

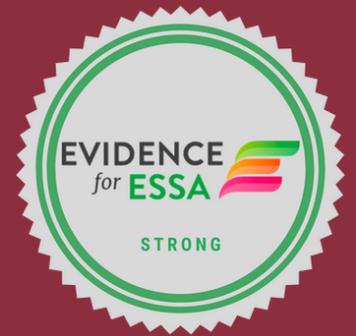


95 PHONICS CORE PROGRAM™
2021-2022, GRADES K-2
EFFICACY STUDY

JUNE 22, 2022

LXD RESEARCH
95 PERCENT GROUP LLC

95 PHONICS CORE PROGRAM™



2021/2022 RESULTS - GRADES K-2

PROGRAM DESCRIPTION

The 95 Phonics Core Program (95PCP) adds an explicit phonics strand to the daily Reading Block to ensure that all K-3 students receive consistent evidence- and research-based phonics instruction to improve outcomes. The program is designed to accommodate both in-person and remote learning.

STUDY DETAILS

Sixteen schools in the district were paired by Spring 2021 ELA scores and then **randomly assigned** to treatment and control groups.

TIER 1 LITERACY CURRICULUM

Core: ReadyGEN

Supplemental:

- **95 Multisyllable Routine Cards**
- Reading A-Z
- Heggerty Bridge the Gap
- Phonics First and other materials

CONTROL GROUP

TREATMENT GROUP

CHANGES TO LITERACY TOOLKIT

Added: **95 Phonics Core Program**

Removed: ReadyGEN phonics strand

ASSESSMENT

ACADIENCE READING

Acadience Reading K-6 was conducted at the beginning and end of the 2021-2022 school year.

Analysis used a three-level hierarchical linear regression model, (students in classrooms) controlling for gender, ELL, and SPED. See the executive summary for more details.

SCHOOL DESCRIPTION

LOCATION: Missouri

GRADES: K-2

SIZE: 3,257 Students

DEMOGRAPHICS: 75% White | 23% Low Income | 9% EL | 12% SPED

COMPARING RESULTS

From Fall 2021 to Spring 2022, students using **95 Phonics Core Program** showed **higher gains on Acadience Reading than the control group** in all three grades.

While 2014-15 study on ReadyGEN showed growth for first graders on Terranova assessments, it **did not have a control group** to provide ESSA-level evidence for any grades K-2.

| Grade | ReadyGEN | 95PCP |
|--------------|----------|-------|
| Kindergarten | | |
| First | | |
| Second | | |

No evidence Limited evidence Strong evidence



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



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EDUCATOR VOICES

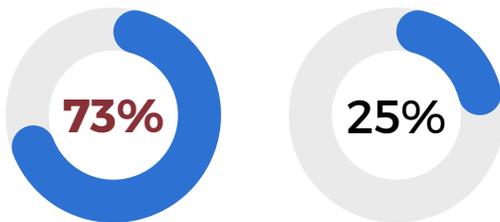
"I think it's giving everybody a common language and I've just seen a lot of growth in my struggling readers this year with spelling."

"We're ending with reading levels almost higher than I've ever seen. They're applying or learning to books or it's coming through in their writing as well."

"There are certain things they love! They love the word sorts, you know, they love the pictures, and they love the word chains. Oh my gosh. My kids love the word chains."

Observers would notice...

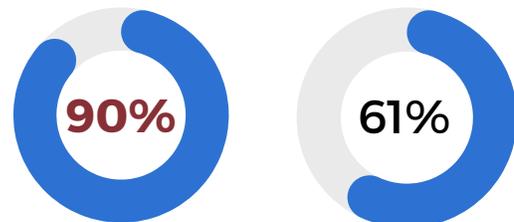
SKILL APPLICATION



95 PERCENT GROUP COMPARISON

95 Percent Group teachers lead students in skill application during 73% of the lesson compared to only 25% in the comparison classrooms.

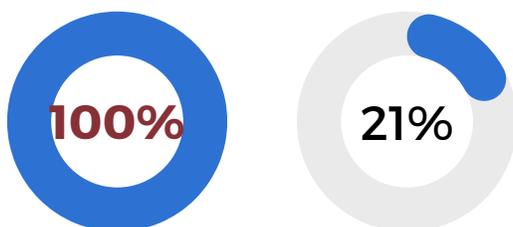
STUDENT ENGAGEMENT



95 PERCENT GROUP COMPARISON

95 Percent Group classrooms had most of the students on task during the lesson compared to 61% in the comparison classrooms.

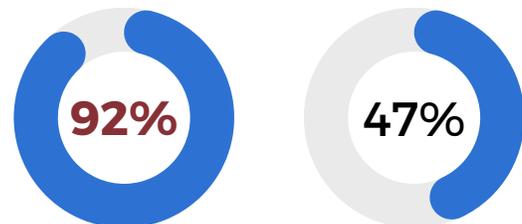
LESSON CLARITY



95 PERCENT GROUP COMPARISON

95 Percent Group had 100% of classrooms where the lesson number was clear compared to 21% in the comparison classrooms.

STUDENT INDEPENDENCE



95 PERCENT GROUP COMPARISON

95 Percent Group had 92% of classrooms where most of the students prepared without help for each lesson segment compared to 47% in the comparison classrooms.

QUOTES FROM LITERACY COACHES

READYGEN ONLY

"There's not a whole lot of background [phonics] information for the teacher, and there's not a whole lot to pull from as far as like a script or anything like that. So when you think about like the Science of Reading and teaching students how to learn, how to read, it's kind of like figuring it out. So it's been a little bit of a struggle."

READYGEN + 95PCP

"The Phonics Core Program has really been a great supplement because ReadyGEN was definitely lacking in [phonics] and it's what the kids and the teachers needed. That's been the missing link for sure."

RESULTS FROM RIGOROUS STATISTICAL MODELS

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

-  **Classrooms**
-  **Gender, EL & SPED**
-  **SOR Training**
-  **BOY Benchmark Level**

Adding 95 Phonics Core Program boosted gains for all grades.

| Grade | Gains on Composite | Gains on Subtests |
|--------------|--------------------|-------------------|
| Kindergarten | + | + |
| First | → | + |
| Second | + | + |

 Similar gains

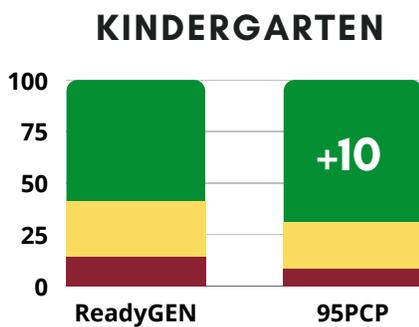
 95PCP higher gains

A CLOSER LOOK AT STUDENTS WHO WERE BELOW BENCHMARK IN FALL 2021

A strong Tier 1 phonics program benefits all students and may particularly benefit students who start the school year Below Benchmark on their universal screener. These students may or may not qualify for Tier 2 supports and therefore not receive differentiated instructional time or materials due to resource constraints. Systematic, explicit instruction could help boost students who are Below Benchmark into At/Above Benchmark categories after just a few months of whole-group lessons. This page examines this group of students, along with the At/Above students (who should remain in this category), from each grade in the study.

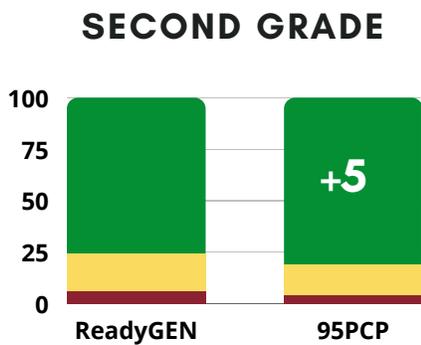
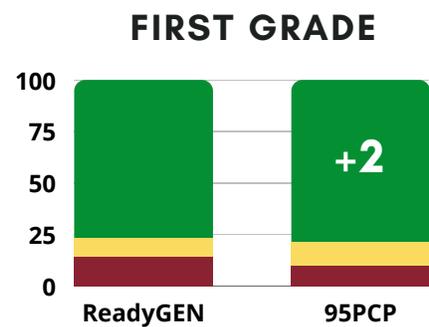
Results from replacing ReadyGEN phonics with 95PCP can be noticed through the percentage of students who advance to At/Above Benchmark.

(The % who remained At/Above Benchmark is included in graphs below.)



Composite Level at EOY (Overall Reading)

- At/Above
- Below
- Well Below



Percent of Students At/Above Benchmark at the End of the Year

| Grade | Comparison | Treatment |
|-------|------------|-----------|
| K | 59% | 69% |
| 1 | 77% | 79% |
| 2 | 76% | 81% |

% out of all students Below or At/Above Benchmark at BOY



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ANALYSIS DESCRIPTION

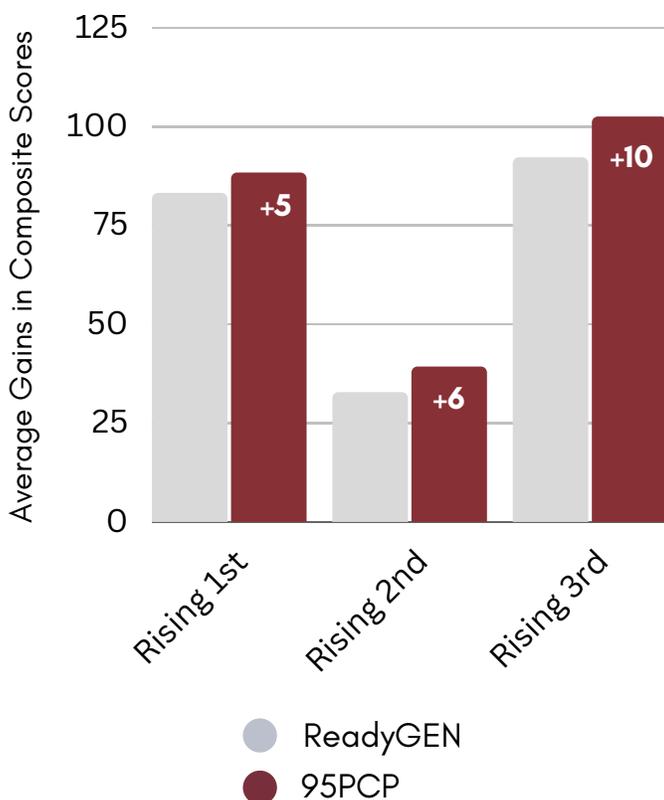
Fall 2022 scores were compared to Fall 2021 to understand how gains from the first year were sustained over the summer. (Students who attended summer school were excluded.) This final assessment period allows for the comparison of 2,677 students using 95 Phonics Core Program to the control group using Acadience Reading for all three grades, now described as Rising 1st, Rising 2nd, and Rising 3rd.

Results from adding 95PCP to ReadyGEN are noticed using composite score gains and percent of students **At/Above Benchmark**.

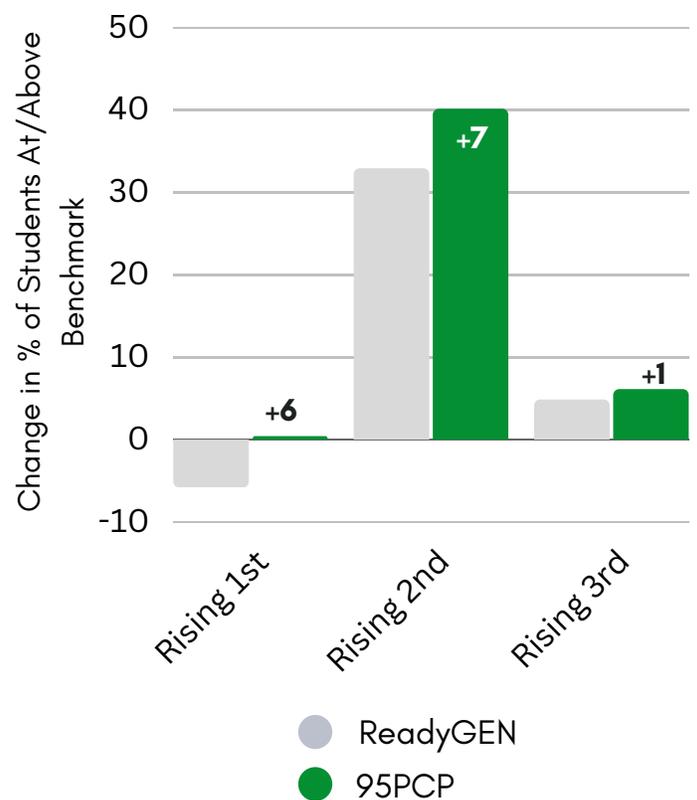
In terms of gains, all grades earned at least 5 additional points on the reading composite score from Fall 2021 to Fall 2022 using 95PCP.

In terms of having more students At/Above Benchmark at the start of the year, all grades with 95PCP outperformed other schools. Rising 1st reduced the proportion of students ready for first grade, while 95PCP schools stayed steady.

Gains on Composite Scores from Fall 2021 to Fall 2022



Change in % of Students On/Above Benchmark from Fall 2021 to Fall 2022



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95 Phonics Core Program™ Classroom Kit Grades K-3

Efficacy Study with Acadience® Reading K-6: Level 1 ESSA Level of Evidence

Conducted by Rachel Schechter, Ph.D., Alicia D. Lynch, Ph.D., and [LXD Research](#)

Executive Summary

There is a growing concern that core reading curricula for the elementary years have not improved reading scores in the US ([The Condition of Education 2020](#)). Reporters such as Emily Hanford ([APM Reports](#)) have shined a light specifically on the need for explicit, systematic, and sequential phonics instruction for every child. In response to this identified need, 95 Percent Group, LLC created [a new phonics core curriculum](#) that can replace the phonics instructional lessons provided with other core reading curricula (typically the first 20 minutes of the reading block).

The 95 Phonics Core Program (95PCP) is a whole-class, Tier I program designed for students in grades K-3 to address and prevent reading gaps using explicit, structured phonics instruction for 20 minutes per day. Instruction is based on a scope and sequence with 25 lessons for kindergarten and 30 lessons for each of Grades 1-3. The 95 Percent Group hired LXD Research, a third-party independent evaluator, to conduct a research study on the impact of the 95PCP.

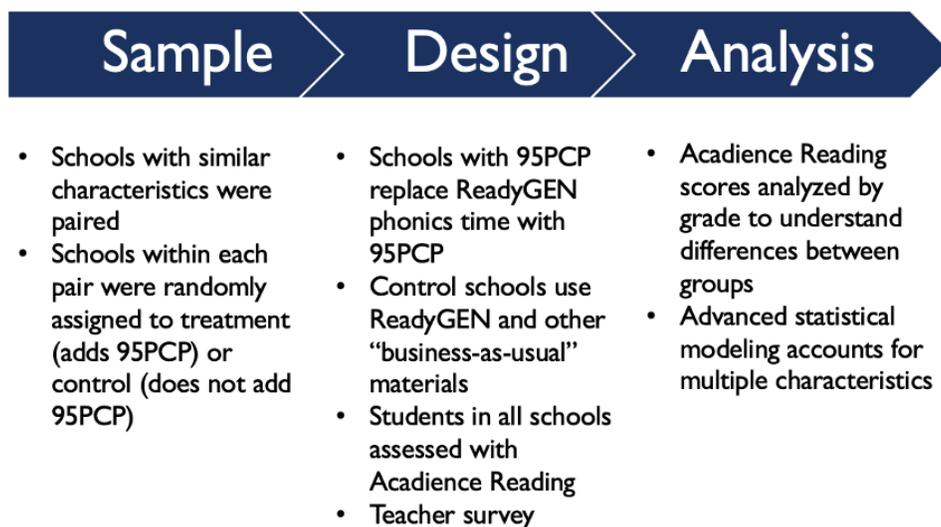
Recognizing the importance of teachers' own experiences navigating this period of change in reading curricula, LXD Research centered teacher feedback in the research design. The treatment teachers' implementation stories, gathered through extensive and immersive interviews, focus groups and classroom observation, suggest that even though it took teachers some time to adjust to using the 95PCP, the teachers saw growth in their students' literacy skills which they attributed to the year of 95PCP lessons. The student assessment data then validated what the teachers observed firsthand in their own classrooms. The data show the 95PCP had a positive, significant impact on student achievement for all grades (K-2).

Research Description

The research study has one primary goal: to examine the impact of the 95PCP on student literacy achievement in Grades K-3. Additional goals of the study are to examine program implementation information and feedback from educators about the program's quality and ease-of-use, as well as their perceptions about the impact of the 95PCP on teaching and learning. To meet these goals, LXD Research designed a mixed-methods study with a random assignment of participants into conditions at the school level (ESSA Level 1 – Strong). This paper focuses on grades K-2 during the first year of implementation.

The recruited research partner is in a large, suburban school district in Missouri. There are over 6,000 students in grades K-5 across 17 elementary schools in the district. The district serves a population in which 23% of students traditionally¹ qualified for free lunch and between 5-12% of students per grade are English Language Learners (ELL). LXD Research engaged with the district to conduct a set of qualitative and quantitative data collection activities throughout the school year: Acadience Reading K-6 assessment administration (at the beginning, middle, and end of the year), a teacher survey, interviews with school literacy coaches, and observations of classes.

Research Questions and Methods

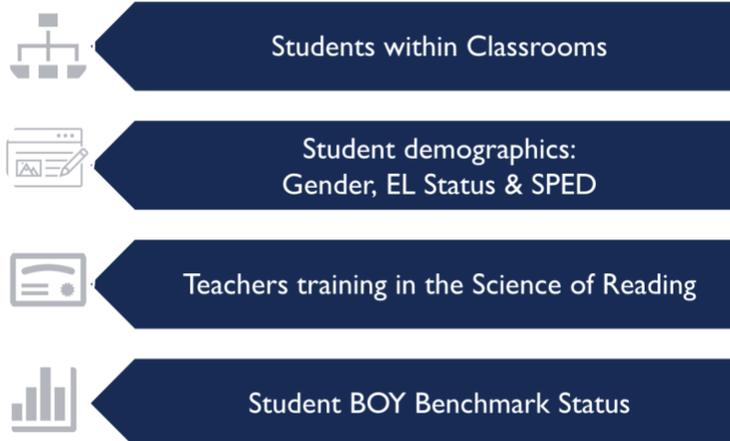


Research Questions

- How does the 95PCP affect K-2 student achievement on formative assessments (of phonics, specifically) in schools that implement the program compared to schools that do not implement the program?
- How does the impact of the 95PCP vary by grade and student subgroup (gender, English Language Learners, students in special education)?
- How does the impact of the 95PCP vary by a student’s beginning of year (BOY) benchmark status (i.e., do students *Below Benchmark* at BOY achieve similar growth as students who were *At Benchmark* at BOY)?
- What, if any, impact does teacher training in the Science of Reading have on student scores?

An advanced statistical modeling analysis was conducted to understand what the data show in support of answering these questions. This analytical technique helps account for known differences that could impact student outcomes.

¹ As of Fall 2020, all students receive free lunch, so documentation on free-lunch status is not available at the student level.



Results Highlights

Teacher Survey Highlights

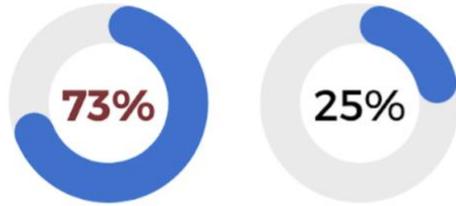
When asked about instructional strategies associated with structured literacy, the treatment group was more likely to use all of the named methods “to a great extent,” compared with the control group. This finding is noteworthy because it is true of each strategy listed, not just a subset of the strategies for whole-group instruction.

- A majority of participants noted Skill instruction worked well for all skills mentioned. This is especially true for CVC words (96%), Silent E words (96%), Closed Syllables (95%), and Short Vowels (94%).
- Teachers agreed that the PCP was easy to use (96%), helped their students develop phonics skills (96%), and helped teachers build their knowledge about phonics instruction (94%).
- Participants agreed or strongly agreed that “because of using 95 Percent Group’s Phonics Core Program and attending their professional development,” they understand CVC Phonics Development (97%), what is critical in the development of a skilled reader (97%), the science of reading through phonics (95%), and how to teach phonics (97%).

Observations: Differences Between Control and Treatment Schools

Thirty observations were conducted by administrative staff at the school district and one of the program trainers (17 control classrooms and 13 treatment classrooms) across all grades. Key areas of difference between the groups were the application of skills, student engagement (time on task), lesson clarity, and student independence.

SKILL APPLICATION



95 PERCENT GROUP COMPARISON

95 Percent Group teachers lead students in skill application during 73% of the lesson compared to only 25% in the comparison classrooms.

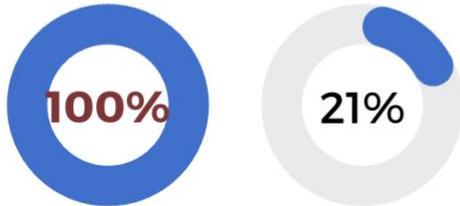
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LESSON CLARITY



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95 Percent Group had 100% of classrooms where the lesson number was clear compared to 21% in the comparison classrooms.

STUDENT INDEPENDENCE



95 PERCENT GROUP COMPARISON

95 Percent Group had 92% of classrooms where most of the students prepared without help for each lesson segment compared to 47% in the comparison classrooms.

Coach and Teacher Feedback on 95PCP

Teacher Focus Groups

Four focus groups were conducted in total with Ft Zumwalt K-3 classroom educators, divided into Grades K-1 and 2-3, and averaged 12 teachers in each focus group. The comparison focus groups were conducted in March 2022 and the treatment focus groups in April 2022.

Coach Interviews

Interviews were conducted with 14 Ft Zumwalt literacy coaches and one principal/vice principal pairing in February 2022. Eight interviews were conducted with literacy coaches from comparison schools, and seven interviews were conducted with literacy coaches from the treatment schools. The interviews lasted approximately 30 to 40 minutes.

Quotes from Coaches

READYGEN ONLY

"There's not a whole lot of background [phonics] information for the teacher, and there's not a whole lot to pull from as far as like a script or anything like that. So when you think about like the Science of Reading and teaching students how to learn, how to read, it's kind of like figuring it out. So it's been a little bit of a struggle."

READYGEN + 95PCP

"The Phonics Core Program has really been a great supplement because ReadyGEN was definitely lacking in [phonics] and it's what the kids and the teachers needed. That's been the missing link for sure."

Quotes from Teachers

"I think it's giving everybody a common language and I've just seen a lot of growth in my struggling readers this year with spelling."

"There are certain things they love! They love the word sorts, you know, they love the pictures, and they love the word chains. Oh my gosh. My kids love the word chains."

"We're ending with reading levels almost higher than I've ever seen. They're applying or learning to books or it's coming through in their writing as well."

Student Reading Outcomes

After the first year of use, the data show that a positive impact of the 95 Phonics Core Program was measurable for all three grades.

Positive impacts were found for the following Acadience Reading measures:

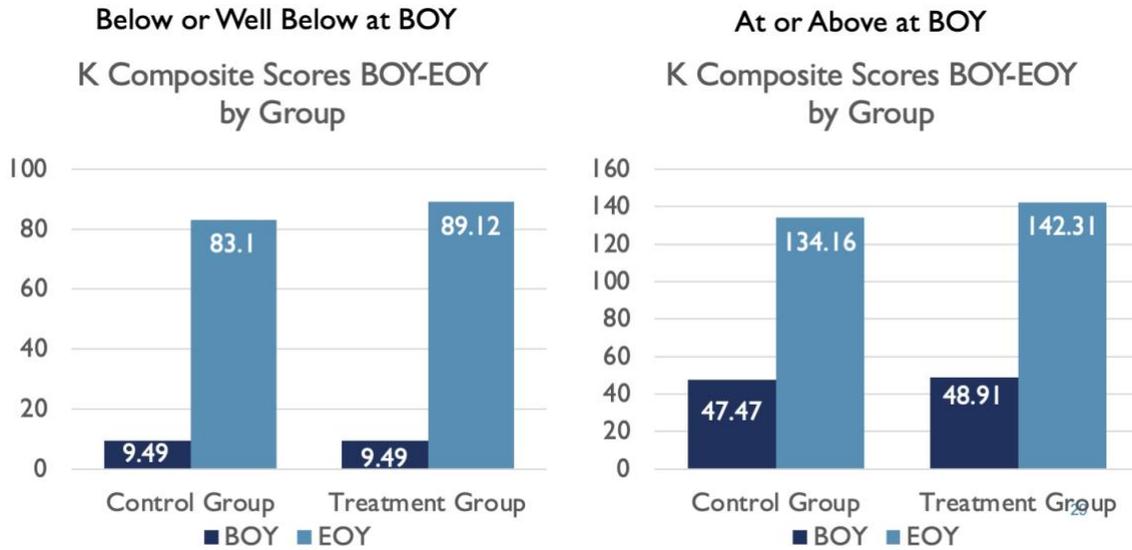
- Grade K: Composite, Nonsense Word Fluency CLS (Correct Letter Sounds) and PSF (Phoneme Segmentation Fluency),
- First Grade: Nonsense Word Fluency CLS (Correct Letter Sounds)
- Second Grade: Composite, ORF (Oral Reading Fluency), and ORF Accuracy

| Grade | Gains on Composite | Gains on Subtests |
|--------------|--------------------|-------------------|
| Kindergarten | + | + |
| First | → | + |
| Second | + | + |

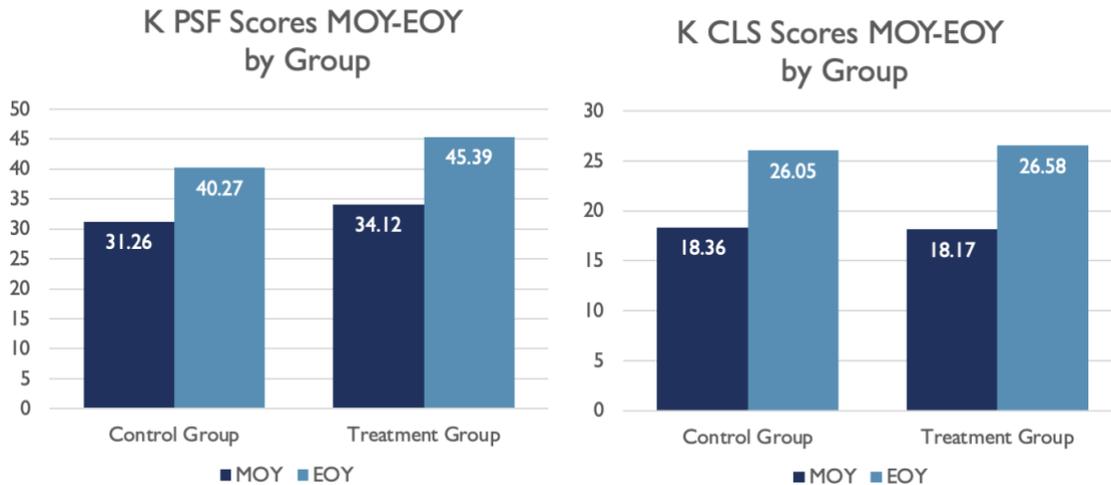
→ Similar gains

+ 95PCP higher gains

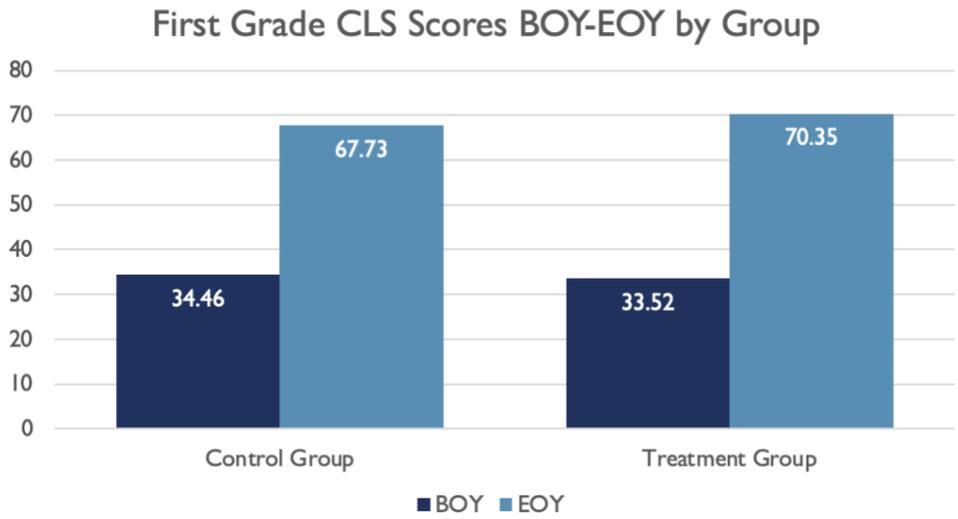
Kindergarten: Treatment group showed more growth from BOY to end of year (EOY) than the Control group in Composite for students Below or Well Below Benchmark at BOY and those At/Above Benchmark at BOY



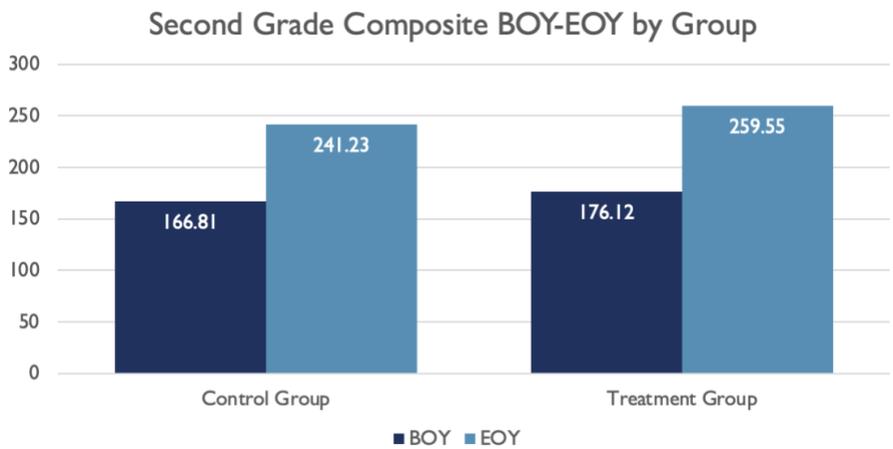
Kindergarten: Treatment group showed more growth from MOY to EOY than the Control group in PSF (Phoneme Segmentation Fluency) and Nonsense Word Fluency CLS (Correct Letter Sounds)



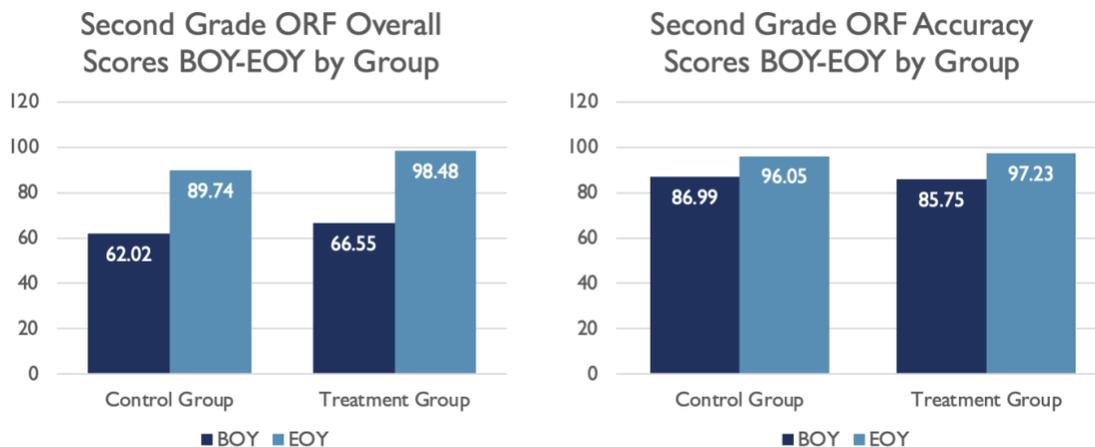
First Grade: Treatment group showed more growth from BOY to EOY than the Control group in Nonsense Word Fluency CLS (Correct Letter Sounds)



Second Grade: Treatment group showed more growth from BOY to EOY than the Control group in Composite



Second Grade: Treatment group showed more growth from BOY to EOY than the Control group in ORF (Oral Reading Fluency) Score and ORF Accuracy



Conclusion

The first full year of implementation for any new educational program can be challenging. To change the way a school teaches reading by using structured phonics can be overwhelming for teachers and learners. The research team heard exactly that from the teachers in the treatment group in this study as the teachers worked to simultaneously learn the content and cadence of 95PCP and teach its lessons, but this was only half of the story. The initial struggle to learn a new way of teaching early literacy was overshadowed by their students' reading growth and the sense, expressed by the comparison group teachers, that 95PCP met an urgent need in their curricular toolbox. 95PCP facilitated alignment between their own burgeoning knowledge of the science of reading (SOR) and their teaching tools.

The teachers' implementation stories, gathered through extensive and immersive interviews, focus groups and classroom observation, suggest that even though it took teachers some time to adjust to using the 95PCP, the teachers saw growth in their students. The student assessment data validated what the teachers observed firsthand in their own classrooms. The data show the 95PCP had a positive, significant impact on student achievement for all grades (K-2). There were no noticeable differences in how the program impacted students from different subgroups. For kindergarten, even students who started Below Benchmark got a boost in growth from this core supplemental program.

- *Kindergarten students in the treatment group demonstrated significantly more growth in Composite scores than students in the control group when grouped by BOY Benchmark Status.*
- *First grade students in the treatment group demonstrated more growth in CLS scores than students in the control group.*
- *Second-graders in the treatment group demonstrated significantly more growth in Composite scores than students in the control group.*



Teacher voices heard throughout the interviews and focus groups suggest that this district's teachers are thirsty for new tools that match their growing awareness about the importance and potential impact of phonics instruction in teaching and learning reading. This expressed desire for and satisfaction with news literacy teaching tools, such as 95PCP, suggests that adoption and buy-in to new tools could influence teachers' fidelity to its use and related gains in student learning.

Future research will focus on how well these initial gains sustain and build over multiple years of use. Additionally, new research questions may explore the extent to which teachers' growing knowledge of phonics, whether that be gained through a Science of Reading program such as LETRS or independent study, affects teachers' implementation and fidelity to the use of 95PCP. Finally, studies that examine the use of a core supplemental program in combination with a high-quality, structured Tier 2 and/or Tier 3 intervention program could support acceleration and growth for all students.



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Introduction

There is a growing concern that core reading curricula for the elementary years have not improved reading scores in the US ([The Condition of Education 2020](#)). Reporters such as Emily Hanford ([APM Reports](#)) have shined a light specifically on the need for explicit, systematic, and sequential phonics instruction for every child. In response to this identified need, 95 Percent Group, LLC created [a new phonics core curriculum](#) that can replace the phonics instructional lessons provided with other core reading curricula (typically the first 20 minutes of the reading block).

The 95 Phonics Core Program (95PCP) is a whole-class, Tier I program designed for students in grades K-3 to address and prevent reading gaps using explicit, structured phonics instruction for 20 minutes per day. Instruction is based on a scope and sequence with 25 lessons for Kindergarten and 30 lessons for each of Grades 1-3. For example, the First Grade Scope and Sequence includes 30 lessons disaggregated into seven topics (Introduction, Short Vowel Cvc, Consonant Blends, Consonant Digraphs, Long Vowel Silent-E, Phonograms, And Introduction To Second-Grade Skills). Each lesson focuses on specific phonics skills, provides examples of high-frequency words, and contains information about other skills addressed within the topic. The 95 Percent Group offers a kit for each grade, including a teacher's edition, student workbooks, manipulatives, and a digital presentation. The 95PCP may be offered in-person or virtually. The 95PCP also aligns with assessments and interventions (such as Phonics Lesson Library) offered by 95 Percent Group to ensure consistency.



95 Percent Group partnered with LXD Research to conduct a third-party evaluation of the 95PCP as it was implemented during the 2021-2022 school year in a Missouri school district. All the elementary schools use ReadyGEN as a core reading curriculum, and half were randomly selected to use the 95PCP for phonics instruction instead of the ReadyGEN word study materials. Random assignment to conditions ensures the highest level of scientific rigor (ESSA Evidence Level 1).

Evaluation Questions

The evaluation aims to answer the following questions:

1. How does the 95PCP affect student achievement on formative assessments (of phonics, specifically) in schools that implement the program compared to schools that do not implement the program?
2. How does the impact of the 95PCP vary by school, grade, and student subgroup (gender, English Language Learners [EL] status, students in special education [SPED] status)?

3. What is the nature and extent of the 95PCP implementation?
 - a. How is the 95PCP typically implemented?
 - b. To what extent is the 95PCP implemented with fidelity, and does the program adhere to the Theory of Action?
 - c. How do contextual factors affect 95PCP implementation, such as the content and quality of professional development, and the characteristics of districts and schools, such as the level of administrator support?
4. What is the nature and extent of literacy program implementation in comparison schools?
5. What are teacher and administrator perceptions about the quality and impact of the 95PCP?
 - d. What are teacher and administrator initial reactions to the 95PCP and its associated materials, content, pacing, and professional development?
 - e. What suggestions do they have for improvement?
6. What is the association between variations in 95PCP implementation and student outcomes?

Methods

This study uses a mixed-method design that includes quantitative and qualitative data collection. The Fall 2021 research activities included the beginning-of-year (BOY), middle-of-year (MOY), and end-of-year (EOY) reading assessment, surveys of teachers, interviews of literacy coaches, and observation of a sample of classes by district administrators and coaches.

Design

This study uses a mixed-methods approach, including a randomized experimental design complemented by classroom observations, teacher surveys, and administrator interviews. This combination of methods allows researchers to understand how the materials are being used in the classroom, collect teacher feedback on the quality and perceived impact of the program, and evaluate student academic achievement.

School districts were recruited in Spring 2021. In exchange for their participation, district leaders received all 95PCP materials and training at no cost and discounts for any 95PCP materials purchased in the 2022-2023 school year. The control schools used the regular materials that they have used in previous years. Prior to the 2021-2022 school year, the district leaders allowed for the randomization of schools to a treatment (95PCP) or control condition. Schools were organized into pairs using school size and ELA scores from Fall 2020 and Spring 2021, and then a coin toss determined which school in each pair would receive the 95PCP. Nearly all teachers (93%) attended a workshop led by the 95 Percent Group, and then additional training or support was provided by district staff members. Students were pretested three times throughout the school year using Acadience Reading (September 1-17, December 13-17, April 18-28). Special assessment teams were used to conduct Acadience, and none of the examiners were the reading teachers of the students they assessed.

Treatment Group: Program Key Features

The 95PCP features instructional practices that differ from the typical reading instruction provided by core curricula. A phonemic awareness and phonics continuum of skills is followed using structured literacy characteristics, described in Table 1.

Table 1. 95 Percent Group’s Literacy Characteristics in 95PCP Lessons

| Characteristic | Evident in Lesson Framework |
|-------------------------------|---|
| 1. Explicit | I Do directly states and defines focus skill and student expectations. |
| 2. Systematic | Intentional language and steps include consistent hand gestures and verbal cues; there is a gradual transfer of responsibility from teacher to student. |
| 3. Sequential | Structure moves from simple to complex in key ways including lesson order, word choice, materials used, and teacher talk. |
| 4. Adequate Modeling | This most prominent feature provides precise language at each level of modeling. |
| 5. Corrective Feedback | Teacher response is reactive to individual student errors. |
| 6. Differentiated Instruction | We Do and You Do sections provide two levels that enable teachers to differentiate instruction to meet students’ needs. |
| 7. Scaffolded Instruction | Steps of the I Do, We Do, and You Do allow the teacher to gradually transfer responsibility for learning to the students. |
| 8. Continual Assessment | This occurs through informal observation and monitoring during instruction; the focus skill correlates to the <i>PSI</i> . |

The 95 Percent Group’s version of the gradual release model (Table 2) allows all students to practice every skill using multisensory materials, including a phonics mat and chips. While a paper version of the Phonics Chip Kit is included in the 95PCP, a plastic version is available and sold separately.

Table 2. Gradual Release Model in 95PCP

| Modeling Steps | Chip Movement | Speaking |
|-------------------|---------------|----------------------|
| I Do | teacher | teacher |
| We Do | | |
| Level 1: Accuracy | teacher | teacher and students |
| Level 2: Fluency | teacher | students |
| You Do | students | students |

The 95PCP phonological awareness and phonics continua are shown in Figures 1 and 2, respectively. There is a clear progression from simpler to more complex skills, following the research-based developmental progression for learning to read. The [International Dyslexia Association](#), for example, describes structured literacy as a “systematic means that organization of material follows the logical order of language. The sequence begins with the easiest and most basic concepts and elements and progresses methodically to the more difficult.”

Figure 1. Phonological Awareness Continuum of 95 Percent Group

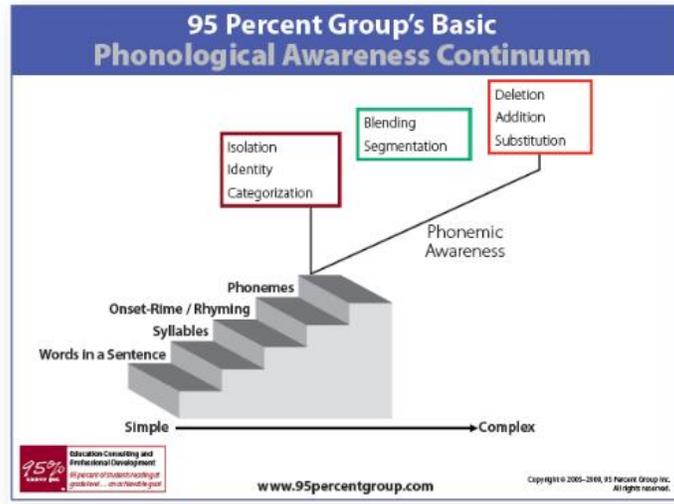
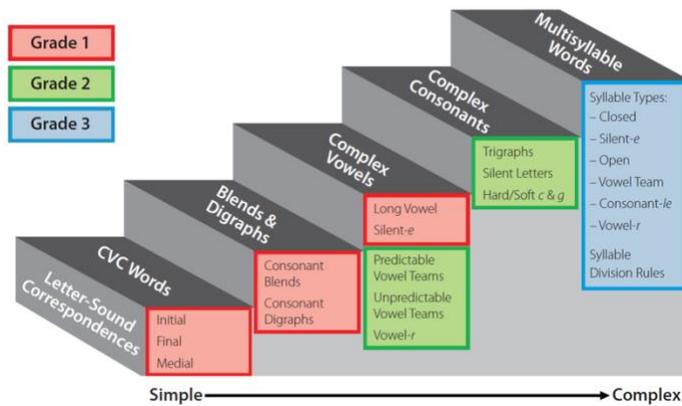


Figure 2. Phonics Continuum of Skills of 95 Percent Group



Control Group: Phonics Instruction

The district uses [ReadyGEN](#) for their core reading program, which is published by Savvas Learning Company (formerly Pearson). This curriculum has [one published study](#) that meets the Level 3 (Promising) ESSA criteria for first grade using the Terranova 3 assessment. The program is described as using the Gradual Release of Responsibility Model, a generative approach to vocabulary instruction, and many language-focused, text-based strategies for teaching reading and writing. The curriculum also includes assessments and online games.

Teacher Survey Methods

Teacher surveys were conducted to support the understanding of how teachers in all the schools used different products as part of their literacy instruction. A survey conducted in the Fall of 2021 collected information from the teachers in the control schools about their approach to teaching phonics across all tiers. A total of 83 teachers who teach K-3, the focus grades for the 95PCP, responded; the respondents included at least one representative from each school. A survey of the teachers in the treatment schools was conducted in Spring 2022. A total of 114 teachers who teach K-3 responded with at least one representative from each treatment school.

Control Group Instructional Materials Details

Nearly all teachers use ReadyGEN to teach phonics, with Phonics First being the other consistently mentioned program. More than 25% of teachers indicated that ReadyGEN did not have phonics instruction, or they did not know if it did. The most-used supplemental phonics program was Reading A-Z, with Heggerty Phonemic Awareness and Phonics First following behind. A small group of teachers mentioned using 95 Percent Group's Multisyllable Routine Cards (Second Grade only), Heggerty Bridge the Gap, Raz-Kids, and Leveled Literacy Intervention materials. The amount of time allocated for phonics instruction varied widely within schools and grades, ranging from no time to more than 25 minutes per day.

Treatment Group Instructional Materials Details

All the participants (100%) in the treatment group reported using the PCP to provide instruction to students 5 days a week, on average. In addition to PCP, nearly all treatment group teachers use ReadyGEN to teach phonics, while only a minority use Leveled Literacy Intervention and Reading Eggs. In Tier 1, the most used supplemental phonics material was Ready Gen. In Tier 2, the most used supplemental phonics program was Reading A-Z. In Tier 3, Phonics First was the most used program. A small group of teachers also mentioned using LETRS. The reading block covered four areas of reading as expected across the grades (i.e., more phonics and decoding in the kindergarten and first grade, and more knowledge building and vocabulary comprehension in the second and third grade). The amount of time allocated for phonics instruction varied widely within schools and grades, ranging from 22 to 37 minutes.

Qualitative Research Methods

Teacher Focus Groups

Four focus groups were conducted in total with Ft Zumwalt K-3 classroom educators. The focus groups were divided into Grades K-1 and 2-3 and averaged 12 teachers in each focus group. The comparison focus groups were conducted in March 2022 and treatment focus groups in April 2022.

Coach Interviews

Interviews were conducted with 14 Ft Zumwalt literacy coaches and one principal/vice principal pairing in February 2022. Eight interviews were conducted with literacy coaches from comparison schools, and seven interviews were conducted with literacy coaches from the treatment schools. The interviews lasted approximately 30 to 40 minutes.

Classroom Observations

Thirty observations were conducted by administrative staff at the school district and one of the program trainers (17 control classrooms and 13 treatment classrooms) across all grades.

Assessment: Acadience Reading K-6

Acadience Reading is an assessment that helps teachers identify children at risk for reading difficulties and determine the skills to target for instructional support. Acadience assessments are standardized and assess core early literacy skills (Table 3). Because the subtests and their weighting change for each assessment period (see [Acadience User Manual](#)), Composite scores are used to compare reading ability in this report.

Table 3. Acadience Reading Subtests and Skill Coverage

| Subtest | Indicators of These Basic Early Literacy Skills |
|--|---|
| First Sound Fluency (FSF) & Phoneme Segmentation Fluency (PSF) | Phonemic Awareness |
| Letter Naming Fluency (LNF) | Indicator of risk |
| Nonsense Word Fluency (NWF) | Alphabetic Principle and Basic Phonics (Correct Letter Sounds and Whole Words Read) |
| Oral Reading Fluency (ORF) & Retell Fluency (RTF) | Advanced Phonics and Word Attack Skills, Accurate and Fluent Reading of Text (ORF Words Correct Per Minute and Errors); Reading Comprehension (RTF Total and Quality of Response) |
| Maze | Reading Comprehension |

Assessment Sample

The 95PCP is being implemented in a majority-White school district in Missouri. A total of 3,569 students from 14 schools participated in this Randomized Control Trial. Of these students, 1,928 were in the treatment group and 1,641 were in the control group (see Table 4).

Among the 3,404 students who had complete data from the Beginning of Year (BOY), 147 students did not have End of Year (EOY) data available, signaling an attrition rate of approximately 4%. This attrition was equally likely to occur in the treatment and control groups ($\chi^2=3.53$, $p=.06$). Within this sample of 3,257 students, we found no statistically significant differences in BOY Composite scores in the treatment versus control group in Kindergarten ($t=1.55$, $p=.122$), 1st grade ($t=.339$, $p=.73$), or 2nd grade ($t=1.51$, $p=.13$).

Table 4. Number of Students, Classes, and Schools by Grade and Condition

| Grade | School Group | # of Classes | BOY | EOY | Matched Sample |
|-------|--------------|--------------|---------------|---------------|----------------|
| | | | # of Students | # of Students | # of Students |
| K | Control | 27 | 516 | 511 | 488 |
| | Treatment | 32 | 612 | 629 | 585 |
| | Total | 59 | 1128 | 1140 | 1073 |
| 1 | Control | 29 | 532 | 519 | 502 |
| | Treatment | 30 | 577 | 586 | 550 |
| | Total | 59 | 1109 | 1105 | 1052 |
| 2 | Control | 27 | 535 | 532 | 514 |
| | Treatment | 33 | 631 | 646 | 618 |
| | Total | 60 | 1166 | 1178 | 1132 |

Overall, students in the treatment and control groups were similar in regard to gender and special education status (SPED). However, students in the control group were more likely to be English Language Learners (ELL) ($\chi^2=11.10$, $p = .001$; see Table 5).

Table 5. Demographic descriptions for treatment and control group

| Grade | Group | Male | SPED | ELL |
|---------|------------------|------------|------------|------------|
| K | Control | 51% | 14% | 11% |
| | Treatment | 49% | 13% | 8% |
| 1st | Control | 50% | 11% | 8% |
| | Treatment | 50% | 11% | 8% |
| 2nd | Control | 52% | 12% | 13% |
| | Treatment | 49% | 13% | 6% |
| All K-2 | Control | 51% | 12% | 10% |
| | Treatment | 50% | 12% | 7% |

Acadience Reading Beginning-of-Year Scores

The random assignment of schools successfully created similar treatment and control groups in each grade. The differences between the groups were less than .25 standard or lower for all grades (Table 6). See the [Appendix 4. Descriptives for BOY and EOY](#) for tables with all scores BOY and EOY.

Table 6. Acadience Composite Score Results for Beginning of Year (after attrition)

| Grade | Condition | Number of students | BOY Score | SD | Significance | Effect Size Cohen's d |
|-------|-----------|--------------------|-----------|-------|--------------|-----------------------|
| K | Treatment | 585 | 31.79 | 23.95 | p=.12 | .07 |
| | Control | 488 | 29.54 | 23.43 | | |
| 1st | Treatment | 550 | 99.92 | 40.65 | p=.73 | .02 |
| | Control | 502 | 100.78 | 39.40 | | |
| 2nd | Treatment | 618 | 161.82 | 87.42 | p=.13 | .08 |
| | Control | 514 | 154.08 | 84.66 | | |

Analytic Approach

This report focuses on exploring the following research questions:

- How does the 95PCP affect K-2 student achievement on formative assessments (of phonics, specifically) in schools that implement the program compared to schools that do not implement the program?
- How does the impact of the 95PCP vary by school, grade, and student subgroup (gender, EL, and SPED status)?
- How does the impact of 95PCP vary by a student's BOY benchmark status (i.e., do students *Below Benchmark* at BOY achieve similar growth as students who were *At Benchmark* at BOY)?

To answer these questions, three-level hierarchical linear regression models (HLMs) with time (level 1) nested within students (level 2) nested with classrooms (level 3) were employed to examine growth in Acadience Reading Composite and subscale scores. All models contained a series of covariates including gender ("Gender"; 1=male, 0=female), ELL status ("ELL"; 1=ELL, 0=non-ELL), SPED status ("SPED"; 1=SPED, 0=non-SPED), an indicator of time ("Time"; 1=BOY, 2=EOY or 1=MOY, 2=EOY if BOY not available for a given subtest), an indicator of whether the student was in the treatment or control group ("group"; 1=Control, 2=Treatment), and an interaction between time and group calculated as the product of time*group ("Tigr").

We explored the main effects of treatment versus the control 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 scores is different for the treatment versus control groups. We also looked at growth in Composite scores separately based on students' BOY benchmark status. All analyses were conducted separately by grade using the statistical software package R 3.6.2.

Results

Educator Results

Key Findings from the Interviews and Focus Groups

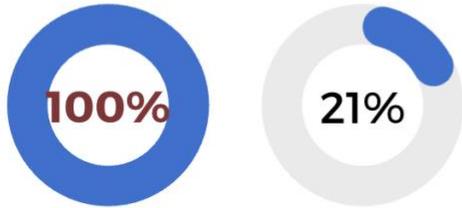
Instructional coach interviews and teacher focus groups provided context around program implementation for interpreting quantitative results and revealed educator perceptions of the PCP:

- Students are more engaged with learning, more confident with reading, and more prepared for next year as a result of the PCP.
- PCP's hands-on, interactive activities, such as phoneme articulation training, using manipulatives, and completing word chains, as well as its familiar routines, facilitate student engagement.
- Students are applying the skills they are learning in the PCP; for instance, they are identifying vowel teams in their books for independent reading, or they are using the finger-stretching strategy when they encounter unknown words.
- Teachers and coaches acknowledged that phonics is a major gap in ReadyGen, and feel that PCP fills that gap well with systematic and explicit instruction.
- The beginning of the year was an adjustment period for teachers who were new to phonics and the PCP's systematic and explicit approach, but the more they used the program, the more confident they became, and the more they saw students growing.
- Teachers and coaches felt that the LETRS professional development program worked very well with the PCP, providing the "why" behind the PCP's "how" of teaching phonics.

Key Findings from the Observations

The observations revealed several key areas of differences between the treatment and control groups. These differences related to lesson clarity (was the observer able to know what lesson number was being taught), student independence (the proportion of students who were prepared for the activities without help), the application of skills (in either whole group, small group, or independently, students were performing activities in which they applied the phonics skills they were learning), and student engagement (percentage of students who were on task).

LESSON CLARITY



95 PERCENT GROUP **COMPARISON**

95 Percent Group had 100% of classrooms where the lesson number was clear compared to 21% in the comparison classrooms.

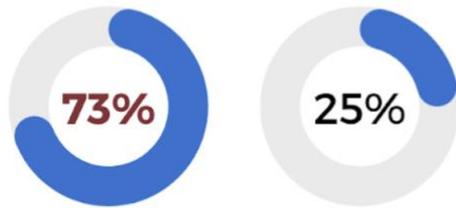
STUDENT INDEPENDENCE



95 PERCENT GROUP **COMPARISON**

95 Percent Group had 92% of classrooms where most of the students prepared without help for each lesson segment compared to 47% in the comparison classrooms.

SKILL APPLICATION



95 PERCENT GROUP **COMPARISON**

95 Percent Group teachers lead students in skill application during 73% of the lesson compared to only 25% in the comparison classrooms.

STUDENT ENGAGEMENT



95 PERCENT GROUP **COMPARISON**

95 Percent Group classrooms had most of the students on task during the lesson compared to 61% in the comparison classrooms.

Key Findings from the Teacher Survey

The Use of Instructional Strategies

- When asked about instructional strategies associated with structured literacy, the treatment group was more likely to use all the named methods “to a great extent,” compared with the control group. [This finding is noteworthy because it is true of each strategy listed, not just a subset of the strategies for whole-group instruction.]
- When asked about the extent to which they used whole language strategies, except for the “Look Say Method”, the control group was more likely to use all of the named methods to a moderate or great extent compared with the treatment group.

Perceived Effectiveness of 95PCP

Majority of participants noted Skill instruction worked well for all skills mentioned. Especially true for CVC words (96%), Silent E words (96%), Closed Syllables (95%), and Short Vowels (94%).

Student workbooks and presentation files were used daily and over 90% of participants found the Student Workbooks, Presentation files, and Teacher's editions to be very useful or moderately useful.

Teacher Comfort with 95PCP

Nearly all participants (99%) felt moderately or very competent when teaching the PCP. They agreed or strongly agreed that the PCP was easy to use (96%), helped their students develop phonics skills (96%), and helped teachers build their knowledge about phonics instruction (94%).

Participants agreed or strongly agreed that "because of using 95 Percent Group's Phonics Core Program and attending their professional development," they understand CVC Phonics Development (97%), what is critical in the development of a skilled reader (97%), the science of reading through phonics (95%), and how to teach phonics (97%).

Student Literacy Assessment Results

For both kindergarten and second grade the 95PCP group outperformed the control group on the Acadience Composite Scores.

Table 7. Acadience Composite Score Growth from BOY to EOY

| Grade | Condition | Number of Students | Change in Score (EOY-BOY) | SD | Significance | Effect Size Cohen's d |
|-------|-----------|--------------------|---------------------------|-------|--------------|-----------------------|
| K | Treatment | 585 | 91.76 | 34.43 | p=.001 | .10 |
| | Control | 488 | 84.35 | 35.89 | | |
| 1st | Treatment | 550 | 60.80 | 70.36 | p=.18 | .03 |
| | Control | 502 | 55.03 | 68.62 | | |
| 2nd | Treatment | 618 | 83.45 | 53.63 | p=.004 | .12 |
| | Control | 514 | 74.43 | 49.23 | | |

Kindergarten

Within the Kindergarten grade sample, we examined growth in Composite scores as well as growth in Phoneme Segmentation Fluency (PSF) and Letter Naming Fluency (LNF) scores. Because the distribution of Composite and LNF scores were positively skewed at the end of the year, we elected to use a [Poisson distribution](#) to examine changes in scores over time.

We looked separately at growth in Composite scores among students who were 1) Below or Well Below Benchmark at baseline or 2) At or Above Benchmark at baseline because BOY scores were very different for these two groups. Among students who were Below or Well Below Benchmark at BOY,

students in the treatment group demonstrated more growth in Composite scores than students in the control group (IRR=1.07, $p=.014$, $f^2=.00$). Among students who were At or Above Benchmark at BOY, students in the treatment group demonstrated more growth in Composite scores than students in the control group (IRR=1.03, $p=.033$, $f^2=.00$). Figures 3a-b represent these results graphically. There were no significant findings for the Composite or LNF scores when all the kindergartners were combined.

For the MOY-EOY assessments, PSF scores followed a normal distribution while CLS and WWR scores followed a Poisson distribution. There was a significant effect of treatment on PSF scores; students in the treatment group demonstrated more growth in PSF scores than students in the control group ($B=2.26$, $p=.011$, $f^2=.01$; see Figure 3c). There was a significant effect of treatment on CLS scores; students in the treatment group demonstrated more growth in CLS scores than students in the control group ($B=1.03$, $p=.045$, $f^2=.00$; see Figure 3d). There were no statistically meaningful differences between treatment and control group in regard to growth in WWR scores. The complete output for each model can be found in [Appendix 1](#).

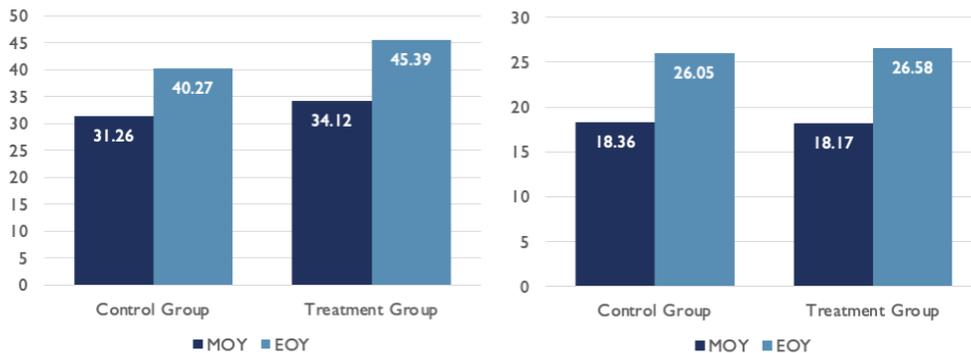
Figure 3a-b. Kindergarten students in the treatment group demonstrated significantly more growth in Composite scores than students in the control group when grouped by BOY Benchmark Status

3a. Below or Well Below Benchmark at BOY 3b. At or Above Benchmark at BOY



Figure 3c. Kindergarten students in the treatment group demonstrated significantly more growth in PSF scores than students in the control group

Figure 3d. Kindergarten students in the treatment group demonstrated significantly more growth in CLS scores than students in the control group

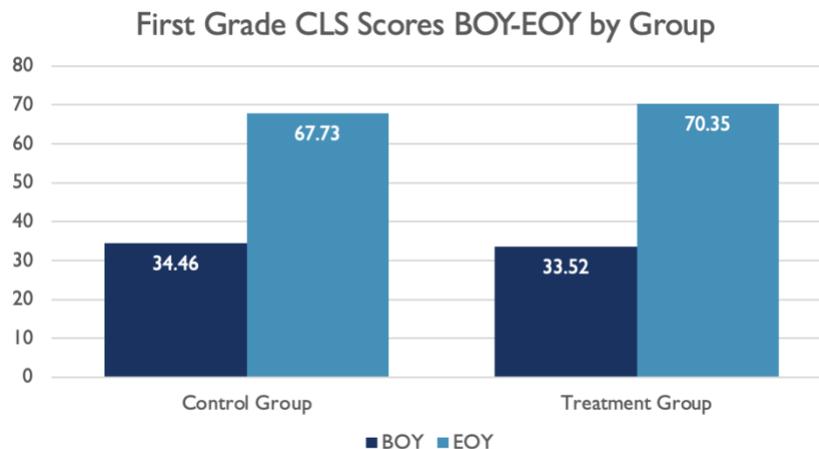


First Grade

Within the First-Grade sample, we examined growth in Composite scores as well as growth in Nonsense Word Fluency Correct Letter Sound (CLS) and Whole Words Read (WWR) scores. Within the First Grade BOY-EOY assessments, there were no statistically meaningful differences between the treatment and control groups in regard to growth in Composite scores and WWR scores. There were also no significant findings in regard to benchmark status. That is, students tended to demonstrate similar growth in Composite scores regardless of benchmark status.

There was a significant effect of treatment on CLS scores; students in the treatment group demonstrated more growth in CLS scores than students in the control group ($B=3.54$, $p=.026$, $f^2=.00$; Figure 4a). The complete output for each model can be found in [Appendix 2](#).

Figure 4a. First-graders in the treatment group demonstrated significantly more growth in CLS scores than students in the control group



Second Grade

Within the Second-Grade sample, we examined growth in Composite scores as well as improvement in Oral Reading Fluency Words Correct Per Minute (ORF) scores, Oral Reading Fluency Accuracy scores (ACCURACY), Oral Reading Fluency Error (ERR) scores, Retell Total (RETELL) scores, and Retell Quality (RETELLQR) scores. Students in the treatment group demonstrated significantly more growth in Composite scores ($B=8.99$, $p=.004$, $f^2=.01$), ORF scores ($B=4.20$, $p<.001$, $f^2=.01$), and ORF Accuracy scores ($B=2.42$, $p=.031$, $f^2=.01$) than students in the control group (Figures 5a, c-d). For students who were At or Above Benchmark at BOY, the treatment group demonstrated significantly more growth in Composite scores ($B=10.26$, $p=.004$, $f^2=.01$; see Figure 5b).

There were no statistically meaningful differences between the treatment and control groups regarding ERR, RETELL, or RETELL QR scores, or moderating effect of teacher training on composite scores. The complete output for each model can be found in [Appendix 3](#).

Figure 5a. Second-graders in the treatment group demonstrated significantly more growth in Composite scores than students in the control group

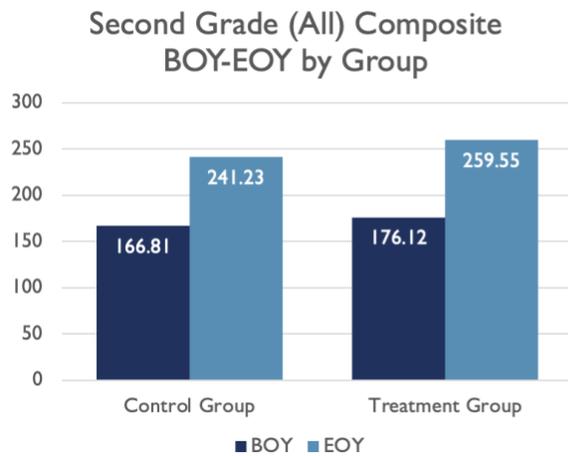


Figure 5b. For Second-graders who were At or Above Benchmark at BOY, the treatment group demonstrated significantly more growth in Composite scores than students in the control group

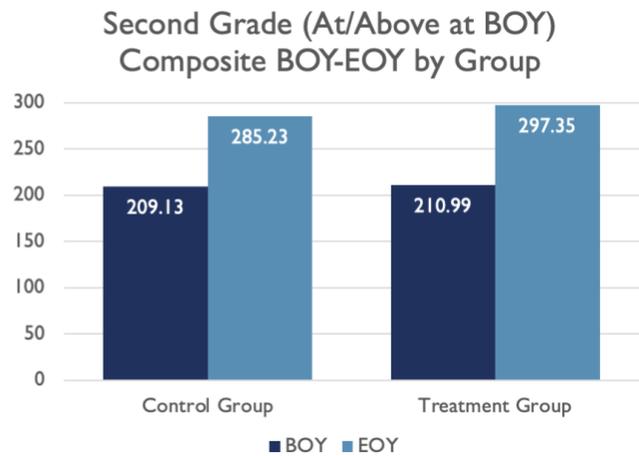


Figure 5c. Second-graders in the treatment group demonstrated significantly more growth in overall ORF scores than students in the control group

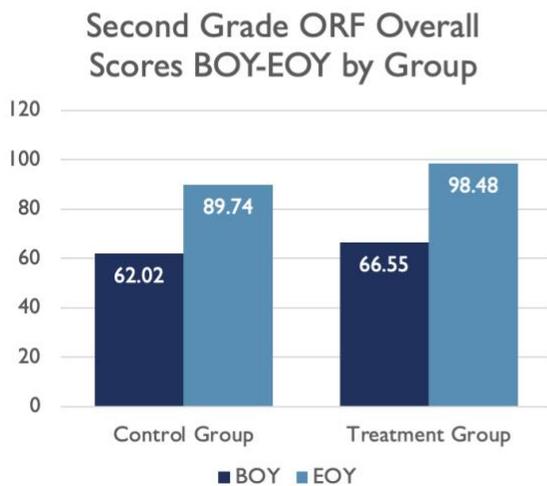
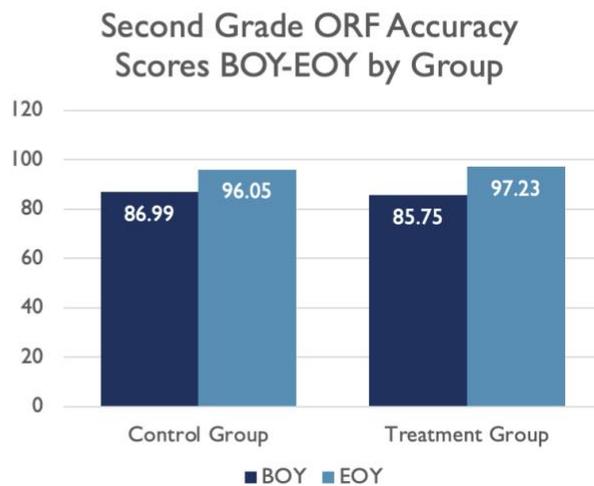


Figure 5d. Second-graders in the treatment group demonstrated significantly more growth in ORF Accuracy scores than students in the control group



Conclusion & Implications for Future Research

The first full year of implementation for any new educational program can be challenging. To change the way a school teaches reading by using structured phonics can be overwhelming for teachers and learners. The research team heard exactly that from the teachers in the treatment group in this study as the teachers worked to simultaneously learn the content and cadence of 95PCP and teach its lessons, but this was only half of the story. The initial struggle to learn a new way of teaching early literacy was overshadowed by their students' reading growth and the sense, expressed by the treatment group teachers, that 95PCP met an urgent need in their curricular toolbox. 95PCP facilitated alignment between their own burgeoning knowledge of the science of reading (SOR) and their teaching tools.

The teachers' implementation stories, gathered through extensive and immersive interviews, focus groups and classroom observation, suggest that even though it took teachers some time to adjust to using the 95PCP, the teachers saw growth in their students. The student assessment data validated what the teachers observed firsthand in their own classrooms. The data show the 95PCP had a positive, significant impact on student achievement for all grades (K-2). There were no noticeable differences in how the program impacted students from different subgroups. For kindergarten in particular, even students who started the year Below Benchmark got a boost in growth from this core supplemental program.

- *Kindergarten students in the treatment group demonstrated significantly more growth in Composite scores than students in the control group when grouped by BOY Benchmark Status.*
- *First grade students in the treatment group demonstrated more growth in CLS scores than students in the control group.*
- *Second-graders in the treatment group demonstrated significantly more growth in Composite scores than students in the control group.*

Future research will focus on how well these initial gains sustain and build over multiple years of use.

Teacher voices heard throughout the interviews and focus groups suggest that this district's teachers are thirsty for new tools that match their growing awareness about the importance and potential impact of phonics instruction in teaching and learning reading. This expressed desire for and satisfaction with news literacy teaching tools, such as 95PCP, suggests that adoption and buy-in to new tools could influence teachers' fidelity to its use and related gains in student learning. Future research will explore the extent to which teachers' growing knowledge of phonics, whether that be gained through a Science of Reading program such as LETRS or independent study, affects teachers' implementation and fidelity to the use of 95PCP.

Appendices

For each grade, a list of all the results is provided. Additional details with the statistical output are provided for all significant results.

Appendix 1: Kindergarten Results

BOY-EOY Assessments

- **Composite score:** (IRR=1.01, p=.52) - no significant differences between treatment and control group
- **LNF score:** (IRR=1.00, p=.93) - no significant differences between treatment and control group
- **For At or Above Benchmark students:** Composite score: (IRR=1.03, p=.036) - significant differences between treatment and control group
- **For Below or Well Below Benchmark students:** Composite score: (IRR=1.07, p=.014) - significant differences between treatment and control group
- **For treatment group:** Composite score by teacher training: (IRR=0.92, p<.001) - significant differences by teacher trainings

MOY-EOY Assessments

- **PSF score:** (B=2.26, p=.011) - significant differences between treatment and control group
- **CLS score:** (IRR=1.03, p=.045) - significant differences between treatment and control group
- **WWR score:** (IRR=1.04, p=.47) - no significant differences between treatment and control group

Details for BOY-EOY Assessments

Below or Well Below Benchmark Comparisons

The variable of interest is “Tigr,” which represents the interaction between “Time” and “Group,” and tells us whether growth in the outcome is different for students in the control versus treatment groups.

| <i>Predictors</i> | comp k | | |
|--|------------------------------|-------------|--------------|
| | <i>Incidence Rate Ratios</i> | <i>CI</i> | <i>p</i> |
| (Intercept) | 1.16 | 0.87 – 1.54 | 0.308 |
| Time | 8.18 | 7.46 – 8.97 | <0.001 |
| Gender | 1.07 | 0.98 – 1.18 | 0.144 |
| SPED | 0.71 | 0.63 – 0.80 | <0.001 |
| ELL | 0.87 | 0.75 – 1.01 | 0.076 |
| group | 0.94 | 0.79 – 1.11 | 0.452 |
| Tigr | 1.07 | 1.01 – 1.14 | 0.014 |
| Random Effects | | | |
| σ^2 | 0.02 | | |
| τ_{00} student_id:class_name | 0.25 | | |
| τ_{00} class_name | 0.03 | | |
| ICC | 0.93 | | |
| N _{student_id} | 512 | | |
| N _{class_name} | 59 | | |
| Observations | 1024 | | |
| Marginal R ² / Conditional R ² | 0.802 / 0.986 | | |

At or Above Benchmark Comparisons

The variable of interest is “Tigr,” which represents the interaction between “Time” and “Group,” and tells us whether growth in the outcome is different for students in the control versus treatment groups.

| <i>Predictors</i> | comp k | | |
|------------------------------------|------------------------------|---------------|----------|
| | <i>Incidence Rate Ratios</i> | <i>CI</i> | <i>p</i> |
| (Intercept) | 16.78 | 15.06 – 18.71 | <0.001 |
| Time | 2.76 | 2.64 – 2.89 | <0.001 |
| Gender | 0.99 | 0.95 – 1.04 | 0.785 |
| SPED | 0.87 | 0.80 – 0.94 | 0.001 |
| ELL | 1.04 | 0.95 – 1.13 | 0.397 |
| group | 1.00 | 0.94 – 1.07 | 0.970 |
| Tigr | 1.03 | 1.00 – 1.06 | 0.036 |
| Random Effects | | | |
| σ^2 | 0.01 | | |
| τ_{00} student_id:class_name | 0.06 | | |
| τ_{00} class_name | 0.00 | | |
| ICC | 0.85 | | |
| $N_{\text{student_id}}$ | 561 | | |
| $N_{\text{class_name}}$ | 59 | | |
| Observations | 1122 | | |
| Marginal R^2 / Conditional R^2 | 0.801 / 0.970 | | |

Details for MOY-EOY Assessments

PSF Scores

| <i>Predictors</i> | <i>Estimates</i> | psf k | |
|------------------------------------|------------------|-----------------|----------|
| | | <i>CI</i> | <i>p</i> |
| (Intercept) | 21.65 | 14.92 – 28.38 | <0.001 |
| Time | 6.75 | 3.91 – 9.58 | <0.001 |
| Gender | 2.75 | 1.18 – 4.32 | 0.001 |
| SPED | -13.87 | -16.25 – -11.49 | <0.001 |
| ELL | -4.07 | -6.95 – -1.18 | 0.006 |
| group | 0.60 | -3.51 – 4.71 | 0.775 |
| Tigr | 2.26 | 0.51 – 4.00 | 0.011 |
| Random Effects | | | |
| σ^2 | 104.98 | | |
| τ_{00} student_id:class_name | 114.50 | | |
| τ_{00} class_name | 28.93 | | |
| ICC | 0.58 | | |
| $N_{\text{student_id}}$ | 1071 | | |
| $N_{\text{class_name}}$ | 59 | | |
| Observations | 2142 | | |
| Marginal R^2 / Conditional R^2 | 0.185 / 0.656 | | |

CLS Scores

| <i>Predictors</i> | cls k | | |
|------------------------------------|------------------------------|---------------|--------------|
| | <i>Incidence Rate Ratios</i> | <i>CI</i> | <i>p</i> |
| (Intercept) | 13.49 | 10.24 – 17.78 | <0.001 |
| Time | 1.38 | 1.31 – 1.46 | <0.001 |
| Gender | 1.04 | 0.95 – 1.14 | 0.349 |
| SPED | 0.50 | 0.44 – 0.58 | <0.001 |
| ELL | 0.93 | 0.79 – 1.10 | 0.410 |
| group | 0.96 | 0.81 – 1.14 | 0.651 |
| Tigr | 1.03 | 1.00 – 1.07 | 0.045 |
| Random Effects | | | |
| σ^2 | 0.05 | | |
| τ_{00} student_id:class_name | 0.53 | | |
| τ_{00} class_name | 0.06 | | |
| ICC | 0.93 | | |
| $N_{\text{student_id}}$ | 1071 | | |
| $N_{\text{class_name}}$ | 59 | | |
| Observations | 2142 | | |
| Marginal R^2 / Conditional R^2 | 0.124 / 0.937 | | |

Appendix 2: First Grade Results

BOY-EOY Assessments

- **Composite score:** (B=6.07, p=.16) - no significant differences between treatment and control group
- **CLS score:** (B=3.56, p=.025) - significant differences between treatment and control group
- **WWR score:** (B=1.05, p=.13) - no significant differences between treatment and control group

- **For At or Above students:** Composite score: (B=3.70, p=.56) - no significant differences between treatment and control group
- **For Below or Well Below Benchmark students:** Composite score: (B=8.90, p=.10) - no significant differences between treatment and control group
- **For treatment group:** Composite score by teacher training: (B=-12.76, p=.035) - significant differences by teacher trainings

MOY-EOY Assessments

- **ORF score:** (B=0.66, p=.50) - no significant differences between treatment and control group
- **ORF Accuracy score:** (B=0.67, p=.42) - no significant differences between treatment and control group
- **ERR score:** (B=-0.50, p=.06) - no significant differences between treatment and control group
- **RETELL score:** (B=1.05, p=.11) - no significant differences between treatment and control group
- **RETELL QR score:** (B=0.01, p=.91) - no significant differences between treatment and control group

Details for BOY-EOY Assessments

CLS Scores

| <i>Predictors</i> | <i>Estimates</i> | cls 1 | |
|------------------------------------|------------------|-----------------|----------|
| | | <i>CI</i> | <i>p</i> |
| (Intercept) | 5.69 | -4.64 – 16.02 | 0.280 |
| Time | 29.71 | 24.71 – 34.71 | <0.001 |
| Gender | -5.29 | -8.31 – -2.28 | 0.001 |
| SPED | -17.88 | -22.94 – -12.83 | <0.001 |
| ELL | -3.60 | -9.38 – 2.18 | 0.222 |
| group | -4.50 | -10.87 – 1.87 | 0.166 |
| Tigr | 3.56 | 0.44 – 6.69 | 0.025 |
| Random Effects | | | |
| σ^2 | 331.19 | | |
| τ_{00} student_id:class_name | 427.43 | | |
| τ_{00} class_name | 37.69 | | |
| ICC | 0.58 | | |
| $N_{\text{student_id}}$ | 1047 | | |
| $N_{\text{class_name}}$ | 59 | | |
| Observations | 2094 | | |
| Marginal R^2 / Conditional R^2 | 0.300 / 0.709 | | |

Appendix 3: Second Grade Results

BOY-EOY Assessments

- **Composite score:** (B=9.01, p=.004) - significant differences between treatment and control group
- **ORF score:** (B=4.21, p<.001) - significant differences between treatment and control group
- **ERR score:** (B=0.40, p=.15) - no significant differences between treatment and control group
- **RETELL score:** (B=0.01, p=.99) - no significant differences between treatment and control group
- **RETELL QR score:** (B=-0.02, p=.82) - no significant differences between treatment and control group
- **ORF Accuracy score:** (B=2.42, p=0.031) - significant differences between treatment and control group

- **For At or Above Benchmark students:** Composite score: (B=10.26, p=.004) - significant differences between treatment and control group
- **For Below or Well Below Benchmark students:** Composite score: (B=5.83, p=.30) - no significant differences between treatment and control group
- **For treatment group:** Composite score by teacher training: (B=-2.19, p=.62) - no significant differences by teacher trainings

Details for BOY-EOY Assessments

Composite Score

| <i>Predictors</i> | <i>Estimates</i> | comp 2 | |
|------------------------------------|------------------|------------------|----------------|
| | | <i>CI</i> | <i>p</i> |
| (Intercept) | 92.09 | 61.70 – 122.47 | < 0.001 |
| Time | 65.41 | 55.58 – 75.24 | < 0.001 |
| Gender | -5.21 | -15.06 – 4.63 | 0.299 |
| SPED | -90.29 | -105.29 – -75.29 | < 0.001 |
| ELL | -2.40 | -20.24 – 15.44 | 0.792 |
| group | 0.30 | -18.05 – 18.65 | 0.975 |
| Tigr | 9.01 | 2.96 – 15.07 | 0.004 |
| Random Effects | | | |
| σ^2 | 1336.45 | | |
| τ_{00} student_id:class_name | 6253.41 | | |
| τ_{00} class_name | 605.90 | | |
| ICC | 0.84 | | |
| $N_{\text{student_id}}$ | 1131 | | |
| $N_{\text{class_name}}$ | 60 | | |
| Observations | 2262 | | |
| Marginal R^2 / Conditional R^2 | 0.234 / 0.875 | | |

At or Above Benchmark Comparisons

The variable of interest is “Tigr,” which represents the interaction between “Time” and “Group,” and tells us whether growth in the outcome is different for students in the control versus treatment groups.

| <i>Predictors</i> | comp 2 | | |
|--|------------------|-----------------|--------------|
| | <i>Estimates</i> | <i>CI</i> | <i>p</i> |
| (Intercept) | 141.43 | 117.68 – 165.17 | <0.001 |
| Time | 65.84 | 54.20 – 77.47 | <0.001 |
| Gender | 3.44 | -3.30 – 10.17 | 0.318 |
| SPED | -9.96 | -23.63 – 3.72 | 0.153 |
| ELL | 15.58 | 3.27 – 27.89 | 0.013 |
| group | -8.40 | -22.66 – 5.86 | 0.248 |
| Tigr | 10.26 | 3.19 – 17.32 | 0.004 |
| Random Effects | | | |
| σ^2 | 1126.15 | | |
| τ_{00} student_id:class_name | 1445.84 | | |
| τ_{00} class_name | 169.64 | | |
| ICC | 0.59 | | |
| $N_{\text{student_id}}$ | 710 | | |
| $N_{\text{class_name}}$ | 60 | | |
| Observations | 1420 | | |
| Marginal R ² / Conditional R ² | 0.386 / 0.748 | | |

ORF Scores

| <i>Predictors</i> | <i>Estimates</i> | orf 2 | |
|------------------------------------|------------------|-----------------|----------|
| | | <i>CI</i> | <i>p</i> |
| (Intercept) | 33.98 | 21.90 – 46.06 | <0.001 |
| Time | 23.51 | 19.96 – 27.06 | <0.001 |
| Gender | -1.78 | -6.00 – 2.44 | 0.408 |
| SPED | -30.59 | -37.01 – -24.17 | <0.001 |
| ELL | 1.16 | -6.46 – 8.79 | 0.765 |
| group | 0.32 | -6.95 – 7.60 | 0.930 |
| Tigr | 4.21 | 2.02 – 6.40 | <0.001 |
| Random Effects | | | |
| σ^2 | 174.51 | | |
| τ_{00} student_id:class_name | 1183.76 | | |
| τ_{00} class_name | 93.70 | | |
| ICC | 0.88 | | |
| $N_{\text{student_id}}$ | 1131 | | |
| $N_{\text{class_name}}$ | 60 | | |
| Observations | 2262 | | |
| Marginal R^2 / Conditional R^2 | 0.188 / 0.902 | | |

ORF Accuracy scores

| <i>Predictors</i> | comp acc 2 | | |
|--|-------------------|-----------------|--------------|
| | <i>Estimates</i> | <i>CI</i> | <i>p</i> |
| (Intercept) | 81.59 | 74.45 – 88.73 | <0.001 |
| Time | 6.64 | 3.06 – 10.22 | <0.001 |
| Gender | -1.65 | -3.70 – 0.40 | 0.114 |
| SPED | -21.26 | -24.37 – -18.14 | <0.001 |
| ELL | -3.48 | -7.16 – 0.20 | 0.064 |
| group | -3.66 | -8.00 – 0.67 | 0.098 |
| Tigr | 2.42 | 0.22 – 4.63 | 0.031 |
| Random Effects | | | |
| σ^2 | 177.38 | | |
| τ_{00} student_id:class_name | 212.32 | | |
| τ_{00} class_name | 13.93 | | |
| ICC | 0.56 | | |
| $N_{\text{student_id}}$ | 1131 | | |
| $N_{\text{class_name}}$ | 60 | | |
| Observations | 2262 | | |
| Marginal R ² / Conditional R ² | 0.159 / 0.631 | | |

Appendix 4. Descriptives for BOY and EOY

Descriptives for Baseline Scores for Students with a Baseline and End of Year Assessment

| | Comparison Group | | | Intervention Group | | |
|---------------------|------------------|--------|-------|--------------------|--------|-------|
| | N | Mean | SD | N | Mean | SD |
| Kindergarten | | | | | | |
| LNF | 488 | 18.50 | 14.89 | 585 | 19.62 | 15.46 |
| Composite Score | 488 | 29.54 | 23.43 | 585 | 31.79 | 23.95 |
| First Grade | | | | | | |
| CLS | 502 | 29.75 | 21.64 | 550 | 28.76 | 22.37 |
| WWR | 502 | 4.57 | 7.60 | 550 | 4.52 | 7.62 |
| Composite Score | 502 | 100.76 | 39.39 | 550 | 99.92 | 40.65 |
| Second Grade | | | | | | |
| ORF | 514 | 58.03 | 35.82 | 618 | 61.89 | 38.79 |
| ERR | 514 | 4.62 | 3.71 | 618 | 4.02 | 3.97 |
| ORF Accuracy | 514 | 83.36 | 24.01 | 618 | 81.96 | 28.85 |
| Retell | 513 | 19.04 | 15.79 | 618 | 21.27 | 16.54 |
| Retell QR | 435 | 1.98 | 1.01 | 530 | 2.03 | 1.03 |
| Composite Score | 514 | 154.08 | 84.66 | 618 | 161.82 | 87.43 |

Descriptives for End of Year Scores for Students with a Baseline and End of Year Assessment

| | Comparison Group | | | Intervention Group | | |
|---------------------|------------------|--------|-------|--------------------|--------|--------|
| | N | Mean | SD | N | Mean | SD |
| Kindergarten | | | | | | |
| LNF | 488 | 43.17 | 16.18 | 585 | 45.72 | 15.49 |
| Composite Score | 488 | 113.9 | 47.35 | 585 | 123.55 | 45.37 |
| First Grade | | | | | | |
| CLS | 502 | 63.06 | 33.28 | 550 | 65.63 | 34.82 |
| WWR | 502 | 17.19 | 13.29 | 550 | 18.19 | 13.88 |
| Composite Score | 502 | 155.79 | 91 | 550 | 160.72 | 93.77 |
| Second Grade | | | | | | |
| ORF | 514 | 85.75 | 40.01 | 618 | 93.82 | 42.01 |
| ERR | 514 | 3.25 | 3.72 | 618 | 3.05 | 4.15 |
| ORF Accuracy | 514 | 92.43 | 14.7 | 618 | 93.44 | 12.73 |
| Retell | 501 | 30.62 | 14.76 | 612 | 32.71 | 17.35 |
| Retell QR | 493 | 2.47 | 0.94 | 597 | 2.48 | 0.97 |
| Composite Score | 514 | 228.5 | 99.78 | 618 | 245.27 | 105.68 |

Note – not all students receive the Retell, it depends on the ORF scores

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