



**PHONICS LESSON LIBRARY™ &
PHONICS CHIP KIT™
FALL 2021-FALL 2022
EFFICACY STUDY
FOLLOWING GRADE 1**

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**LXD RESEARCH
95 PERCENT GROUP LLC**

PHONICS LESSON LIBRARY™ & PHONICS CHIP KIT™



EFFICACY RESEARCH

2021-2022 RESULTS - FIRST GRADE - INTERVENTION

PROGRAM DESCRIPTION

The Phonics Lesson Library (PLL) is a Tier 2 and Tier 3 phonics intervention program. Aligned with the Phonics Screener for Intervention (PSI), a diagnostic and progress monitoring tool used to create small groups. Students accelerate skill growth along the Phonics Continuum by using Phonics Chip Kits, which allot 30 minutes of explicit and systematic phonics instruction.

SCHOOL DESCRIPTION

LOCATION: Val Verde, California

GRADE: First, Tiers 2 & 3

SIZE: 462 Students

DEMOGRAPHICS: 82% Hispanic |
33% ELL | 4% SPED | 5% Foster/Homeless

STUDY DETAILS

Schools in the district were paired by Spring 2021 ELA scores and then assigned to treatment and comparison groups. Schools in the treatment group used Phonics Lesson Library and Phonics Chip Kit with first graders to provide targeted, daily, small-group lessons for students who were **Below or Well Below Benchmark** at the beginning of the year.

COMPARISON GROUP

LITERACY TOOLKIT

Core: Wonders
Tiers 2 & 3: Heggerty and a variety of resources

TREATMENT GROUP

REVISED LITERACY TOOLKIT

Core: Wonders
Tiers 2 & 3: **Phonics Lesson Library and Phonics Chip Kit**

ASSESSMENT

CORE PHONICS SURVEY & ACADIENCE READING

CORE Phonics Survey and Acadience Reading K-6 were conducted at the beginning and end of the 2021-2022 school year. Acadience was also conducted mid-year.

COMPARING RESULTS

Tiers 2 and 3 students using the **95 Percent Group's PLL** showed **higher gains on the CORE Phonics Survey and Acadience Reading** than the comparison group on multiple measures in first grade.

While Wonders has research studies, none include comparison groups. At the time of this report, Heggerty resources lack any research studies that meet ESSA-level evidence.

Grade	Tiers 2 & 3
Wonders	
Heggerty	
PLL	

 No Evidence  Limited Evidence  Moderate Evidence



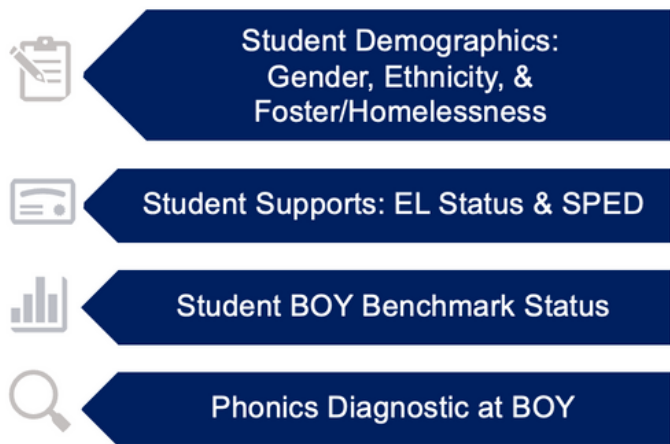
For more information about the Phonics Lesson Library, this study or other products, contact info@95percentgroup.com



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RESULTS FROM RIGOROUS STATISTICAL MODELS

Models accounted for known differences that could impact outcomes (statistical controls).



Even with statistical controls, schools with PLL had higher gains to comparison schools on multiple measures.

Assessment	Role	Study Outcome
Acadience Reading	Universal Screener (Overall Reading)	+
CORE Phonics Survey	Diagnostic	+



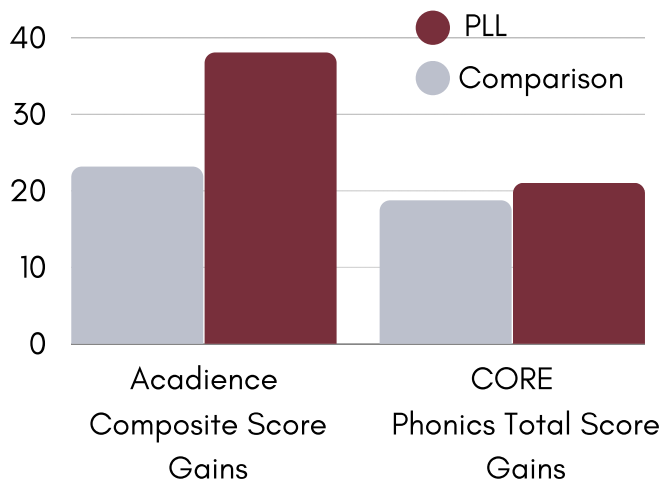
Similar Gains



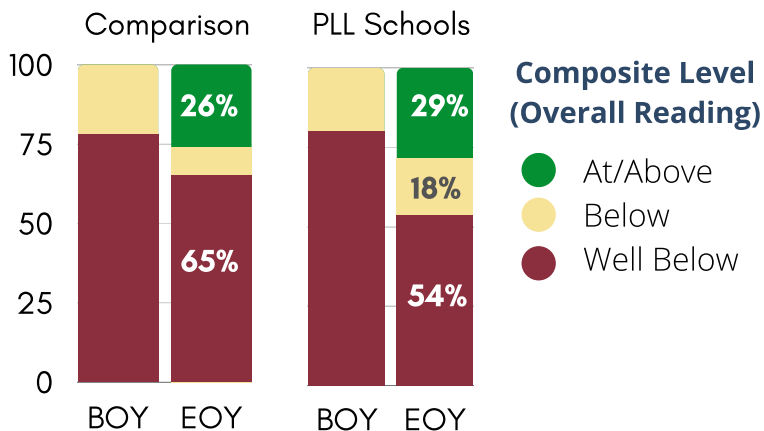
PLL Higher Gains

BOY TO EOY OUTCOMES FOR PLL SCHOOLS

Students in schools using the Phonics Lesson Library with the Phonics Chip Kits made **higher gains from BOY to EOY** than the comparison group.



Across the year, these gains led to meaningfully different EOY Benchmark results for PLL schools.



ANALYSIS DESCRIPTION

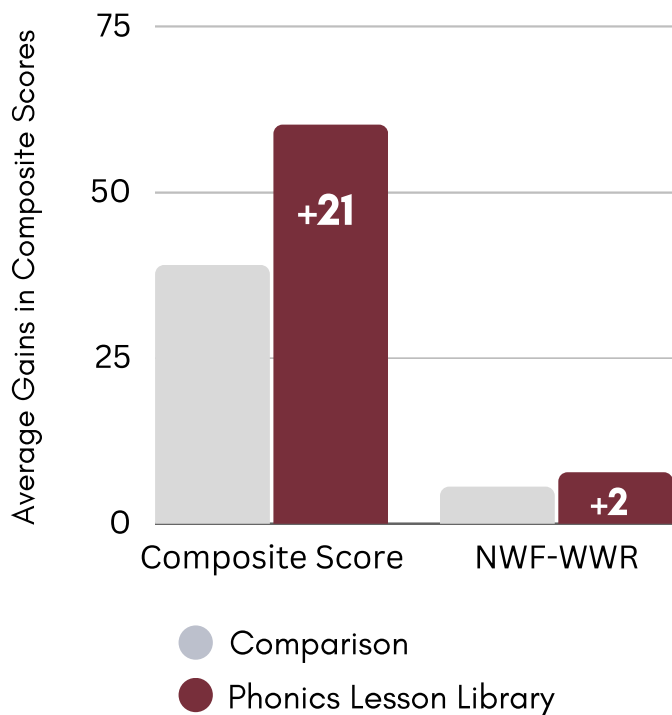
For 422 students, scores for Fall 2022 were compared to those from Fall 2021 to visualize gains over a full school year. This additional Acadience Reading assessment period is the last opportunity to compare student scores between schools who used the Phonics Lesson Library and those that did not.

Results from using the Phonics Lesson Library suggest students better retain their first-grade phonics skills, entering second grade with higher reading scores.

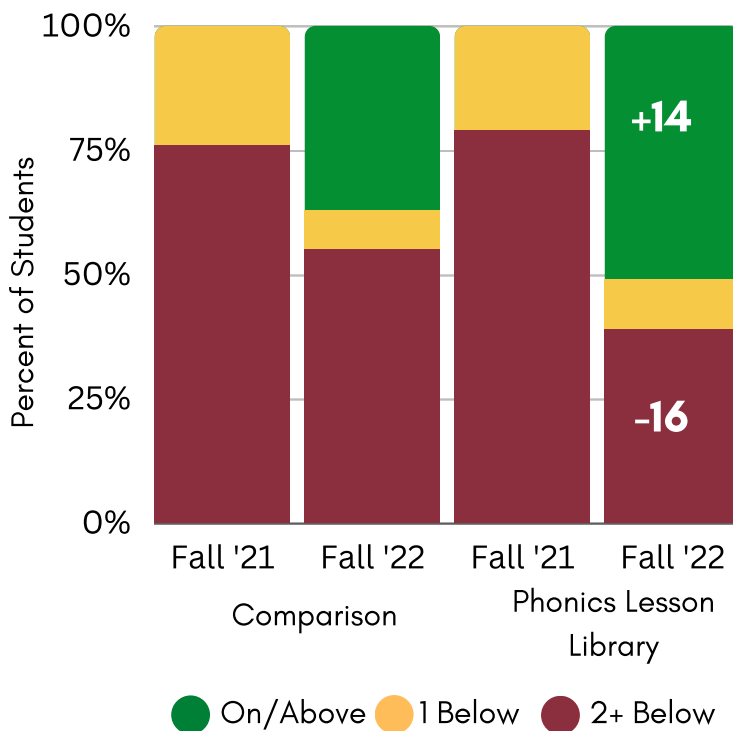
Rising second graders gained significantly more points on their composite score from Fall 2021 to Fall 2022 when they used the PLL, a 21-point bump. Students using PLL also accurately identified two additional nonsense words in the fluency subtest.

Comparing the Benchmark Status of students from Fall 2021 to Fall 2022 helps demonstrate how an intervention changes students' trajectories. Skills gained and retained by students in the PLL group led to an additional 14 percent of students starting Fall 2022 On/Above grade level (37% vs. 51%).

Gains on Composite Scores from Fall 2021 to Fall 2022



Composite Benchmark Status from Fall 2021 to Fall 2022





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Phonics Lesson Library Research Study

Follow-Up Results, Rising Second Graders Fall 2022

Prepared by Rachel Schechter, [Learning Experience Design \(LXD\) Research](#)

Analysis conducted by Lynch Research Associates

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Introduction

For first graders who are learning to read, the pandemic has led to some gaps in their education. A report from Fall 2021 showed that compared to historical pre-pandemic averages, more first graders are below grade level in reading (iReady, 2021). Multiple meta-analyses have shown that systematic early phonics instruction is most effective when implemented before or in first grade (National Reading Panel, 2000; Brady, 2011; Castles et al., 2018). Indeed, in a study of students who were assigned to receive a reading intervention for one year during either first, second, or third grade the best year to receive the intervention was in first grade (Connor et al., 2013). Providing early intervention support is known to be an important way to minimize gaps and continue spurring student learning (McIntyre et al., 2005). Therefore, it is critical to identify the efficacy of available phonics intervention tools in order to best support student reading.

95 Percent Group created the Phonics Lesson Library (PLL) and Phonics Chip Kit as an early phonics intervention tool. During the 2021-2022 school year, 95 Percent Group hired LXD Research to conduct an efficacy study of PLL and the Phonics Chip Kit implementation in a medium-sized school district in California with a student population consisting of over 80% Hispanic students and over 25% English Language Learners. The study used a quasi-experimental design to generate evidence of the program's impact that aligns with evidence standards associated with ESSA Level 2. That study showed positive results for first graders from Fall to Spring (LXD Research, 2022). In an effort to document how student achievement changes or sustains during the following year, this follow-up study was conducted at the start of the 2022-2023 school year.

Study Program Description

In the 2021-2022 study, the Basic Phonics level of the PLL, combined with the Phonics Chip Kit, was implemented with first graders in four intervention schools that used Wonders as their core curriculum. Teachers employed an initial diagnostic screener to place students into intervention groups and used 95 Percent Group's Phonics Screener for Intervention™ (PSI) to monitor progress. Students who were Below or Well Below Benchmark were identified for intervention using Acadience Reading K-6 and placed into lessons along the Phonics Continuum (see graphic below). The PLL supports students who are not meeting benchmarks through comprehensive lesson plans that target skills aligned with the Phonics Continuum. This includes learning simple letter-sound correspondences, blending words with more complex and variable letter combinations, and using syllabication to decode multisyllabic words.

Throughout the 2021-2022 school year, students received 30 minutes of daily intervention through a push-in model in small groups of three to four students who had similar phonics needs. Instructors monitored progress through alternate forms of the PSI and used this data to re-group students every three weeks based on the lowest skill on the continuum that needs the most support. Instruction is grounded in evidence-based instructional practices in structured literacy, following the Science of

Reading research base. Instruction is systematic, following a developmental progression from simple to complex; explicit, introducing new skills with direct, multisensory instruction and a gradual release of responsibility from teacher to students; and diagnostic, targeting to students' specific skill needs as determined by frequent assessment. Once students reached mastery of skills for their grade level, they completed the intervention.

Comparison Programs

In the comparison schools survey conducted during Fall 2021, most teachers (73%) responded that they used their core curriculum, Wonders, to support Tier 2 and Tier 3 reading intervention. One-third mentioned using Heggerty Phonemic Awareness resources (36%). Other products included but were not limited to: Imagine Learning (44%), Heggerty Phonemic Awareness (44%), Heggerty Bridge the Gap (22%), as well as the core curriculum Journeys (39%). Nearly all of these programs describe their materials as based in the Science of Reading and represent a relatively high bar as a comparison to the 95 Percent Group programs, although few of these programs are able to provide evidence supporting the effectiveness of the program for first graders (Table 1). Comparison schools implemented intervention in a variety of ways, usually pulling students out for thirty minutes for Tier 3 and using small-group instruction during the reading block for Tier 2. Note, during the 2022-2023 school year, these comparison schools will be using the PLL as well.

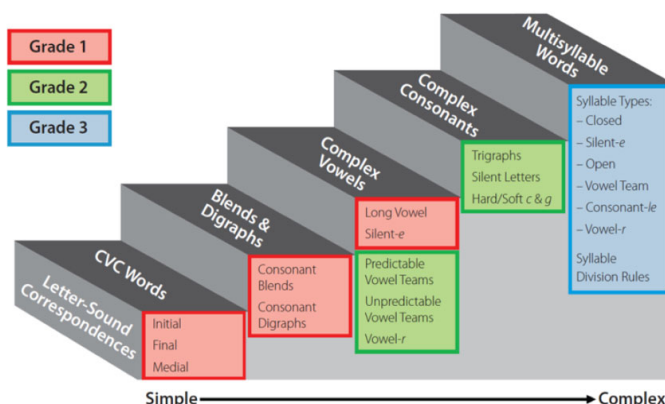


Table 1. ESSA-Level Evidence on Comparison School Programs for First Grade

Product	Evidence for All Students	Evidence for Tiers 2 - 3
Wonders	Limited	None
Heggerty Phonemic Awareness & Bridge the Gap	None	None

Research Activities during the 2022-2023 School Year

For the follow-up study, the schools conducted Acadience® Reading K-6 with all students at the beginning of the 2022-2023 school year, before any intervention lessons were provided to students. This report is the final opportunity to evaluate the impact of the 2021-2022 intervention for first graders, now comparing them as rising second graders by focusing on the gains from Fall 2021 to Fall 2022 on Acadience Reading.

Reading Assessments

Acadience Reading K-6 assessments were administered by a special assessment team (not classroom teachers) in Fall 2021, January 2022, May 2022, and Fall 2022. As a set of curriculum-based measures, Acadience Reading assesses student development as a reader. Designed for universal screening and benchmarking to determine the appropriate supports for each student, Acadience is administered three times per year in the fall, winter, and spring. Assessments are administered observationally in a one-on-one setting and take between 3 and 11 minutes per student to complete. Scores include standardized scale scores and on-grade achievement-level placements. First grade Acadience Reading subtests are listed in Table 2, along with the skills they assess and the benchmark goals for the times of year they are administered (the measures administered vary by time of year based on expected skill development). Note that the Letter Naming Fluency measure does not have benchmark goals because it is an indicator of risk rather than an indicator of a basic early literacy skill. At each administration period, subtest scores are weighted and combined into a Composite Score, which is an overall indicator of reading ability.

Table 2. Acadience Reading Subtests, Skill Coverage in First and Second Grade

Subtest	Indicators of These Early Literacy Skills
Letter Naming Fluency	Indicator of Risk
Phoneme Segmentation Fluency (PSF)	Phonemic Awareness
Nonsense Word Fluency: Correct Letter Sounds (CLS)	The Alphabetic Principle and Basic Phonics
Nonsense Word Fluency: Whole Words Read (WWR)	The Alphabetic Principle and Basic Phonics
Oral Reading Fluency (ORF): Words Correct	Accurate and Fluent Reading of Connected Text
Oral Reading Fluency (ORF): Accuracy	Advanced Phonics and Word Attack Skills; Accurate and Fluent Reading of Connected Text
Oral Reading Fluency (ORF): Retell	Reading Comprehension
Composite	Overall Estimate of Reading Ability

Student Demographics

Student demographics that may be related to outcome measures were collected, including: school, district, gender, grade, race/ethnicity, age, English Language Learner status, economic disadvantage status (the likely proxy is an indicator of whether a student qualifies for free or reduced-price meals [FRM]), foster or homeless status, migrant status, and special education status.

PLL Implementation

95 Percent Group Coaching Summary

In Fall 2021, training to support first-grade teachers in the treatment group was provided before school started. Consultants from the 95 Percent Group provided guidance on how to use the assessments to place intervention students in initial groups. The use of the PSI began with Cycle 2, and the PLL was used during intervention time. With each cycle, teachers created student groups to focus on specific Phonics skills. If a group of first graders needed phonological awareness lessons before starting the PLL, those lessons were made available to the teachers. Over time, students would advance through the 95 Percent Group Phonics Continuum. Consultants were available to support schools' literacy coaches and teachers to answer questions three times (Fall 2021, Winter 2022, and Spring 2022). Follow-up support is also being provided during the 2022-2023 school year.

Phonics Screener for Intervention (PSI) Implementation Description

Teachers completed the PSI every three weeks as part of the intervention. The results of these screeners informed student groupings and identified the target skill for that cycle's lesson. This section of the report summarizes the number of students who have been identified and served by literacy intervention. Cycle 1 is not included below because the schools used the CORE phonics survey instead of the PSI to eliminate redundant testing.

How many students have received PLL?

The number of students grouped for intervention during each cycle between Fall 2021 and Spring 2022 is displayed below (Table 3). All the PSI results were shared through an aggregate report provided to the research team, so it was not possible to follow individual students or connect PSI data to Acadience data in this study. We learned from the instructional coaches that all schools were fully implementing the program by Cycle 3.

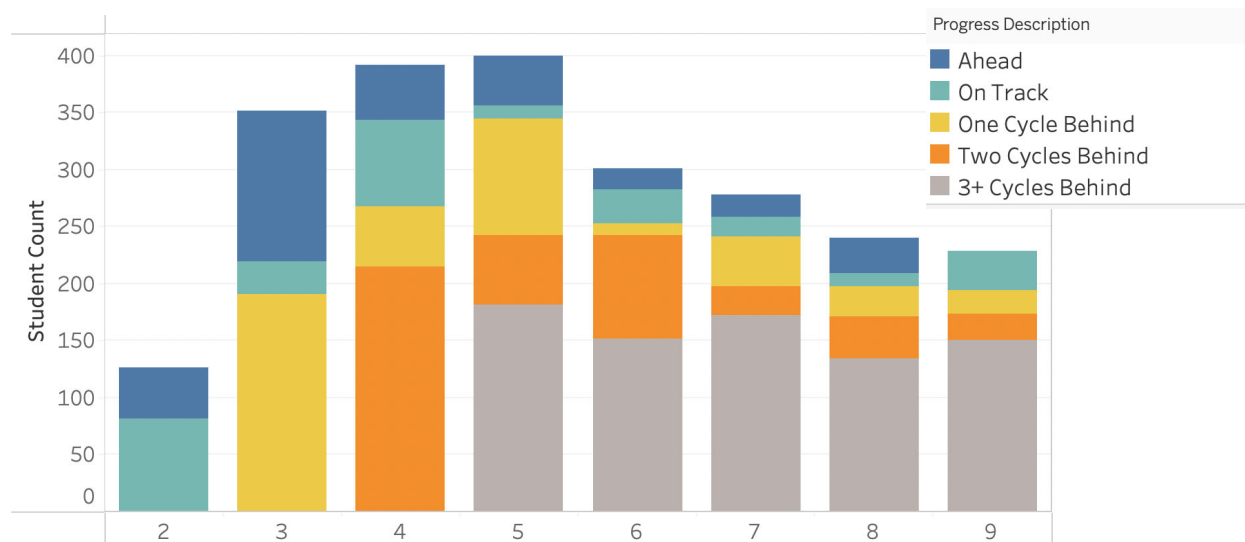
Table 3. Number of Students in Each Cycle by Study

Cycle Number	2	3	4	5	6	7	8	9
Number of Students	118	242	287	275	190	172	148	176

Did students progress in the program as expected during 2021-2022?

Most students started the Fall 2021 school year working on the initial skills designated on the skills progression for each program. While evidence of students advancing through the program becomes clearer by Cycle 5, many are behind the expected progression (Figure 1). Conversations with consultants revealed that it is typical for districts that just begin implementing the products to gain familiarity with the type of instruction and data grouping model. As students show mastery in all the skills, they “place out” and no longer receive phonics intervention. Starting in Cycle 6, the total number of students reduce and less than 25% of students advance categories each week. While it cannot be seen in this data visualization, most students are moving forward in each cycle, even though they are still behind.

Figure 1. Number of Students per Skill by Cycle



The PLL is a highly explicit, scripted program that includes multimodal learning experiences and opportunities for students via the Phonics Chip Kit and requires teachers to provide students with direct feedback as they work. Research with on other 95 Percent Group materials has shown that it takes some time for teachers to master lesson delivery and that lessons may take longer to provide until they become more familiar with the approach and format ([Schechter & Lynch, 2022](#)). Furthermore, research from the National Council on Teacher Quality ([Drake & Walsh, 2020](#)) has shown that only 68% of teacher preparation programs covered phonics instruction in 2020, while in 2013, only 53% of programs covered phonics. While progress in teacher preparation has been made, many teachers currently in the field are unprepared to provide explicit phonics instruction without additional professional development. Thus, teachers in the treatment group may be learning how to teach the skills in the PLL as they are also adjusting to using a new program within a new intervention model. With continued use of the program and coaching, it is expected that teachers will become more familiar with delivering the material, so students will advance more quickly through the program.

Results for Rising Second Graders

Similar to other research reports conducted around the 2020 pandemic, this study is investigating student achievement looking at a Fall to Fall timeframe. Since these students were first graders during the 2021-2022 school year and second graders at the time of this Fall 2022 start-of-year testing period, they will be referred to as “rising second graders” for the remainder of this paper.

Sample Descriptions

Because this program is an intervention program, this report focuses on students who scored Below or Well Below Benchmark in Acadience Reading in Fall 2021. A total of 442 rising second graders (first graders from 2021-2022) had beginning-of-year data for both years. Using a quasi-experimental design to examine the effects of the 95 Percent Group’s PLL, a four schools used the walk-to-intervention program (treatment) and four schools did not (comparison). Of these students, 235 were in the treatment group and 207 were in the comparison group (see Table 4). Among the 479 students who had complete data from Fall 2021, 37 students did not have data available in Fall 2022, signaling an attrition rate of approximately 8%. This attrition was equally likely to occur in the treatment and comparison groups ($\chi^2=0.05$, $p=.83$).

Table 4. Sample sizes at Fall 2021 and Fall 2022 by treatment and comparison group status

			Fall 2021	Fall 2022	Matched Sample
Grade Level	School Group	# of Schools	# of Students	# of Students	# of Students
Rising Second grade	Treatment	4	254	235	235
	Comparison	4	225	207	207
	Total	8	479	442	442

We employed Chi-Square analyses to compare students in the treatment and comparison groups in regard to gender, special education status (SPED), English Language Learner (ELL), Hispanic race/ethnicity and rates of Foster/Homelessness. Results suggested there were no statistically meaningful differences between the treatment and comparison groups in regard to gender, ELL, Hispanic race/ethnicity and rates of Foster/Homelessness. However, students in the comparison group were more likely to receive special education services compared to treatment students ($\chi^2=7.90$, $p=.005$; see Table 5).

Table 5. Sample Descriptives for Treatment and Comparison groups by Study

Grade	Group	Male	SPED	ELL	Hispanic	Foster/
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						Homelessness
Rising Second Grade	Comparison	52%	6%	30%	80%	5%
	Treatment	52%	1%	39%	85%	5%

Within the sample of 442 students who had both Fall 21 and Fall 22 data available, we found no statistically significant differences in Fall 21 composite scores in the treatment versus comparison group ($t=-0.41$, $p=.68$). Table 6 displays the average Fall 21 scores for students who had Fall 21 and Fall 22 scores.

Table 6. Sample of Students with Fall 21 and Fall 22 Composite Scores by group

Grade	Condition	Number of Students	Fall 21 Average	SD	Significance	Effect Size Cohen's d
Rising Second Grade	Comparison	207	65.46	33.51	$p=.68$	.04
	Treatment	235	66.71	31.10		

Analytical Approach

Three level hierarchical linear regression models (HLMs) with time (level 1) nested within students (level 2) nested with schools (level 3) were employed to examine growth in composite and subscale scores. All models contained a series of covariates including gender (“female”; 1=female, 0=male), Hispanic ethnicity (“hispanic”; 1= Hispanic, 0=Not Hispanic), ELL status (“ELL”; 1=ELL, 0=non-ELL), SPED status (“sp”; 1=SPED, 0=non-SPED), an indicator of fostering/homelessness (“foshom”; 1= in foster care or homeless, 0=not in foster care or homeless), an indicator of time (“Time”; 1=Fall 21, 2=Fall 22), an indicator of whether the student was in the treatment or comparison group (“intervention”; 1=Treatment, 0=comparison), and an interaction between time and group calculated as the product of Time*group (“Tigr”).

We explored the main effects of the treatment group compared to the comparison group by considering the significance of the interaction between time and group (“Tigr”). A significant interaction term would suggest that the slope (i.e., growth) in composite or subscale score is different for the treatment versus comparison groups. All analyses were conducted separately by grade using the statistical software package R 3.6.2.

Fall 2021 - Fall 2022 Statistical Results

We examined growth in the overall reading score, the Composite score, as well as all of the subtests that were available for both time periods: Nonsense Word Fluency (NWF) scores: Correct Letter Sounds

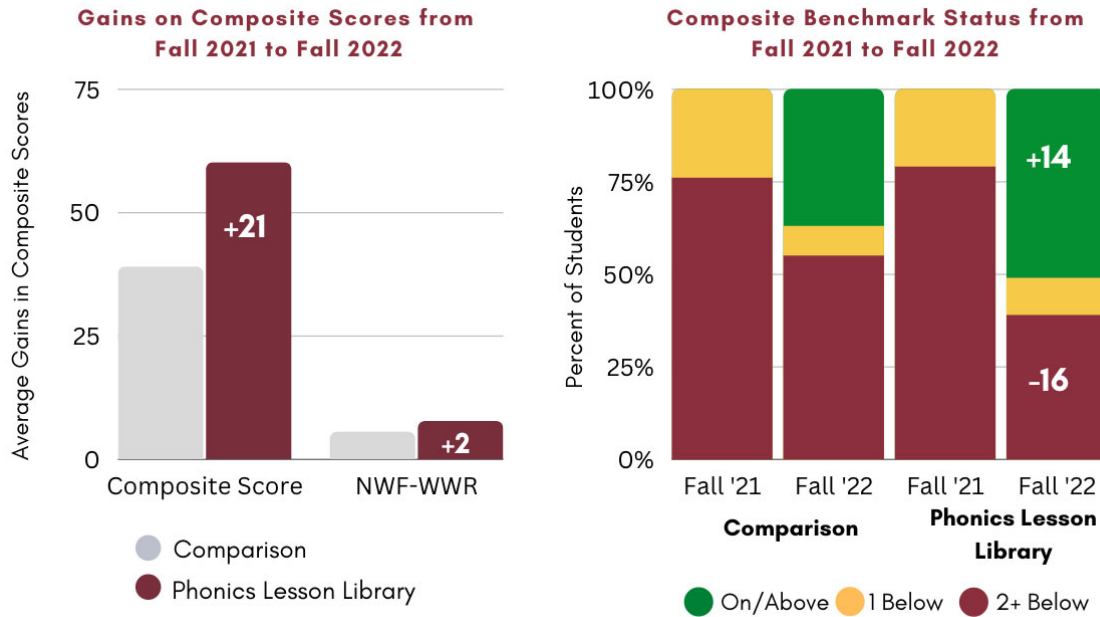
(CLS) and Whole Words Read (WWR). Because the scores were highly positively skewed counts for NWF-WWR, we elected to use a poisson distribution to examine changes in scores overtime. There was a significant effect of treatment on composite ($B=21.28$, $p=.002$, $f^2=.02$) scores and NWF-WWR ($IRR=0.50$, $p<.001$, $f^2=.06$) scores (see Table 7 and Figure 2). In both cases, students in the treatment group demonstrated more growth in scores than students in the comparison group. There was not a significant effect of treatment on NWF-CLS scores, suggesting that students in the treatment and comparison group demonstrated similar growth. Complete output for each model can be found in the [Appendix](#).

Table 7. HLM Results for Students Below or Well Below Benchmark at Fall 2021

Test	School Group	Fall 21	Fall 22	Statistically Different?
Composite Scores	Wonders + Variety	74.13	113.1	Yes, they are different. Treatment group saw significantly more growth from Fall 2021 to Fall 2022.
	Wonders + PLL	73.9	134.14	
Nonsense Word Fluency - Whole Words Read	Wonders + Variety	0.30	5.81	Yes, they are different. Treatment group saw significantly more growth from Fall 2021 to Fall 2022.
	Wonders + PLL	0.86	8.50	

Acadience Subtests NWF-CLS showed similar growth for both groups.

Figure 2. Students in the treatment group demonstrated significantly more growth in Composite scores and NWF-WWR scores than students in the comparison group. In response, the PLL schools also saw a higher proportion of students On or Above Benchmark at the start of second grade.



Conclusion and Future Research

The Phonics Lesson Library and Phonics Chip Kit set is an intensive, highly scripted, and multimodal literacy toolkit. These new routines for explicitly teaching phonics may require an adjustment period for teachers to become proficient with them. In addition, changing the model of intervention in a school from a pull-out to a walk-to-intervention model takes many months to adopt and become routine. It is encouraging to see that despite these challenges, students' overall reading and phonics scores improved across the year. They sustained their learning over the summer to outperform students in the comparison group that were not using the PLL the following year.

Future research that follows these students through the rest of second grade and into third grade could help educators understand the long-term impact of the walk-to-intervention model and the use of high-quality phonics instructional materials. It would be also helpful to understand if students who received explicit phonological awareness instruction in kindergarten would see increased benefits from an explicit phonics program. Studies to investigate these questions are planned to help both program developers and teachers better understand how to support all students learning to read.

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Appendix

- Composite score: ($B=21.29$, $p=.002$) - significant differences between treatment and comparison group
- CLS score: ($B=3.09$, $p=.22$) - no significant differences between treatment and comparison group
- WWR score: ($IRR=0.50$, $p<.001$) - significant differences between treatment and comparison group

Composite Score

<i>Predictors</i>	<i>Estimates</i>	comp	
		<i>CI</i>	<i>p</i>
(Intercept)	35.17	8.24 – 62.10	0.011
Time	38.97	28.97 – 48.97	<0.001
female	0.78	-8.81 – 10.37	0.873
hisp	4.80	-8.22 – 17.81	0.470
ELL	-16.20	-26.68 – -5.72	0.002
sp	-66.17	-91.98 – -40.37	<0.001
foshom	-26.70	-48.84 – -4.57	0.018
intervention	-21.51	-55.55 – 12.53	0.215
Tigr	21.28	7.55 – 35.01	0.002
Random Effects			
σ^2	2619.81		
τ_{00} X.95ID:SchoolName	1157.29		
τ_{00} SchoolName	331.76		
ICC	0.36		
N X.95ID	430		
N SchoolName	8		
Observations	860		
Marginal R ² / Conditional R ²	0.190 / 0.483		

CLS

<i>Predictors</i>	<i>Estimates</i>	cls	
		<i>CI</i>	<i>p</i>
(Intercept)	-5.46	-13.98 – 3.06	0.209
Time	25.60	22.03 – 29.17	<0.001
female	-2.29	-5.52 – 0.94	0.165
hisp	1.60	-2.79 – 5.99	0.474
ELL	-4.19	-7.72 – -0.66	0.020
sp	-21.12	-29.82 – -12.43	<0.001
foshom	-10.02	-17.49 – -2.56	0.009
intervention	-1.82	-12.39 – 8.75	0.736
Tigr	3.09	-1.81 – 7.99	0.216
Random Effects			
σ^2	333.91		
τ_{00} X.95ID:SchoolName	113.88		
τ_{00} SchoolName	24.31		
ICC	0.29		
N X.95ID	430		
N SchoolName	8		
Observations	860		
Marginal R ² / Conditional R ²	0.314 / 0.514		

WWR

<i>Predictors</i>	WWR		
	<i>Incidence Rate Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.01	0.01 – 0.03	<0.001
Time	19.87	16.33 – 24.17	<0.001
female	1.00	0.78 – 1.29	0.974
hisp	1.14	0.81 – 1.61	0.440
ELL	0.62	0.47 – 0.82	0.001
sp	0.09	0.04 – 0.24	<0.001
foshom	0.50	0.27 – 0.94	0.032
intervention	5.84	2.84 – 12.01	<0.001
Tigr	0.50	0.40 – 0.63	<0.001
Random Effects			
σ^2	0.26		
$\tau_{00} \text{ X.95ID:SchoolName}$	1.45		
$\tau_{00} \text{ SchoolName}$	0.13		
ICC	0.86		
$N \text{ X.95ID}$	430		
$N \text{ SchoolName}$	8		
Observations	860		
Marginal R^2 / Conditional R^2	0.544 / 0.935		

Effect Sizes Based on T-Tests

In the table below we report effect sizes (Cohen's d) resulting from dependent samples t-test that compared growth in composite scores in the treatment and comparison groups.

T-tests were run for Rising Second Graders

Condition	Number of students	Average difference in Composite between Fall 2021 and Fall 2022	SD	Significance	Effect Size Cohen's d
Treatment	235	60.62	69.83	p=.001	.31
Comparison	207	38.41	74.50		

Change in Benchmark Status

The difference in scores are evident in how students changed their benchmark status from year to year.

Grade	Condition	Number of Students	Well Below	Below	On/Above
Fall 2021	Treatment	235	186	49	0
	Comparison	207	157	50	0
Fall 2022	Treatment	235	91	24	120
	Comparison	207	114	16	77

LXD Research is an independent research firm that specializes in evaluating educational programs to support accelerated learning. Learn more at www.lxdresearch.com

For additional information about **95Percent Group** contact us at 847-499-8200 or info@95percentgroup.com