



95 PHONICS CORE PROGRAM™
2022-2023, GRADES 2-3,
HISPANIC AND INDIGENOUS
STUDENTS, AZ
EFFICACY STUDY

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November, 2023

A logo consisting of a vertical line and a horizontal line intersecting at the center, forming a cross shape.

LXD RESEARCH
95 PERCENT GROUP LLC



Learning Experience Design (LXD) Research & Consulting

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95 Phonics Core Program™ Classroom Kit Grades 2-3, Hispanic and Indigenous Students
Efficacy Study with aimswebPlus, Reading: Level 3 ESSA Level of Evidence

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November, 2023

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Introduction

In recent years, there has been growing concern nationally about how the core reading curriculum for elementary students has not been improving reading scores in the US ([The Condition of Education, 2020](#); [Education Analytics, 2021](#); [Curriculum Associates, 2021](#)). According to the National Center for Education Statistics, the average reading score for 4th grade students in 2022 was lower than the previous testing year of 2019. Additionally, White fourth-grade students are continuing to have higher reading scores than both Hispanic and Indigenous fourth-grade students and the gaps have not significantly changed since 2019 ([NAEP Report Card, 2022](#)). Notably, the number of students classified as English Learners (EL) increased between Fall 2010 to Fall 2020 showing a need for a reading curriculum that can benefit these learners also. Seeing how reading scores are decreasing for fourth graders and the gaps between different races/ethnicities are stagnant, finding a strong reading curriculum to support the literacy development of second and third graders is necessary to give them a stronger foundation.

Reading instruction from kindergarten through third grade is essential for building strong literacy skills ([Mader, 2021](#)). More than 14 percent of first through third grade students in the U.S. are EL students ([NCES, 2020](#)). A 2014-15 survey found that 75 percent of EL students spoke Spanish and 9.9 percent of ELs were students with disabilities ([USDOE](#)). Reaching students across ability and language acquisition status requires curriculum customization; with more students needing targeted literacy interventions, managing students' needs within given instructional time is critical.

The science of reading indicates that following a systematic approach across multiple years provides time for children to develop skills at each level and advance in a sequence that promotes learning ([The Reading League, 2022](#); [Cowen, 2016](#)). Researchers agree that schools need to improve access to rigorous, grade-level academics with targeted support to accelerate learning ([Lambert & Sassone, 2020](#)). In response, 95 Percent Group, LLC created [a core phonics curriculum](#) that would replace the phonics instructional lessons provided with the core reading curriculum, typically the first 20 minutes of the reading block. The first year of research presented strong results, according to the Evidence for ESSA website, showing higher literacy gains for schools randomly assigned to use the program (Schechter & Lynch, 2022). This study replicates the first, with a more diverse district partner and results focus on the Hispanic and Indigenous student demographics..

The 95 Phonics Core Program (95 PCP) is a whole-class Tier I program designed for students in grades K-5 to address and prevent reading gaps using explicit, structured, phonics instruction for 30 minutes per day. Instruction is based on a scope and sequence with 25 lessons for kindergarten and 30 lessons for each grade 1-5. For example, the Grade 1 Scope and Sequence involve 30 lessons disaggregated into seven topics including: 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. 95 PCP may be offered in person or virtually. The 95 PCP also aligns with assessments and interventions, such as the Phonics Lesson Library, offered by the 95 Percent Group to ensure consistency.



95 Percent Group partnered with LXD Research to conduct a third-party evaluation of the 95 Phonics Core Program as it was implemented during the 2022-2023 school year in an Arizona school district. All the elementary schools use National Geographic as a core reading curriculum, and two volunteered to use PCP as phonics instruction instead of other available materials. National Geographic does not have a phonics instruction component. Second and third-grade students were matched to statistically comparable students, ensuring a rigorous matching design aligned to ESSA Evidence Level 3 – Promising. This study focuses on the students who completed the aimswebPlus Reading Assessment, a literacy assessment tool for second and third-graders.

Evaluation Questions

The evaluation aims to answer the following questions:

1. How does 95 PCP affect student achievement on phonics formative assessments in schools that implement the program compared to schools that do not implement the program?
2. How does the impact of 95 PCP vary by school, grade, and student subgroups (e.g., English language learners, students in special education, and racial and ethnic minority students)?
3. What is the nature and extent of the 95 PCP implementation?
 - a. How is 95 PCP typically implemented?
 - b. To what extent is 95 PCP implemented with fidelity, and does the program adhere to the Theory of Action?
 - c. How do contextual factors affect 95 PCP implementation, such as the content and quality of professional development, and characteristics of districts and schools, such as administrator support?
4. What is the nature and extent of literacy program implementation in comparison schools?
5. What are educators' perceptions about the quality and impact of the 95 PCP?
 - d. What are educators' initial reactions to the 95 PCP and associated materials, content, pacing, and professional development?
 - e. What suggestions do they have for improvement?
6. What is the association between variations in the 95 PCP implementation and student outcomes?

Methods

Design

This study uses a mixed-methods approach, including a matched quasi-experimental design complemented by teacher surveys, classroom observations, and a focus group. This combination of methods allows researchers to understand how the materials are being used in the classroom, learn teacher feedback, and the perceived impact of the program while also understanding academic achievement.

95 PCP is being implemented in an ethnically diverse school district in Flagstaff, Arizona. The district serves a population in which 29% are Hispanic/Latino, and 27% are Indigenous. Fewer than 1% of students qualify for free lunch. There are over 2,470 students in grades K-3 across ten elementary schools, of which five schools were in this study.

Two schools volunteered for the 95 Phonics Core Program with all students. In exchange for their participation, district leaders received all 95 PCP materials for 2022-2023 and training at no cost. The district leaders allowed researchers to identify three comparison schools that most closely match the 95 PCP schools using school size, ELA scores from previous years, and demographic profiles. Discounts for comparison schools for the 2023-2024 school year will be provided. All students were pretested within the first four weeks of school using aimswebPlus, and then were tested again in December 2022 and Spring 2023. This report focuses on second and third-graders who took aimswebPlus Reading.

Treatment Group: Program Key Features

The 95 PCP features instructional practices that differ from the typical reading instruction provided by the core curriculum. A phonemic awareness and phonics continuum of skills is followed using structured literacy characteristics. Below, Figure 1 identifies the structured literacy characteristics in 95 PCP lessons. The 95 Percent Group's version of the gradual release model allows all students to practice every skill using multisensory materials, including a phonics mat and chips, as shown in Figure 2 below.

Figure 1. Structured Literacy Characteristics in 95 PCP 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> . |

Figure 2. Gradual Release Model in 95 PCP

| 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 |

Figure 3. 95 PCP Tier 1 Continuum of Instruction

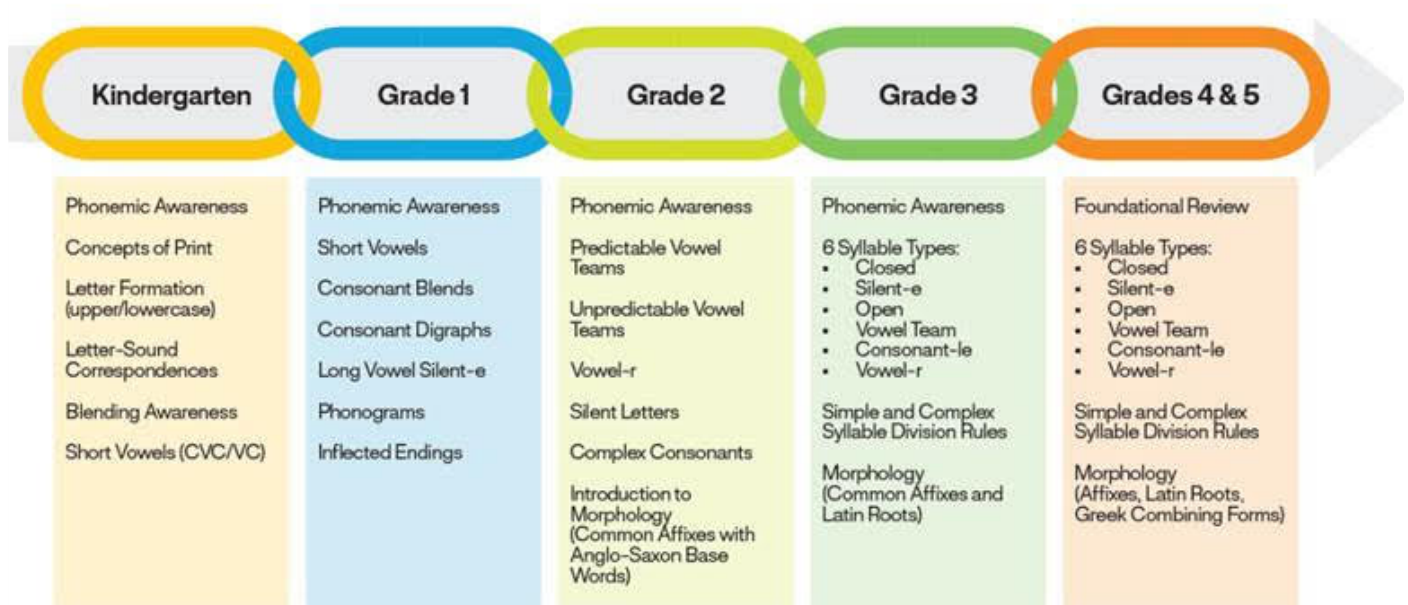
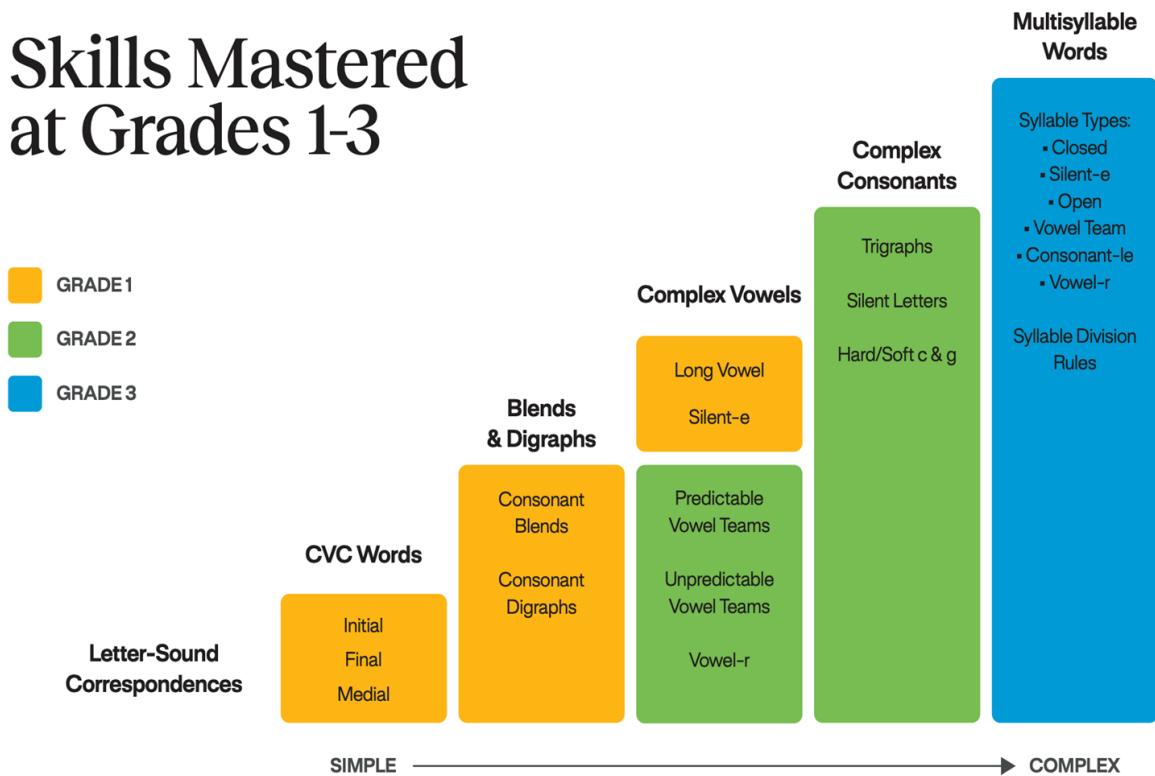


Figure 4. Phonics Continuum of Skills

Skills Mastered at Grades 1-3



Comparison Group: Core Reading Program

The district uses the National Geographic Learning core ELA curriculum (NatGeo), published by Cengage. This curriculum has no published research on its effectiveness. The program is described as a highly flexible reading program with components available in print and online. It features science-based content from authentic literature and National Geographic nonfiction, prioritizing comprehension and vocabulary over phonics or writing. Notably, 77% of survey respondents in the current study said that their Tier 1 core reading program only “somewhat” addressed phonics instruction. This response signals a gap in curriculum coverage.

Assessment: aimswebPlus Reading

The aimswebPlus Reading assessment screens and monitors the reading skills of 2-8 grade students. It is designed for universal screening of entire classrooms to track four different measures associated with literacy (see Table 1).

Table 1. aimswebPlus Reading Measures and Skill Coverage

| Subtest | Indicators of These Basic Skills |
|------------------------|--|
| Reading Comprehension | Ability to read grade-appropriate information and literacy tests: finding facts and details, summarizing the gist of text, inferring the meaning of words in context, and analyzing text to draw inferences about its deeper meaning and structure |
| Oral Reading Fluency | How quickly and accurately a student can read fictional texts aloud |
| Silent Reading Fluency | Ability to quickly read and answer questions about grade-appropriate story segments |
| Vocabulary | Knowledge of grade-appropriate words |

Educator Feedback & Observation Methods

Information about educators’ use of and feedback on 95 PCP was gathered through a multi-pronged approach that included a teacher survey, classroom observations, and a focus group. These approaches are described briefly below, with their respective insights included in the results section.

Teacher Survey: The surveys were shared with the principals, who sent them out to their teachers. A total of 6 treatment teachers using 95 PCP and 11 comparison teachers using National Geographic completed a survey for second and third grade to understand their phonics and literacy instruction experience.

Classroom Observations: Two LXD Researchers visited treatment and comparison schools at the end of March 2023. The principals arranged a schedule of which classrooms to observe depending on their literacy block time. There were 14 total classrooms observed, 7 second grade and 7 third grade. The second-grade classrooms were split with four as 95 PCP classrooms and 3 as comparison

classrooms. For third grade, 5 were 95 PCP classrooms, and 2 were comparison classrooms. Every five minutes for a total of 30 minutes in the 95 PCP classrooms and for a total of 25 minutes in the comparison classrooms, the observer noted what was happening and indicated whether the instructional structure was whole class, small group, or independent work as well as whether or not students were applying skills learned from the lesson to an activity or being interactive with the lesson.

Focus Group: The focus group allowed teachers across grade levels and schools to see the commonalities and differences in their experiences using 95 PCP. The school year posed some challenges for focus group scheduling, so to mediate this, the focus group was completed asynchronously through Google Slides over two weeks at the end of May 2023. The principals nominated teachers to participate. Six teachers implementing 95 PCP filled out the asynchronous focus group slides, 4 second teachers, and two third-grade teachers. A total of 2 comparison teachers filled out the focus group slides, one second-grade, and one third-grade teacher.

Student Sample

The goal for the sample was to create two similar groups to compare for this study. Three comparison schools were recruited to provide sufficient extra participants to reduce the comparison sample via a statistical analysis called propensity score matching (PSM) if the difference in scale scores was sufficient to justify such an approach. Therefore, a PSM was conducted with the specification added that only mismatched *comparison school participants* would be removed. Similar PSMs were conducted for the other grade levels, and data were then re-merged into a single file. Although there are some minor variations within each grade, the overall second and third-grade Post-PSM matching result is exceptionally well matched by grade level and age. The updated sample shows no significant differences between groups with regard to other demographics or academic baseline scores. Additionally, the sample sizes for the two groups are virtually identical.

When considering differences between the treatment and control groups by grade level, there were no differences in regard to gender, LEP, ECO, SPED or White race/ethnicity, Indigenous race/ethnicity, and Hispanic race/ethnicity.

Table 2. Sample descriptives for each group by grade

| Grade Level | Group | Male | LEP | ECO | SPED | White | Hispanic | Indigenous |
|-------------|--------|------|-----|-----|------|-------|----------|------------|
| 2 | NatGeo | 54% | 9% | 47% | 18% | 34% | 34% | 27% |
| | 95 PCP | 58% | 10% | 43% | 18% | 33% | 41% | 22% |
| 3 | NatGeo | 41% | 8% | 59% | 18% | 27% | 36% | 32% |
| | 95 PCP | 46% | 9% | 58% | 13% | 32% | 38% | 23% |

Table 3. Sample sizes for group by grade

| Grade Level | School Group | # of Schools | BOY | EOY | Matched Sample |
|-------------|--------------|--------------|---------------|---------------|----------------|
| | | | # of Students | # of Students | # of Students |
| 2 | NatGeo | 3 | 122 | 113 | 113 |
| | 95 PCP | 2 | 123 | 114 | 114 |
| | Total | 5 | 245 | 227 | 227 |
| 3 | NatGeo | 3 | 106 | 102 | 102 |
| | 95 PCP | 2 | 106 | 100 | 100 |
| | Total | 5 | 212 | 202 | 202 |

aimswebPlus Beginning-of-Year

The 95 PCP and comparison schools had similar starting reading score levels, allowing for a comparison of reading growth. Reading scores at the beginning of the year were not statistically different across the 95 PCP and comparison schools for second grade ($p = .44$) and third grade ($p = .31$; see Table 4). Reading scores combining BOY second and third grade to look at school-level reading scores before the start of either program were also not different across the 95 PCP and comparison schools ($p = .91$, see Table 4). See Table 5 for the percentage of students in each group at High, Moderate, and Low-Risk levels on BOY and EOY scores.

Table 4. T-tests comparing Grade Level BOY Literacy Scores by Group

| Grade Level | Assessment | Group | Number | BOY Avg Score | SD | BOY p-value | Cohen's d Effect Size |
|-------------|---------------|--------|--------|---------------|-------|-------------|-----------------------|
| 2 | Reading Score | NatGeo | 122 | 293.52 | 62.29 | .44 | .10 |
| | | 95 PCP | 123 | 287.86 | 52.67 | | |
| 3 | Reading Score | NatGeo | 106 | 338.00 | 63.07 | .31 | .14 |
| | | 95 PCP | 106 | 346.22 | 53.51 | | |
| 2-3 | Reading Score | NatGeo | 228 | 314.20 | 66.35 | .91 | .01 |
| | | 95 PCP | 229 | 314.87 | 60.44 | | |

BOY and EOY Levels by Groups

The table below reports percentages of students at High Risk, Moderate Risk, and Low Risk on BOY and EOY reading scores in the 95 PCP and comparison groups.

Table 5. BOY Literacy Levels by Grade and Group

| Grade Level | Assessment | Group | Sample Size (N) | Level 1% (High Risk) | Level 2% (Mod Risk) | Level 3% (Low Risk) |
|-------------|-----------------------|--------|-----------------|----------------------|---------------------|---------------------|
| 2 | Reading Overall Level | NatGeo | 122 | 32% | 26% | 42% |
| | | 95 PCP | 123 | 28% | 37% | 36% |
| 3 | Reading Overall Level | NatGeo | 106 | 45% | 17% | 38% |
| | | 95 PCP | 106 | 37% | 19% | 44% |
| 2-3 | Reading Overall Level | NatGeo | 228 | 38% | 22% | 40% |
| | | 95 PCP | 229 | 32% | 28% | 40% |

Table 6. EOY Literacy Levels by Grade and Group

| Grade Level | Assessment | Group | Sample Size (N) | Level 1% (High Risk) | Level 2% (Mod Risk) | Level 3% (Low Risk) |
|-------------|-----------------------|--------|-----------------|----------------------|---------------------|---------------------|
| 2 | Reading Overall Level | NatGeo | 113 | 40% | 9% | 51% |
| | | 95 PCP | 114 | 46% | 4% | 50% |
| 3 | Reading Overall Level | NatGeo | 102 | 45% | 8% | 47% |
| | | 95 PCP | 100 | 35% | 15% | 50% |
| 2-3 | Reading Overall Level | NatGeo | 215 | 42% | 8% | 49% |
| | | 95 PCP | 214 | 41% | 9% | 50% |

Results

Educator Feedback & Observation Outcomes

Teacher Survey

Six teachers using 95 PCP and 11 teachers using National Geographic in their classrooms completed a survey that captured their phonics and literacy instruction experience. The average amount of time dedicated to reading instruction was 76-90 minutes or more than 90 minutes daily.

95PCP teachers indicated they spent, on average, most of the literacy block on comprehension (30 minutes). Teachers indicated a range for phonological and phonemic awareness instruction, ranging from 5-60 minutes. However, the majority of teachers indicated they spent, on average, 30 minutes on phonics and decoding. Respondents from the 95 PCP group expressed gratitude towards the program and said,

“I love this program! My kids are really starting to read fluently because they understand how to break words down and decode them! It’s improved their vocabulary with the morphology, and my student’s comprehension is improving as well! I hope we can continue using this program in the future!”

- Third-grade teacher.

During the comparison teachers’ ELA block, the comparison respondents selected, on average, that they spent the most time on phonics instruction (25 minutes), writing (20 minutes), and comprehension (18 minutes) during their ELA reading block. Respondents expressed an interest in more phonics-based materials as one respondent said,

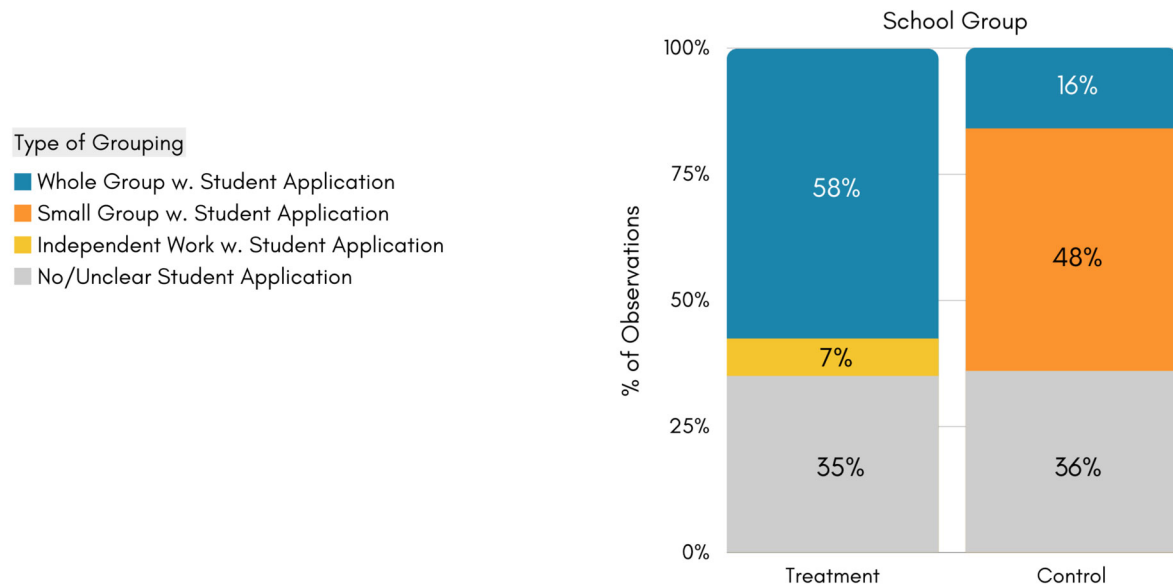
“I wish there were more resources for teachers to teach phonics. I always find myself lacking materials/ lessons to teach phonics and have to find them myself.”

Observations

There were 14 total classrooms observed, half were from second grade and half were from third grade. Of the second-grade classrooms observed, four were PCP classrooms, and three were NatGeo. Of the third-grade classrooms observed, five were PCP classrooms, and two were NatGeo.

Every five minutes for a total of 30 minutes in the 95 PCP classrooms and for a total of 25 minutes in the comparison classrooms, the observer noted what was happening and indicated whether the instructional structure was whole class, small group, independent work as well as whether or not students were applying skills learned from the lesson to an activity or being interactive with the lesson.

Figure 5. Student Application by Student Instruction Grouping and School Group



As shown in Figure 5, the 95 PCP classrooms included whole group instruction in 81% of the observed classrooms and specifically student application activities in 64.8%. The student application overlapped with the whole group instruction about 58% of the time. Whereas in the comparison schools, whole group instruction was only in 32% of observed classrooms, small group instruction was in 52% of the classrooms, and student application activities were observed 64% of the time. Student application tended to overlap with the small group instruction about 48% of the time and only 16% of the whole group instruction. Interestingly, the 95 PCP had 7% of independent work overlapping with student application, whereas the comparison group had none. Additionally, Figure 6 demonstrates whether a literacy strategy had substantial evidence, some evidence, or none/not applicable observed classrooms. Figure 7 shows the percentage of substantial evidence of literacy strategies by group and grade.

Figure 6. Evidence of Literacy Strategy by School Group

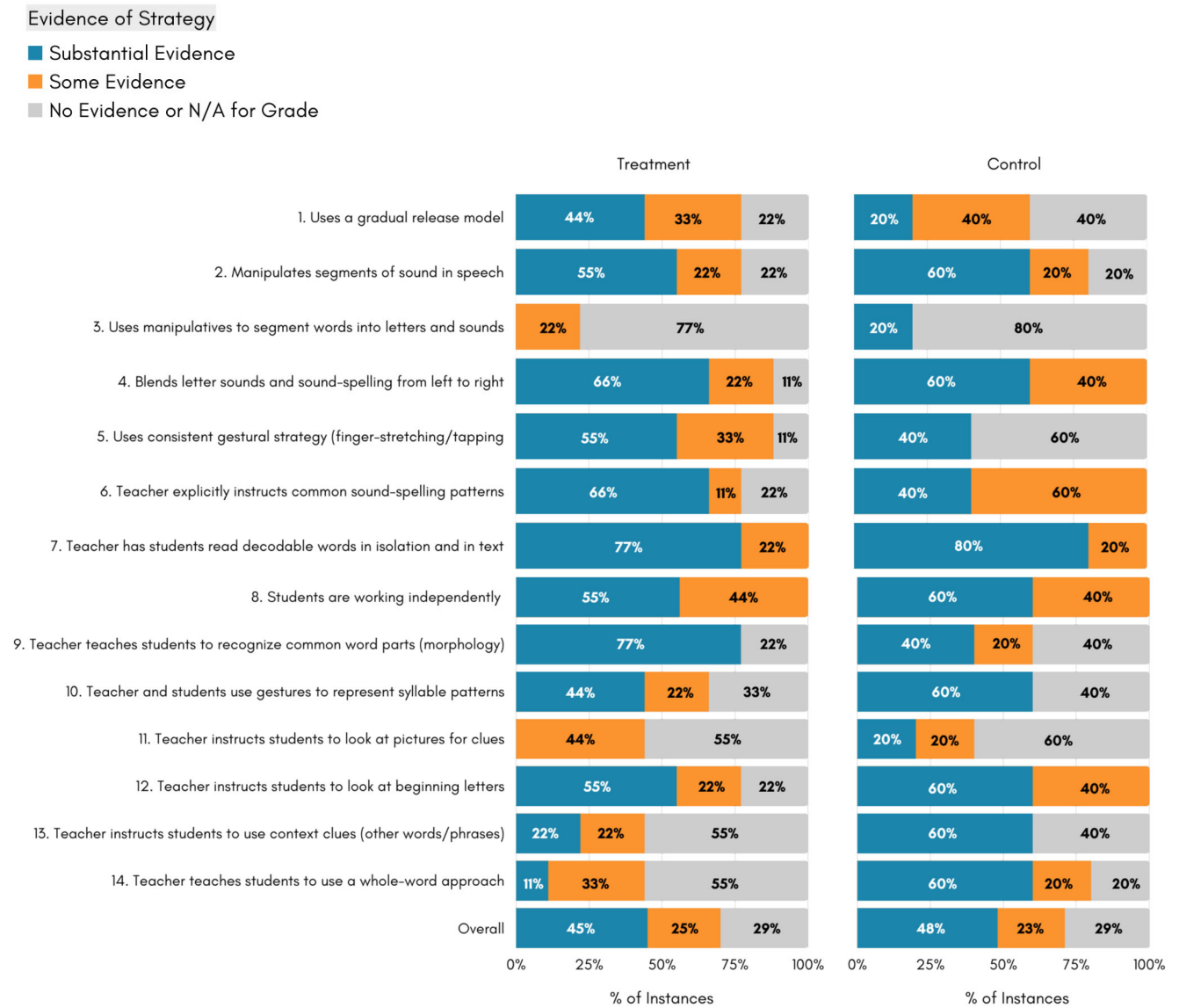
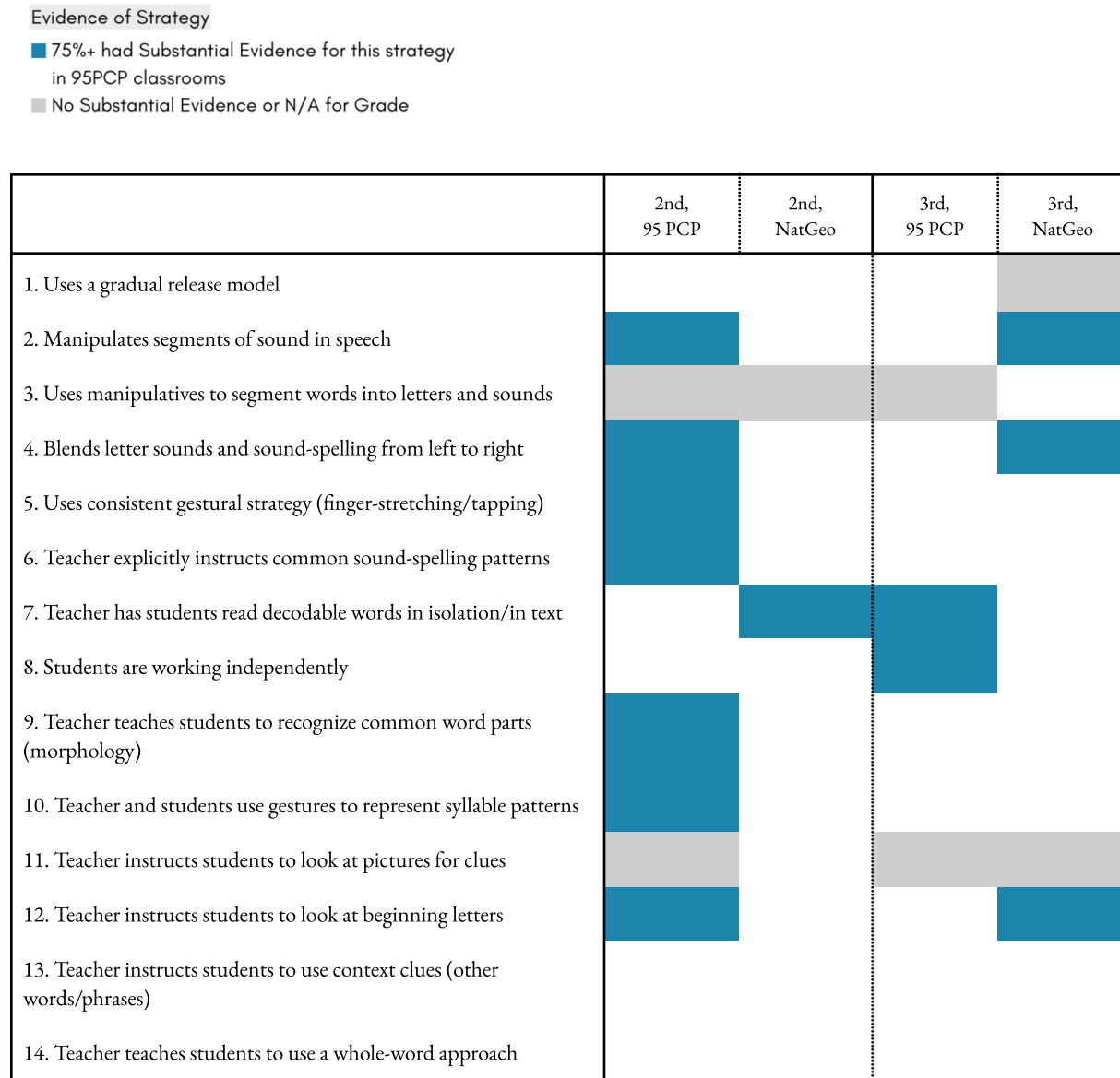


Figure 7. Substantial Evidence of Literacy Strategy by School Group and Grade



Teacher Focus Group

The focus group allowed teachers across grade levels and schools to see the commonalities and differences in their experiences using 95 PCP. Broadly, the teachers valued the materials provided to them by the 95 Percent Group, and the teachers mentioned the slides, guidebooks, student workbooks, and hands-on materials. More specifically, the teachers appreciated the teacher modeling practices and the sound-spelling mapping activity the most during the lessons. Teachers using 95 PCP collaborated and implemented the program the same way, whereas the comparison teachers mentioned in their focus group responses that they did not implement their instruction the same way, even in the same grade level. When students needed additional support after 95PCP, teachers would individualize the

pace and add more support. Teachers also indicated that 95PCP implementation required less effort than previous literacy programs they have used.

All teachers in the focus group shared that 95 PCP complimented their intervention program and tried to integrate the 95 PCP language during the intervention. The program's biggest challenge was finding the morphology words in the paragraph and lesson pacing, as some lessons were more challenging than others and required more time. The teachers suggested having an entire lesson modeled in the training to show teachers how the timing can change depending on the types of lessons and how to adjust. However, the teachers found the overall pacing of the program to be appropriate.

The teachers noted that students enjoyed the activities where they could work independently the most, such as the sound-spelling mapping practice with chips and word sorting. Teachers mentioned that students also enjoyed the word chains activity in the workbook. Teachers found the morphology cards the least engaging for the students because they were more challenging and took longer to set up.

All the teachers noted that they would recommend 95 PCP because of the literacy development they witnessed in real-time. Teachers expressed excitement that their students' oral fluency skills increased significantly, and their understanding of syllables and decoding grew.

Teachers also mentioned that they gained confidence in teaching phonics because they could apply their knowledge of the Science of Reading to immediate practice, which went hand-in-hand with the 95 PCP. They praised the program's resources, clarity, and progression because they could depend on it.

Interestingly, teachers felt that 95 PCP's repetition, explicit and systematic instruction, and use of gestures helped their English Language Learner population immensely. Teachers indicated that the way the program is designed allows the students to consistently hear the sounds and connect them to visuals each day. Overall, teachers highly recommend using 95 PCP.

Student Outcomes

To compare student outcomes on the aimswebPlus assessment, statistical models accounted for students being nested within schools and also controlled for known differences that could impact outcomes, which included factors of gender, LEP status, Economic Disadvantage status, SPED status, and race. Results below are described by grade level as well as overall at the school level.

Three-level hierarchical linear regression models with time (level 1) nested within students (level 2) nested with schools (level 3) were employed to examine growth in literacy scores based on the aimswebPlus assessment. Separate models were conducted for each grade. All models contained a series of covariates including gender ("Gender NUM"; 1=male, 0=female), LEP status ("LEPFlag NUM"; 1=LEP, 0=non-LEP), Economic Disadvantage status ("EconDisFlag NUM"; 1=Economically

Disadvantaged, 0=non-Economically Disadvantaged), SPED status (“SpecialEdFlag NUM”; 1=SPED, 0=non-SPED), White (“white”; 1=White, 0=non-White), Hispanic (“hisp”; 1=Hispanic, 0=non-Hispanic), Indigenous (“indig”; 1=Indigenous, 0=non-Indigenous), and other race (“raceoth”; 1=Other race, 0=non-other race), an indicator of time (“Time”; 1=Beginning of year (BOY), 2=End of Year (EOY)), an indicator of whether the student was in the 95 PCP or comparison group (“Intervention VS Comparison School”; 0=Comparison, 1=Treatment), and an interaction between time and group calculated as the product of Time*group (“Tigr”).

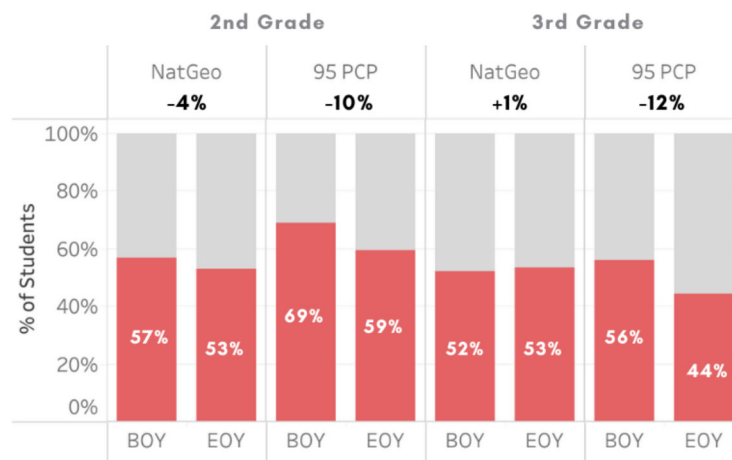
The main effects of the 95 PCP versus the comparison group were explored by considering the significance of the interaction between the time of testing and the group (“Tigr”). A significant interaction term would suggest that the growth in reading scores differs for the 95 PCP versus comparison groups. All analyses were conducted separately by grade using the statistical software package R 3.6.2.

Results

Key Findings

For both second and third grade, the percentage of 95 PCP students labeled as High Risk on aimswebPlus decreased from the Beginning-of-Year (BOY) to the End-of-Year (EOY). Within the 95 PCP condition, the reduction in students considered High Risk was significant, meaning the reduction was due to the Phonics Core Program, not chance, $t(534.78) = -20.86, p < .001$. However, results were not significant between the 95 PCP students and the NatGeo students for either second or third graders, suggesting that students in the 95 PCP and NatGeo group demonstrated similar growth. No significant differences were detected for full sample ($t(501.56) = -.78, p = .22$), or when zooming in on Hispanic students ($t(197.21) = -0.24, p = .41$) or Indigenous students ($t(98.98) = .73, p = .23$).

Figure 8. The percentage of 2nd and 3rd graders labeled as High Risk in 95 PCP had a greater reduction than the students in the comparison group from the BOY to the EOY.



Second Grade

In second grade, the percentage of students labeled as High Risk on aimswebPlus decreased for 95 PCP and NatGeo students from Beginning-of-Year (BOY) to End-of-Year (EOY). However, fewer students were labeled as High Risk in the 95 PCP group compared to the NatGeo group. Second graders in 95 PCP had 10% fewer students labeled as High Risk at the EOY versus NatGeo, with only 4% fewer students labeled as High Risk.

Importantly, fewer Hispanic and Indigenous second graders were labeled as high-risk at the EOY. Hispanic second graders labeled as High Risk decreased 11% compared to NatGeo, with only a 9% decrease. Additionally, in the 95 PCP group, the number of Indigenous second graders labeled as High Risk reduced six times more than the comparison group second graders. In the Fall, no Indigenous second graders were considered to be Low Risk on aimswebPlus in the 95 PCP, however, in the Spring, 28% were considered Low Risk.

Figure 9. Second-grade Hispanic students in the 95 PCP group had fewer students considered High Risk in the Spring compared to the comparison group.

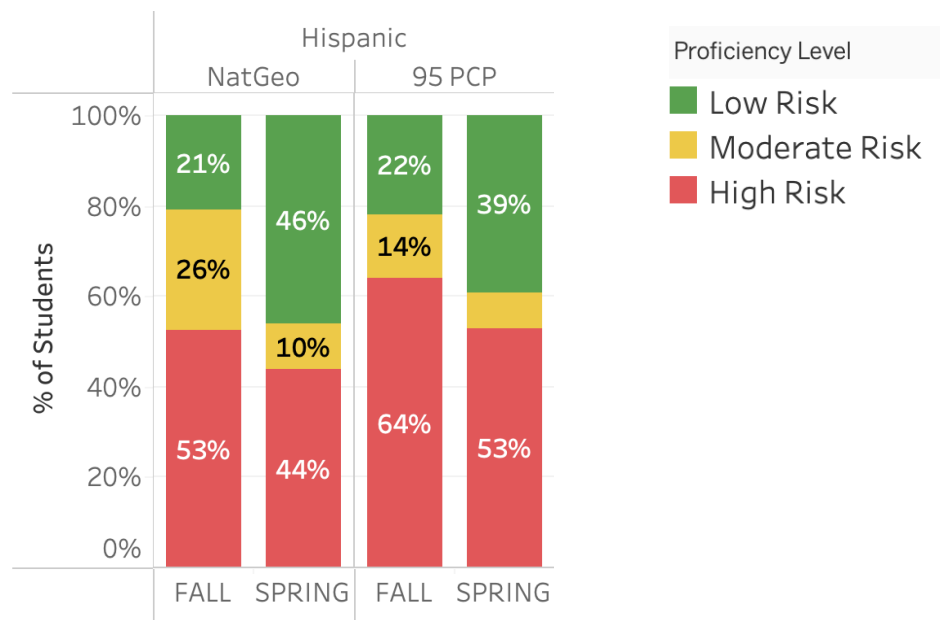
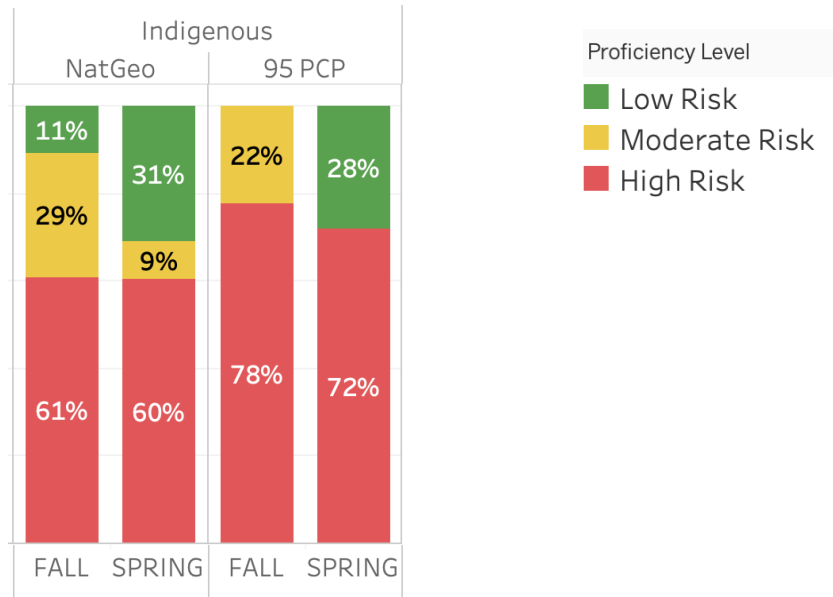


Figure 10. Second-grade Indigenous students in the 95 PCP group had fewer students considered High Risk in the Spring compared to the comparison group.



Third Grade

Fewer third-grade students in 95 PCP were labeled as High Risk in the Spring compared to an increase in students labeled as High Risk in the comparison group. In the 95 PCP group, the number of High Risk third graders reduced by 12%, whereas in the NatGeo group, 1% more third graders were labeled as High Risk as shown in Figure 8.

Notably, Hispanic third graders in the 95 PCP group who were identified as High Risk in the BOY, decreased by 19% at the EOY. Interestingly, 49% of 95 PCP Hispanic third graders were considered Low Risk at the EOY while at the BOY, only 34% were Low Risk, showing a 15% growth. In the NatGeo group, the number of Hispanic third-graders considered High Risk only decreased by 7% at the EOY. Indigenous third graders in the 95 PCP showed only a 1% decrease in students considered High Risk at the EOY, however, the NatGeo Indigenous second graders unfortunately had a 10% increase in students considered High Risk at the EOY.

Figure 11. Third-grade Hispanic students in the 95 PCP group had fewer students considered High Risk in the Spring compared to the comparison group.

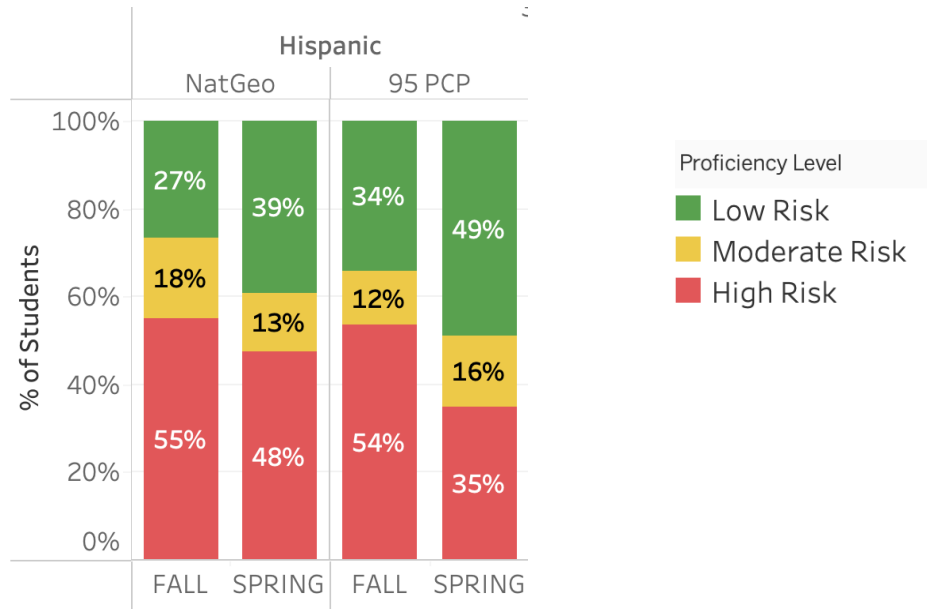
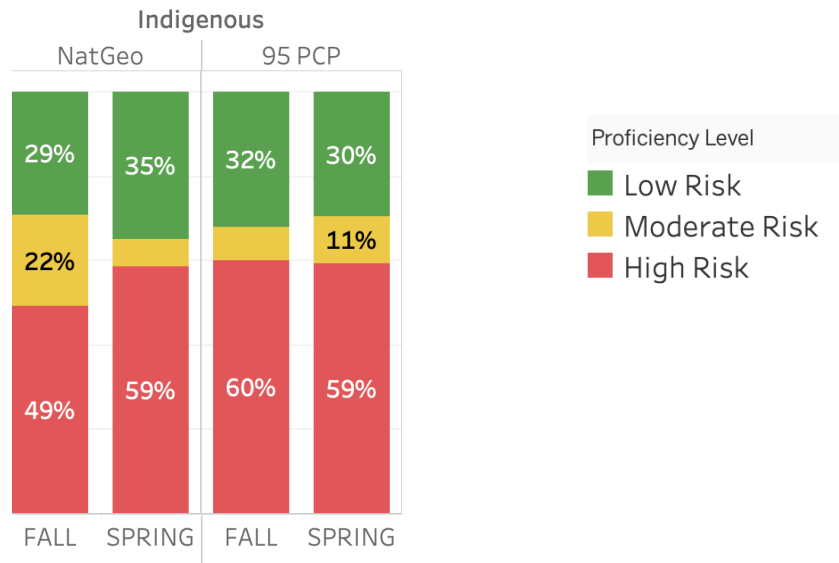


Figure 12. Third-grade Indigenous students in the 95 PCP group had fewer students considered High Risk in the Spring compared to the comparison group.



Conclusion

The present study shows that the use of 95 PCP as a phonics core curriculum showed promising results for improving reading skill level from BOY to EOY compared to the National Geographic materials in second and third-grade classrooms for Hispanic and Indigenous students. In both grades, the percentage of 95 PCP students considered High Risk on aimswebPlus significantly decreased from the Fall to the Spring. Compared to NatGeo, 95 PCP had fewer students labeled as High risk by the EOY, showing an encouraging trend.

Across the teacher survey, focus group, and observations, teachers shared that they found the 95 PCP materials valuable for the structure and modeling of the activities. Teachers also shared that they saw the growth in their students' literacy development in real-time, and they gained the confidence to teach phonics and structured phonics curriculum because of the clarity of 95 PCP.

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

References

- Bertsekas, D. P., & Tseng, P. (1988). Relaxation methods for minimum cost ordinary and generalized network flow problems. *Operations Research*, 36(1), 93–114.
- Cowen, C. D. (2016, Summer). *What Is Structured Literacy?* International Dyslexia Association. <https://dyslexiaida.org/what-is-structured-literacy/>
- Curriculum Associates (2021, November). *i-Ready Understanding Student Learning: Insights from Fall 2021*. <https://www.curriculumassociates.com/-/media/mainsite/files/i-ready/iready-understanding-student-learning-paper-fall-results-2021.pdf>
- Education Analytics. (2021, June). *COVID-19 Impacts on Learning and Well-Being*. https://www.edanalytics.org/assets/resources/202106_covid_impacts_on_learning_and_wellbeing_overview.pdf
- Hansen, B. B. (2004), Full matching in an observational study of coaching for the SAT. *Journal of the American Statistical Association*, 99, 609–618.
- Ho, D. E., Imai, K., King, G., & Stuart, E. A. (2011). MatchIt: Nonparametric preprocessing for parametric causal inference. *Journal of Statistical Software*, 42(8).
- Hussar, B., Zhang, J., Hein, S., Wang, K., Roberts, A., Cui, J., ... & Dilig, R. (2020). The Condition of Education 2020. NCES 2020-144. *National Center for Education Statistics*. <https://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2020144>
- Lambert, M. & Sassone, J. (2020). Accelerate, don't remediate: An instructional framework for meeting the needs of the most vulnerable students after COVID school closures. *Journal for Leadership and Instruction*, 19(2), 8-13. <https://eric.ed.gov/?id=EJ1282925>
- Schechter, R. L. & Lynch, A. D. (2022). 95 Phonics Core Program: 2021-2022, grades K-2 efficacy study. Learning Experience Design (LXD) Research. https://lxdresearch.com/wp-content/uploads/2022/06/95-PCP_-Level-1-Efficacy-Report-Spring-2022_ExecSum.pdf
- Mader, J. (2021, November 14). *'The Reading Year': First grade is critical for reading skills, but kids coming from disrupted kindergarten experiences are way behind*. The Hechinger Report. <https://hechingerreport.org/the-reading-year-first-grade-is-critical-for-reading-skills-but-kids-coming-from-disrupted-kindergarten-experiences-are-way-behind/>

NAEP report card: Reading. The Nation's Report Card. (2023).
<https://www.nationsreportcard.gov/reading/nation/groups/?grade=4>

National Center for Education Statistics (2020). English Learners in Public Schools. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences.
<https://nces.ed.gov/programs/coe/indicator/cgf>

National Center for Education Statistics. (2023). English Learners in Public Schools. *Condition of Education*. U.S. Department of Education, Institute of Education Sciences.
<https://nces.ed.gov/programs/coe/indicator/cgf>.

The Reading League. (2022). *Science of Reading: Defining Guide*.
<https://www.thereadingleague.org/what-is-the-science-of-reading/>

Thoemmes, F., & Liao, W. (2013, May). *Propensity Score Matching (with multilevel data) using SPSS and R*. Modern Modeling Methods Conference, Storrs, Connecticut.

U.S. Department of Education (USDOE). *Our Nation's English Learners*.
<https://www2.ed.gov/datastory/el-characteristics/index.html#intro>