with one another and with me	5.60	.82	5.75	.44	5.71	.57	5.51	.78	5.67	.67	5.60	.68
Use classroom norms for students to monitor their interactions and relationships with peers and adults	5.63 ¹	.68	5.60	.60	5.46	.82	5.46	.85	5.52	.77	5.51	.77
Model optimism and enthusiasm for learning	5.75	.44	5.35	.88	5.86	.49	5.66	.68	5.82	.47	5.55	.77
Model respect for diverse perspectives	5.45	.76	5.30	.86	5.71	.67	5.57	.65	5.62	.71	5.47	.74
Discuss with students what type of language choices are most appropriate for different situations.	4.90	1.55	4.65	1.50	4.77	1.11	4.57	1.24	4.82	1.28	4.60	1.33
Scale Mean	4.99	.73	5.06	.58	5.00	.59	4.84	.59	5.00	.59	4.79	.61

6-point response scale: (1) never, (2) Less than once per week, (3) Once per week, (4) 2-4 times per week, (5) Once per day, and (6) 2 or more times per day ¹ n=19, ² n=16, ³ n=18, ⁴ n=33, ⁵ n=34 *Cronbach's alpha: 0.90*

Table 27. Teacher Perceived Knowledge about EL Learning and Instruction

	C	C	District	B (<i>n</i> =35)	Total (<i>n</i> =55)						
	Base	line	End-of	-year	Base	line	End-o	f-year	Base	line	End-o	f-year
	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
I understand how to design and implement effective instructional approaches for teaching academic content to English learners.	3.35	.81	3.95	.39	3.74	.70	4.00	.34	3.60	.76	3.98	.36
I have a deep understanding of how to design and implement effective instructional approaches for teaching academic English.	3.20	.70	3.70	.57	3.49	.92	3.76	.49	3.38	.85	3.74	.52
I know how to foster effective collaborative conversations between students around complex content and complex texts.	3.70	.57	4.05	.51	3.77	.77	4.09	.45	3.75	.70	4.07	.47
I understand the language demands in complex texts and I know how to address them with English learners.	3.35	.69	3.60	.60	3.63	.81	3.66	.58	3.53	.77	3.64	.58
I know how to support my English learners to interact meaningfully with complex texts.	3.75	.44	3.90	.55	3.71	.67	3.97 ¹	.17	3.73	.59	3.94	.36
I know how to support my English learners to understand and use academic English.	3.57	.59	3.80	.52	3.91	.61	3.86	.49	3.79	.62	3.84	.50
I know how to determine why individual English learners might not be making adequate progress.	2.97	.70	3.75	.85	3.20	.83	3.60	.69	3.12	.79	3.65	.75
I have a strong understanding about the principles and practices in the CA ELD Standards ¹ and CA ELA/ELD Framework ²	2.68	.73	3.45	.76	3.09	.82	4.36	5.05	2.94	.80	4.03	4.06
I know how to use the CA ELD Standards and CA ELA/ELD Framework to differentiate instruction and monitor student progress.	3.11	.66	3.75	.64	3.20	.93	3.67	.85	3.17	.84	3.70	.77
I know how to implement integrated and designated ELD (as explained in the CA ELA/ELD Framework) in my classroom.	3.05	.52	3.65	.67	3.06	.87	3.89	.69	3.06	.76	3.80	.68

	[A (<i>n=20</i>)		[District	B (<i>n</i> =35))	Total (<i>n</i> =55)				
	Baseline		End-of	-year Baseline		line	End-of-year		Baseline		End-of-year	
	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Scale Mean	3.29	.38	3.76	.42	3.48	.61	3.88	.60	3.48	.61	3.86	.57

Please indicate your level of agreement with each of the following statements. 5-point response scale: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree $n^{1}n=34$

Cronbach's alpha: 0.37

Table 28. Teacher Efficacy with English Learners

		District	A (<i>n</i> =20)			District I	Total (<i>n</i> =55)					
Subscale Items	Bas	eline	End-o	f-year	Base	eline	End-c	of-year	Baseline		End-c	of-year
Meaningful Interactions in Complex Tasks with Complex Texts	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Engage your EL students in tasks that are purposeful and intellectually rich.	6.80	1.70	7.72	1.19	7.66	1.57	7.90	1.19	7.35	1.66	7.84	1.18
Support your EL students to engage meaningfully with complex literary texts.	6.50	1.47	7.90	1.25	7.34	1.57	7.63	1.40	7.04	1.57	7.73	1.34
Support your EL students to engage meaningfully with complex informational (science, social studies) texts.	6.83	1.50	8.22	1.13	7.54	1.48	7.83	1.12	7.28	1.51	7.97	1.13
Ask open-ended questions that allow for extended discourse.	6.80	1.51	7.34 ¹	1.35	7.94	1.61	7.94	1.45	7.53	1.65	7.73	1.44
Ask follow up questions that prompt students for elaboration and deeper thinking.	6.75	1.48	7.48	1.25	7.94	1.53	7.94	1.39	7.51	1.61	7.77	1.35
Subscale mean	6.74	1.36	7.75	1.01	7.69	1.39	7.85	1.15	7.34	1.44	7.81	1.09
Academic Language Development	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Draw your EL students' attention to academic and disciplinary language in interactive and engaging ways.	7.25	1.45	7.42	1.55	7.60	1.59	7.89	1.43	7.47	1.54	7.72	1.48
Focus on your EL students' language development in ways that are directly relevant to their content learning.	7.10	1.52	7.52	1.27	7.71	1.64	7.69	1.51	7.49	1.61	7.63	1.42
Support your EL students to actively develop their understanding of how English works to make meaning.	6.80	1.61	7.58 ¹	1.18	7.57	1.63	7.43	1.46	7.29	1.65	7.48	1.36
Subscale mean	7.05	1.45	7.49	1.17	7.63	1.53	7.67	1.34	7.42	1.52	7.60	1.28
Observing Students Closely to Provide Planned and Just-in-time Scaffolding	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Plan for scaffolding learning for my EL students.	7.29 ¹	1.41	7.53	1.45	7.74	1.60	8.00	1.19	7.58	1.53	7.83	1.30
Provide "just-in-time scaffolding" for my EL students.	7.03 ¹	1.42	7.84 ¹	1.72	7.40	1.91	8.14	1.19	7.27	1.75	8.04	1.39

		District /	A (<i>n</i> =20)			District	Total (<i>n</i> =55)					
Subscale Items	Baseline		End-of-year		Baseline		End-of-year		Baseline		End-of-yea	
Subscale mean	7.16	1.38	7.61	1.43	7.57	1.66	8.07	1.16	7.43	1.57	7.90	1.27
General Efficacy about EL Instruction	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD
Help students who have limited English proficiency succeed in my classes.	8.00 ¹	1.25	7.67	1.47	8.14	1.54	7.71	1.34	8.09	1.43	7.70	1.38
Adapt classroom instruction to meet individual EL student needs.	7.63 ¹	1.46	7.60	1.46	8.23	1.26	7.66	1.66	8.02	1.35	7.64	1.58
Subscale mean	7.82	1.26	7.64	1.33	8.19	1.32	7.69	1.33	8.06	1.30	7.67	1.32
Scale mean	7.07	1.24	7.65	1.06	7.74	1.36	7.81	1.11	7.49	1.34	7.75	1.09

Please rate how confident you are that you can effectively use the following practices in your teaching. Rate your degree of confidence by indicating a number from 0 to 10 using this scale: (0-10) ¹ n=19

Cronbach's alpha: 0.95

Table 29. Teacher Attitudes about EL Instruction

		District /	A (<i>n=20</i>)			District I	B (<i>n</i> =35)		Total (<i>n</i> =55)				
Please indicate your level of agreement with each of the following statements.	Bas	eline	End-o	f-year	Base	eline	End-c	of-year	Baseline		End-o	f-year	
	М	SD	М	SD	М	SD	М	SD	М	SD	М	SD	
It is important to differentiate academic instruction for English learners based on their English language proficiency.	4.20	1.15	4.55	.51	4.71	.46	4.46	.61	4.53	.81	4.49	.57	
Learning about language should be integrated into all content areas and an ongoing focus of instruction.	4.45	1.15	4.65	.49	4.80	.58	4.51	.78	4.67	.84	4.56	.69	
R - Language should be taught as a separate component of the curriculum, separate from content instruction.	2.35	1.23	2.30	1.34	2.43	1.01	2.44	1.14	2.40	1.08	2.39	1.21	
R - English learners learn English best when it is taught as a set of rules.	2.15	.93	2.40	1.14	2.40	.95	2.57	.95	2.31	.94	2.51	1.02	
English learners at all English language proficiency levels can engage meaningfully with complex texts and complex thinking.	4.43	.59	4.47 ¹	.61	4.26	.89	4.29	.71	4.32	.79	4.35	.68	
Teachers need to have deep knowledge about how language works in different content areas.	4.10	.91	4.47 ¹	.51	4.38 ²	.70	4.11	.76	4.28	.79	4.24	.70	
R - Allowing students to use their home language or a non-standard dialect of English during instruction inhibits the learning of English.	2.35	1.14	2.63	1.38	1.94	.87	2.63	1.33	2.09	.99	2.63	1.34	
Teachers should make a strong effort to ensure instruction is relevant to the cultural, language, and community experiences of English learners.	4.52	.64	4.37 ¹	.60	4.60	.50	4.44 ²	.50	4.57	.55	4.42	.53	
Scale Mean	4.11	.42	4.14	.47	4.25	.39	4.02	.47	4.25	.39	4.00	.46	

5-point response scale: (1) strongly disagree, (2) disagree, (3) undecided, (4) agree, and (5) strongly agree. Cronbach's alpha: 0.50. 1 *n*=19, 2 *n*=34