



**PHONOLOGICAL AWARENESS
LESSONS DELUXE PACKAGE
FALL 2021-FALL 2022
EFFICACY STUDY
FOLLOWING GRADE K**

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January 5, 2023

**LXD RESEARCH
95 PERCENT GROUP LLC**



ESSA Evidence Summary

In December 2015, the Every Student Succeed Act (ESSA) was passed encouraging education programs to provide evidence of effectiveness and impact in order to be federally supported. EvidenceforESSA.org provides standards to assess the varying levels of strength of research for education products.

The categories for ESSA Evidence are: strong, moderate, and promising evidence of effectiveness, or demonstrates a rationale to be effective.

- Level/Tier 1: Strong - At least one randomized, well-conducted study showing significant positive student outcomes, and no studies showing significant negative outcomes.
- Level/Tier 2: Moderate - At least one quasi-experimental (i.e., matched), well-conducted study showing significant positive student outcomes, and no studies showing significant negative outcomes.
- Level/Tier 3: Promising - At least one correlational, well-conducted study with controls for inputs showing significant positive student outcomes, and no studies showing significant negative outcomes.
- Level/Tier 4: Demonstrates a Rationale - Well defined logic model based on rigorous research, an effort to study intervention effects is planned or currently underway

This study meets the requirements for Level 2: Moderate

- ✓ Study has compared experimental groups to control groups through matching
- ✓ Study has pretest data to establish initial equivalence
- ✓ The dependent variable(s) include a quantitative measure of academic achievement
- ✓ Study duration is at least 12 weeks, from program inception to posttest
- ✓ Study has at least 2 teachers and 30 students per treatment
- ✓ From pretest to posttest, attrition (dropout) is similar between experimental and control groups
- ✓ Study uses a form of a program that could in principle be replicated
- ✓ If subjects were assigned or treated in clusters (classes or schools), statistical significance for clustered designs used HLM, with pretests and other variables as covariates, or other methods accounting for clustering



Phonological Awareness Lessons Research Study

Follow-Up Results, Rising First Graders Fall 2022

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

Analysis conducted by Lynch Research Associates

Abstract	4
Introduction	5
Study Program Description	5
Comparison Programs	6
Table 1. ESSA-Level Evidence on Comparison School Programs for First Grade	6
Research Activities	7
Reading Assessments	7
Table 2. Acadience Reading Subtests, Skill Coverage in Kindergarten and First Grade	7
Student Demographics	8
PA Lesson Implementation	8
95 Percent Group Coaching Summary	8
Phonological Awareness Screener for Intervention (PASI) Description	8
How many students have received PA Lessons?	8
Table 3. Number of Students in Each Cycle by Study	9
Results for Rising First Graders	10
Sample Descriptions	10
Table 4. Sample Sizes at BOY 2021 and BOY 2022 by Treatment and Control	10
Group Status	
Table 5. Sample Description for Treatment and Comparison groups by Study	10
Table 6. Sample of Students with BOY 21 and BOY 22 Composite Scores by	11
group Analytical Approach	
BOY 2021 - BOY 2022 Statistical Results	11

Table 7. HLM Results for Students Below or Well Below Benchmark at BOY	12
BOY 2021 - BOY 2022 Benchmark Status Change	12
Figure 2. Students in the treatment group demonstrated significantly more growth in Composite scores than students in the comparison group. In response, the PA Lesson schools also saw a higher proportion of students On or Above Benchmark at the start of first grade	12
Conclusion and Future Research	13
References	14
Appendix	15
Rising First Grade Results (below or well below students at BOY 2021)	15
Composite Score	16
Effect Sizes Based on t-tests	18
Change in Benchmark Status	18

Abstract

LXD Research analyzed data from 945 students in kindergarten who were Below or Well Below Benchmark at the beginning of the year and participated in using the Phonological Awareness (PA) Lessons Deluxe Package as an intervention in CA in Fall 2021. The product is a Tier 2 or Tier 3 intervention for grades K-2 that includes lessons and manipulatives that focuses on explicit and systematic instruction to advance skill development along the Phonological Awareness Continuum. Within the sample, 79% of students were Hispanic, 28% were ELL, and 15% were Foster or Homeless. Students using the PA Lessons during targeted, small group, 20-30-minute daily interventions showed higher gains on Acadience Reading than the comparison group. The significance of the findings and the rigorous study design provide support for Phonological Awareness Lessons Deluxe Package as a program that meets the criteria for ESSA Level 2.

Introduction

The pandemic has led to unfinished learning for kindergartners who were learning to read. A report from Fall 2021 showed that compared to historical pre-pandemic averages, more first graders are below grade level in reading at the start of the year indicating poor growth in kindergarten (Curriculum Associates, 2021). Multiple meta-analyses have shown that systematic early phonics instruction is not only important but most effective when implemented before or in first grade (National Reading Panel, 2000; Brady, 2011; Castles et al., 2018). While providing systematic and explicit instruction for whole-class instruction can benefit kindergartners (Schechter & Lynch, 2022a), providing early intervention support for students who struggle is an important way to minimize gaps and spur student learning (McIntyre et al., 2005). Recent research on Reading Recovery (an early literacy intervention) has revealed that short-term success may not lead to long-term gains (May et al, 2022). Therefore, it is critical to identify the efficacy of available phonics intervention tools over multiple school years to identify best practices to support student reading.

95 Percent Group, LLC created the Phonological Awareness Lessons (PA Lessons) to support intervention students, who begin school unprepared for kindergarten-level curriculum. 95 Percent Group hired Learning Experience Design Research (LXD Research), an independent evaluation, research, and consulting division within Charles River Media Group to partner with RMC Research to conduct a study of PA Lessons during the 2021-2022 school year. LXD Research was asked to follow the district for a second year to see how kindergarten students' literacy achievement was impacted over multiple years.

The district partner is a medium-sized school district in California with a student population of over 80% Hispanic and over 25% English Language Learners. The study used a quasi-experimental design to generate evidence of the program's impact that aligns with evidence standards associated with ESSA. That study showed a significant boost of gains from the PA Lessons from Fall 2021 to Winter 2022 (Schechter & Lynch, 2022b). Preliminary analysis showed that the comparison group caught up to the treatment group and there was similar growth from Fall 2021 to Spring 2022. In an effort to document how students' achievement changes or sustains as students advance to first grade, a follow-up study was conducted through the Fall of 2022.

Study Program Description

The Phonological Awareness (PA) Lessons are designed primarily for Tier 2 or Tier 3 phonological awareness intervention in kindergarten. In the study, the PA Lesson intervention included the use of an initial diagnostic screener, and then the use of the 95 Percent Group's Phonological Awareness Screener for Intervention™ (PASI) to group students into intervention groups based on skill needs every three weeks. Students who were Below Benchmark are identified for intervention through the

use of a curriculum-based measure or an early literacy screener assessment used by the district, and then placed into lessons along the Phonological Awareness Continuum through the PASI. The PA Lessons support students who are not meeting benchmarks through comprehensive lesson plans that target skills aligned with the Phonological Awareness Continuum, from readiness (understanding concepts and terms; applying language) through phonological awareness (syllables; onset rimes; phonemes). Students received 20-30 minutes of daily intervention through a push-in model, in small groups of three to four students who are at similar levels. Instructors monitor progress through alternate forms of the PASI and use this data to re-group students every 3 weeks based on the lowest skill on the continuum that needs support. Instruction is grounded in and aligned with evidence-based instructional practices in literacy. Once students reach mastery of skills for their grade level, they have completed the intervention.

Comparison Programs

In the comparison schools survey conducted during Fall 2021, most teachers (42%) responded that they used their core curriculum, Wonders, to support Tier 2 and Tier 3 reading intervention. A small group of teachers also mentioned using Heggerty Phonemic Awareness resources (17%). While Wonders has an efficacy study for first graders, it does not have any for kindergartners (Table 1). Comparison schools typically pulled students out for thirty minutes for Tier 3 and used small-group instruction during the reading block for Tier 2.

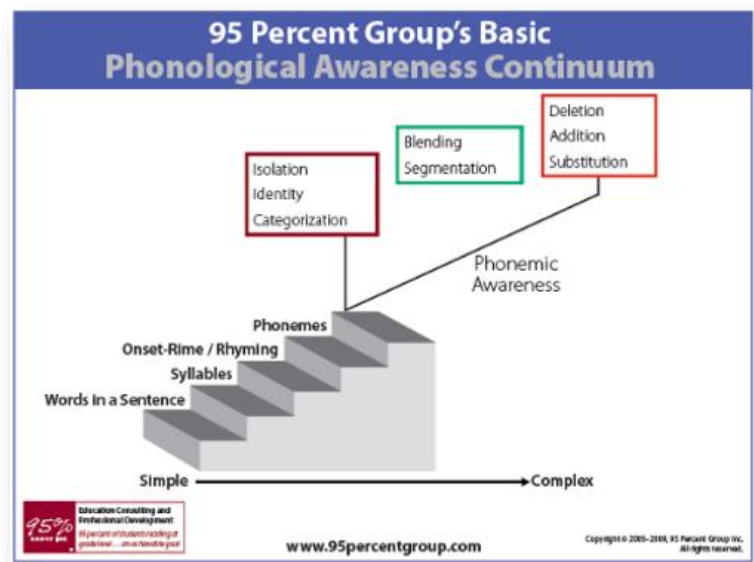


Table 1. ESSA-Level Evidence on Comparison School Programs for First Grade

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

Research Activities

For the follow-up study, the schools conducted Acadience® Reading K-6 with all students at the beginning of the 2022-2023 school year, before any intervention lessons were provided to students. This report focuses on the gains from Fall 2021 BOY to Fall 2022 BOY on Acadience Reading.

Reading Assessments

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

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

Kindergarten	First Grade
First Sound Fluency	Letter Naming Fluency
Phoneme Segmentation Fluency	Phoneme Segmentation Fluency (PSF)
Letter Naming Fluency	Nonsense Word Fluency: Correct Letter Sounds (CLS)
Nonsense Word Fluency: Correct Letter Sounds (CLS)	Nonsense Word Fluency: Whole Words Read (WWR)
Nonsense Word Fluency: Whole Words Read (WWR)	Oral Reading Fluency (ORF): Words Correct
	Oral Reading Fluency (ORF): Accuracy
Oral Reading Fluency (ORF): Retell	Oral Reading Fluency (ORF): Retell
Composite	Overall Estimate of Reading Ability

Student Demographics

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

PA Lesson Implementation

95 Percent Group Coaching Summary

Training to support kindergarten teachers in the treatment group was provided before school started during an all-day workshop. Coaches gave guidance on how to use the assessments to place intervention students in initial groups using the CORE Phonological Segmentation Test (Lenchner, 1999). After placement into initial groups, students were assessed using the PA Lessons' diagnostic screener. With each cycle of intervention, teachers created student groups to focus on specific phonological awareness skills. Over time, students would advance through the 95 Percent Group Phonological Awareness Continuum. Consultants were available to support coaches and discuss questions three times (Fall 2021, Winter 2022, and Spring 2022). Follow-up support is also being provided to all schools in the district during the 2022-2023 school year.

Phonological Awareness Screener for Intervention (PASI) Description

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

How many students have received PA Lessons?

The number of students grouped for intervention during each cycle between Fall 2021 and Spring 2022 is displayed below (Table 3). All the PASI results were shared through an aggregate report provided to the research team, so it was not possible to follow individual students or connect PASI data to Acadience data in this study. We learned from the instructional coaches that all schools were nearly fully ramped up by Cycle 3. One reason why the number of students decreases throughout the year is that students no longer need intervention lessons.

Table 3. Number of Students in Each Cycle by Study

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

The PA Lessons are a highly explicit, scripted program that includes multimodal activities for students and requires teachers to provide students with direct feedback as they work. Research with similarly explicit 95 Percent Group materials has shown that it takes some time for teachers to master lesson delivery and that lessons may take longer to provide until they become more familiar with the approach and format (Schechter & Lynch, 2022a). Furthermore, research from the National Council on Teacher Quality (Drake & Walsh, 2020) has shown that only about half (51%) of teacher preparation programs provide phonemic awareness instruction while 77% cover comprehension. While progress in teacher preparation has been made, many teachers currently in the field are unprepared to provide explicit phonemic awareness and phonics instruction without additional professional development. Thus, teachers in the treatment group may be learning how to teach the skills in the PA Lessons as they are also adjusting to using a new program within a new intervention model. It is expected that over time, with the use of the program and coaching, they may become increasingly familiar with the concepts and comfortable with program delivery, and students will advance through the program more quickly.

Results for Rising First Graders

Sample Descriptions

Because this program is an intervention program, this report focuses on students who scored Below or Well Below Benchmark in Acadience Reading in Fall 2021. A total of 445 rising first graders (kindergartners from 2021-2022) from 11 schools had BOY data for both years. Using a quasi-experimental design to examine the effects of the 95 Percent Group’s PA Lessons, a portion of schools used the walk-to-intervention program (treatment), and another portion did not (comparison). Of these students, 226 were in the treatment group and 219 were in the control group (see Table 4). Among the 495 students who had data from Fall 2021, 50 students did not have BOY data available Fall 2022, signaling an attrition rate of approximately 10%. This attrition was equally likely to occur in the treatment and control groups ($\chi^2=0.14$, $p = .71$).

Table 4. Sample Sizes at BOY 2021 and BOY 2022 by Treatment and Control Group Status

			BOY 2021	BOY 2022	Matched Sample
Grade	School Group	# of Schools	# of Students	# of Students	# of Students
Rising First Grade	Treatment	5	250	226	226
	Control	6	245	219	219
	Total	11	495	445	445

We employed Chi-Square analyses to compare students in the treatment and control groups in regard to gender, special education status (SPED), English Language Learner (ELL), Hispanic race/ethnicity and rates of Foster/Homelessness. Results suggested there were no statistically meaningful differences between the treatment and control groups in regard to gender, ELL, SPED, Hispanic race/ethnicity and rates of Foster/Homelessness.

Table 5. Sample Description for Treatment and Comparison Groups by Study

Grade	Group	Male	SPED	ELL	Hispanic	Foster/ Homelessness
Rising First Grade	Comparison	46%	1%	43%	87%	18%
	Treatment	53%	2%	36%	84%	18%

Within the sample of 445 students who had both BOY 21 and BOY 22 data available, we found no statistically significant differences in BOY 21 composite scores in the treatment versus comparison group ($t=.11$, $p=.91$). Table 6 displays the average BOY 21 scores for students who had BOY 21 and BOY 22 scores.

Table 6. Sample of Students with BOY 21 and BOY 22 Composite Scores by Group

Grade	Condition	Number of Students	BOY 21 Average	SD	Significance	Effect Size Cohen's d
Rising First Grade	Comparison	219	9.25	7.75	.91	.01
	Treatment	226	9.16	8.50		

Analytical Approach

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

We explored main effects of treatment vs 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 or subscale score is different for the treatment versus control groups. All analyses were conducted using the statistical software package R 3.6.2.

BOY 2021 - BOY 2022 Statistical Results

Within the rising first graders well below/below benchmark sample, we examined growth in Composite and LNF scores. Because the scores were highly positively skewed counts, we elected to use a poisson distribution to examine changes in scores over time. There was a significant effect of treatment on composite (IRR=1.15, $p<.001$, $f^2=.00$) scores (see Figure 7 and 2) with students in the treatment group demonstrating more growth in composite scores than students in the control group. There was not a significant effect of treatment on LNF scores, suggesting that students in the treatment and control group demonstrated similar growth. Complete output for each model can be found in the [Appendix](#).

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

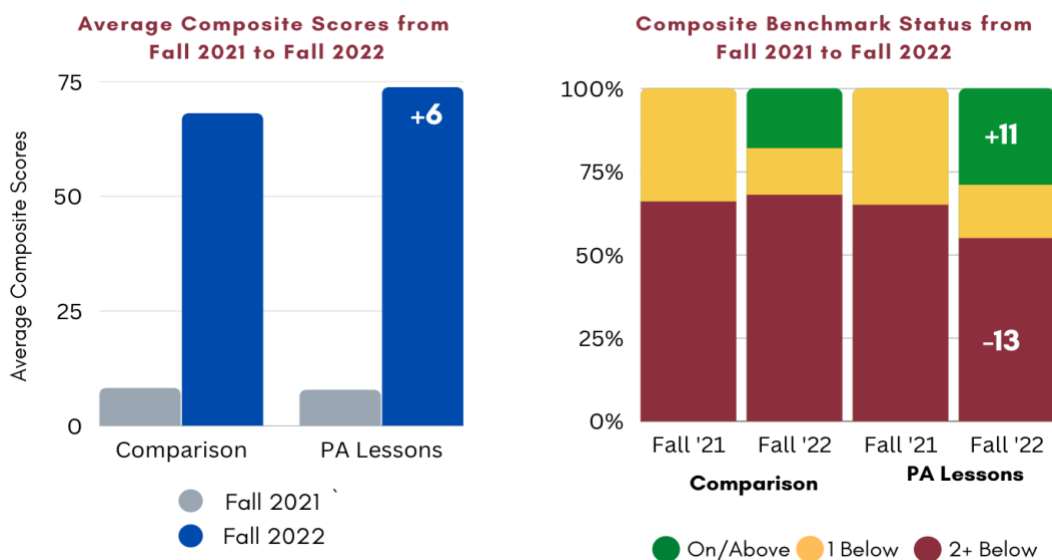
Test	School Group	BOY	EOY	Statistically Different?
Composite Scores	Wonders + Variety	8.25	68.03	Yes, they are different. Treatment group saw significant more growth from Fall 2021 to Fall 2022.
	Wonders + PA Lessons	7.85	73.70	

Acadience Subtest LNF showed similar growth for both groups.

BOY 2021 - BOY 2022 Benchmark Status Change

Students in the treatment group demonstrated significantly more growth in Composite scores than students in the comparison group, resulting in a six-point bump in scores. While six points may not sound like a lot, it's an average that is limited in capturing how a program impacts a student's trajectory in their literacy development. For a student to advance from Below or Well Below Benchmark to On/Above Benchmark, they need more than one year of growth during the school year. The PA Lesson schools also saw a higher proportion of students On or Above Benchmark at the start of first grade by 11 percentage points and a decrease in the number of students still Well Below Benchmark by 13 percentage points compared to the schools that did not use PA Lessons. This accelerated learning trajectory will build over time and change the district's composition of literacy needs and resources for years into the future.

Figure 2. Students in the treatment group demonstrated significantly more growth in Composite scores than students in the comparison group. In response, the PA Lesson schools also saw a higher proportion of students On or Above Benchmark at the start of first grade.



Conclusion and Future Research

The PA Lessons intervention is an intensive, highly scripted, and multimodal toolkit. These new routines for teaching phonological awareness explicitly may require an adjustment period for teachers to become comfortable and proficient with them. In addition, changing the model of intervention in a school from a pull-out to a walk-to-intervention model takes many months to adopt and become routine. It is very encouraging to see that despite these challenges, students' overall reading scores improved during the first half of the year (Schechter & Lynch, 2022b) and importantly sustained their learning over the summer to outperform students in the comparison group that were not using the PA Lessons.

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

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Appendix

Rising First Grade Results (below or well below students at BOY 2021)

- Composite score: (IRR=1.15, $p < .001$) - significant differences between treatment and control group
- LNF score: (IRR=0.91, $p = .06$) - no significant differences between treatment and control group

Composite Score

<i>Predictors</i>	comp		
	<i>Incidence Rate Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.99	0.79 – 1.25	0.946
Time	8.30	7.92 – 8.70	< 0.001
female	1.17	1.05 – 1.30	0.004
hisp	1.03	0.88 – 1.21	0.715
ELL	0.89	0.80 – 1.00	0.051
sp	0.73	0.47 – 1.15	0.180
foshom	1.04	0.91 – 1.19	0.552
intervention	0.83	0.64 – 1.07	0.156
Tigr	1.15	1.07 – 1.22	< 0.001
Random Effects			
σ^2	0.02		
τ_{00} X.95ID:SchoolName	0.28		
τ_{00} SchoolName	0.03		
ICC	0.93		
N _{X.95ID}	417		
N _{SchoolName}	11		
Observations	834		
Marginal R ² / Conditional R ²	0.786 / 0.984		

LNF

<i>Predictors</i>	lnf		
	<i>Incidence Rate Ratios</i>	<i>CI</i>	<i>p</i>
(Intercept)	0.61	0.49 – 0.78	<0.001
Time	6.85	6.39 – 7.34	<0.001
female	1.07	0.96 – 1.20	0.217
hispanic	1.00	0.85 – 1.18	0.990
ELL	0.88	0.78 – 0.99	0.028
sp	0.68	0.42 – 1.11	0.122
foshom	1.06	0.92 – 1.22	0.432
intervention	1.12	0.88 – 1.43	0.361
Tigr	0.91	0.83 – 1.01	0.064
Random Effects			
σ^2	0.06		
$\tau_{00} X.95ID:SchoolName$	0.28		
$\tau_{00} SchoolName$	0.01		
ICC	0.83		
$N_{X.95ID}$	417		
$N_{SchoolName}$	11		
Observations	834		
Marginal R^2 / Conditional R^2	0.713 / 0.950		

Effect Sizes Based on t-tests

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

T-tests were run for Rising First Grade Well below/Below students.

Grade	Condition	Number of students	Average difference in Composite between Fall 2021 and Fall 2022	SD	Significance	Effect Size Cohen's d
Rising First Grade	Treatment	226	79.38	35.58	p=.014	.23
	Control	219	70.81	37.88		

Change in Benchmark Status

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

Grade	Condition	Number of students	Well Below	Below	On/Above
Fall 2021 K	Treatment	226	147	79	0
	Control	219	144	75	0
Fall 2022 Rising First Grade	Treatment	226	125	36	65
	Control	219	149	30	40

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

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